

Behavioral Economics: Human Errors and Market Corrections

Richard A. Epstein[†]

INTRODUCTION: IMPERFECT PEOPLE, STEADY IMPROVEMENTS

As a matter of first principles, it seems impossible to deny two facts about human nature. First, people often make serious mistakes in deciding important matters. Second, people often find it hardest to keep their emotions in check when it matters the most. My task here is not to deny these obvious truths, but to ask about their significance in certain transactional settings. One key link in that inquiry is how individuals who suffer from both cognitive and emotional impairments can be regarded as “rational.” Stated otherwise, do people with these dual limitations by and large make responsible decisions in their own self-interest, as much of standard economic thought presupposes?

On this question, the literature on cognitive biases is filled with accounts of the pitfalls of ordinary reasoning: anchoring, availability, representativeness, hindsight, optimism, hyperbolic discounting, and the like.¹ Let us acknowledge that these tendencies, or others yet unidentified, influence human behavior. At this point the inquiry turns to what I call second-order rationality: what is the extent and distribution of these biases and the degree to which they can be overcome through self-reflection, experience, learning, feedback, routines, assistance, supervision, oversight, and a full array of punishment and rewards?²

[†] James Parker Hall Distinguished Service Professor of Law, The University of Chicago Law School; Peter and Kirsten Bedford Senior Fellow, The Hoover Institution. An oral version of this paper was presented at the conference, *Homo Economicus, Homo Myopicus*, held on June 17–18, 2005, at The University of Chicago Law School. I also benefited from further comments at the New York University Faculty Workshop in September, 2005. My thanks to Douglas Baird for talking through some difficult points in the analysis, and to Rachel Kovner, Stanford Law School, Class of 2006, for her usual expert research assistance.

¹ For a handy recent summary of these as they relate to financial decisions, see Nicholas Barberis and Richard Thaler, *A Survey of Behavioral Finance*, in George M. Constantinides, Milton Harris, and René M. Stulz, eds, *1B Handbook of the Economics of Finance* 1053, 1065–69 (Elsevier 2003) (“A crucial component of any model of financial markets is a specification of how agents form expectations.”).

² I develop this theme in Richard A. Epstein, *Second-Order Rationality*, in Edward J. McCaffery and Joel Slemrod, eds, *Behavioral Public Finance: Toward a New Agenda* 355, 384–85 (Russell Sage forthcoming 2006) (contending that “[r]ationality within this context [of differential competence] does not assume that individuals never make mistakes, but that these ordinary

In addition to cognitive shortfalls, all people have strong affective relationships that heavily influence all their interactions, whether in the family, the marketplace, or anywhere else. Our rich moral vocabulary—dominated by terms such as hatred, greed, lust, resentment, and envy on the one hand, and tenderness, empathy, love, selflessness, heroism, and sacrifice on the other—has not been developed in vain. Nor do we lack words to describe people who are rash, impulsive, headstrong, and fearful. Although this rich vocabulary does not supply the last word in social wisdom, it should raise a red flag over those who seek to place all human behavior in tidy boxes by overlooking large variations in human personality. Any social system has to contend with antisocial behavior that inflicts harm on others, and, at the other extreme, must give breathing room for the acts of generosity and selflessness that falsify the claims of universal human egotism.

The great writers who deal with these touchy subjects come from all disciplines, and here I shall pause to mention just two. Adam Smith may be better known for his *Wealth of Nations*³ (with its heavily sardonic tone in places), than for his earlier work, *The Theory of Moral Sentiments*.⁴ But *Moral Sentiments* represents a concentrated effort to explain the tension that all individuals face in resolving the conflict between their untutored emotions on the one hand, and their conscience, that internal impartial observer (who is capable of stepping back and seeing himself as others see him), on the other.⁵ Sigmund Freud echoes the same theme in *The Future of an Illusion*, which treats human development as a progression whereby the instinctive and impulsive id is eventually reined in by the more contemplative superego: at first individuals need, especially as children, to be subject to explicit sanctions when they cross the line.⁶ But with time the standards of right conduct are sufficiently internalized that most people, most of the time, are able to restrain themselves even when they are not directly under the thumb of their parents or some other authority figure. The process is always far from certain. Some individuals make the key transitions in life relatively easily; others get into serious troubles be-

businesses and social groups will sort individuals in ways that take advantage of their differential competences and abilities”).

³ Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (Methuen 6th ed 1950) (Edwin Cannan, ed).

⁴ Adam Smith, *The Theory of Moral Sentiments* (Oxford 1976) (D.D. Raphael and A.L. Macfie, eds).

⁵ See *id.* at 134 (“[I]t is only by consulting this judge within, that we can ever see what relates to ourselves in its proper shape and dimensions; or that we can ever make any proper comparison between our own interests and those of other people.”).

⁶ See Sigmund Freud, *The Future of an Illusion* 9–24 (Hogarth 3d impression 1943) (W.D. Robson-Scott, trans) (treating, in good Hobbesian fashion, the renunciation of the instinctive desire to use force against others as necessary for societal preservation).

fore they eventually bring themselves under control; and others, unfortunately, are never able to complete the journey.

A similar picture holds with respect to the ability of individuals to make rational calculations about the future, even when they are able to hold their emotions in check. It does not take any sophisticated class of cognitive psychology to verify the truth of this statement. It is enough to note that most students who take probability theory find many of its results strongly counterintuitive, only to be baffled by the mathematical formulas that promise some clarity along the way. Persons who make logical errors in calculation are likely to make inconsistent judgments about their preferences, and to do so in ways that can hurt them in both the short and the long run. Part of growing up consists in the expansion of one's cognitive powers so as to reduce the costs of these errors. Part of it consists in choosing tasks that minimize the exposure to risk, perhaps by hiring individuals with formal training to work as agents on matters of particular difficulty. But there is little doubt that the intersection of emotional impulses with cognitive limitations lends a level of uncertainty and unhappiness to the human condition. That said, the right way to understand the theory of rational behavior cannot be to assume away these pervasive human frailties. Rather, it is to explore in systematic fashion how people of limited capacities learn to cope with their own limitations and to succeed in spite of them, as they often do.

On this view of the world, rational conduct does not mean making the one right choice in accordance with some abstract utility function in all states of the world. It means investing in emotional and intellectual controls that allow one to work a bit better than one did before. Most people may never be able to *optimize* anything, because there are so many ways to do some task wrong, and only one way to get it right. But precisely because the initial condition is so fraught with risk, there is a good deal that people, aware of their own limitations, can do to *improve* their situations. By this definition, people who consciously seek to make themselves worse off are irrational and self-destructive; those who move in the other direction are rational. Relax the conditions on rationality, and it can coexist with error and emotion.

In order to develop these themes in this short Essay, I shall proceed as follows. Part I talks about maturation and mistakes, or how socialization deals with the impulses and ignorance of youth, and also the question of mistake as it arises in the choice of contract terms and in the valuation questions needed to ensure fair exchanges. Part II speaks about the proper legal response to mistakes made by individuals with full capacity. Part III applies this analysis to generic mistakes in valuation, and demonstrates why these cannot survive in voluntary and unregulated markets. Part IV applies this general framework to mistakes

in credit-card transactions, and concludes that even devotees of a soft form of paternalism should propose no protection beyond that which a truth-in-lending law affords against misleading representations.

I. MATURATION AND MISTAKES

Any inquiry into market transactions perforce requires us to evaluate the sources of human behavior. The recognition of cognitive and emotional deficits noted earlier does not, however, require us to sign on to all the statements about the interactions between desire and rationality that Colin Camerer⁷ and George Loewenstein and Ted O'Donoghue⁸ advance in their respective papers. There is by any account a vast difference between the behavior of children and mature adults in virtually all settings: indeed the socialization of infants is stressed in Freud's work.⁹ Camerer seems right to insist in principle on the strong distinction between "wanting" something on the one hand and "liking" it, once it is obtained, on the other.¹⁰ That gap well describes the perceptions of infants who have limited knowledge of the world, and who can therefore be misled by a variety of signals.¹¹ It is just for this reason that it is common to put childproof caps on dangerous medicines or otherwise to keep pills out of children's way.

By the same token, however, the original gap between wanting and liking offers no advantage whatsoever to individuals who expend scarce resources to acquire things that don't help, or even hurt, them once possessed. Parents therefore have powerful incentives to help their children overcome that gap so that with time they learn to align wanting and liking. That proper alignment is easy to achieve when some object of desire has no benefit once obtained. But it is much more difficult to develop the needed sense of self-restraint for items that offer powerful positive feedback in the short run, only to cause unfortunate consequences thereafter. It is easier for an infant to learn not to eat dirt, which tastes bad, than for teenagers to limit or to avoid the consumption of alcohol, cigarettes, or even fatty foods. And, on a

⁷ Colin F. Camerer, *Wanting, Liking, and Learning: Neuroscience and Paternalism*, 73 U Chi L Rev 87, 102 (2006) (arguing for state paternalism when uninformed "wanting" does not reflect reasoned preferences).

⁸ George Loewenstein and Ted O'Donoghue, "We Can Do This the Easy Way or the Hard Way": *Negative Emotions, Self-Regulation, and the Law*, 73 U Chi L Rev 183, 183-84 (2006) (noting the risk that self-imposed psychological punishments will inflict unhappiness but not change destructive behaviors).

⁹ See generally Sigmund Freud, *Infantile Sexuality*, in Sigmund Freud, *Three Essays on the Theory of Sexuality* 51 (Imago 1952) (James Strachey, trans) (setting out a theory of infantile sexual development).

¹⁰ See Camerer, 73 U Chi L Rev at 90-97 (cited in note 7).

¹¹ *Id.* at 96.

theme closer to this Symposium, it sometimes takes a good deal of self-restraint to avoid spending money today in order to save it for consumption tomorrow.

One obvious question of social policy is how the law should respond to the evident extremes in emotions and shortfalls in judgment of early age. On this score, it is evident that knowledge of the world increases and individual preferences become more stable with age. The uniform legal response therefore recognizes that infants and small children do not have the *capacity* to enter into voluntary transactions.¹² In the case of infants, the word “capacity” should be taken literally as a *description* of a state of affairs. Small infants cannot understand the concept of exchange let alone figure out the relative values of the things that are given and received. The protective rule makes perfectly good sense because it prevents exploitation without blocking any transaction that works for mutual gain. But as infants mature into young children, it is no longer true that they are incapable of understanding exchange relations either in general or in connection with specific transactions. Now the legal conclusion on incapacity reflects a delicate social judgment that the risks of exploitation are so great that they should be shielded from the consequences of their own transactions. The hardship on other parties is relatively small because it is in general easy for them to steer clear of persons who fall within the protected class. At this juncture, learning takes place gradually under adult supervision, so that on that day when legal infants become adults of full capacity they have accumulated enough experience to fend for themselves.

II. MISTAKES BY PERSONS WITH FULL CAPACITY

The next step in the inquiry asks what form of protection should be supplied to persons who do not have (and in general do not want) a *per se* insulation from voluntary exchanges. The easy categories of suspect transactions include those that involve coercion—here defined as the threat or use of force, or the threat of nonperformance of some binding obligation—and fraud or misrepresentation, whereby one party misstates the relative value of the property that is either given or received.¹³ The logic behind both these cases is reasonably clear: the

¹² See Restatement (Second) of Contracts § 12(2)(b) (1981) (“A natural person who manifests assent to a transaction has full legal capacity to incur contractual duties thereby unless he is . . . an infant.”).

¹³ I develop these rules at some length in Richard A. Epstein, *Simple Rules for a Complex World* 80–88 (Harvard 1995) (arguing that although it is permissible to nullify contracts because of coercion, incompetence, or misrepresentation, these rationales should not be overextended in ways that cause a mutual loss to the parties).

presence of force or fraud reduces the probability that the transaction in question works for the benefit of both sides, so that blocking those practices effectively directs voluntary transactions down constructive paths. The question of what methods should be used to respond to these risks is a matter that I shall take up later in connection with the truth-in-lending laws that apply to credit transactions.¹⁴ For the moment, however, I wish to address what is without doubt the most troublesome category of transactions, namely, those in which one side has made a mistake about either contractual terms on the one hand, or the relative value of the items of exchange on the other.

The obvious reason for worry about these cases is that there is now good reason to believe that the usual logic of voluntary transactions—the mutual gain condition—does not hold. The conclusion here applies both when there is some mistake as to terms, and when there is some mistake as to valuation. The first of these is captured by the longstanding traditional dispute between the “objective” and “subjective” theories of contracts. Stated in its canonical form, the former requires that words be construed in their common or popular signification, without regard to any private reservations that the parties might have as to their proper meaning.¹⁵ Adherents of the subjective view do not think this position is tenable because it holds an individual to a promise that he did not wish to make.¹⁶ That position has, by and large, not prevailed because of the reliance interest on the other side.¹⁷ Using a tougher standard gives both sides a greater willingness to enter transactions in the first place. Thus, as between two individuals, one who knows the meaning of terms, and the other who does not, better that the risk of error lie with the party that has made the mistake than with the party that has troubled itself to master the relevant terminology. The goal here is not to celebrate the gap between intention and performance that exists in these cases. Rather it is to set up a firm rule so that all those who are about to participate in commercial affairs take steps to minimize that gap by learning to say what they

¹⁴ See text accompanying notes 42–54.

¹⁵ See, for example, *Hotchkiss v National City Bank of New York*, 200 F 287, 293 (SD NY 1911), *affd*, 201 F 664 (2d Cir 1912) (“If . . . when he used the words, [he] intended something else than the usual meaning which the law imposes upon them, he would still be held, unless there were some mutual mistake, or something else of the sort.”).

¹⁶ See, for example, *Flower City Painting Contractors, Inc v Gumina Construction Co*, 591 F2d 162, 165–66 (2d Cir 1979) (holding that there was no meeting of the minds, and thus no contract, when a neophyte painting contractor misunderstood specialized trade terms within the agreement).

¹⁷ See generally Joseph M. Perillo, *The Origins of the Objective Theory of Contract Formation and Interpretation*, 69 *Fordham L Rev* 427 (2000) (arguing that the objective theory of contract has always prevailed—with some exceptions—at common law, and attributing this to courts’ distrust of the testimony of parties seeking to escape their obligations).

mean (as well as mean what they say). No rule is, of course, without exceptions and in odd cases where it can be shown that *both* parties deviate from standard usage in exactly the same way, then their joint intention should bind, because neither has relied on the misstatement of the other.¹⁸ And if there is some customary or stipulated meaning associated with terms that deviates from ordinary language, then that sense too ought to dominate, for here the party who relies on the practice does not appeal to subjective understandings, but to a widespread industry custom, which in most cases should be subject to straightforward verification.¹⁹ In those few cases such as the dispute in *Raffles v Wichelhaus*²⁰ over the good ship *Peerless*, where the confusion is over a proper name that has a reference, but no meaning, there will be no contract.²¹ The word contest is a draw so that it is hard to say which party made the mistake. What is needed therefore to avoid any confusion from unclear referents is some institutional arrangement like the use of ship registration numbers, which is just what happened when the registration system in the Liverpool cotton market was strengthened in the aftermath of *Raffles*.²² The point of these rules, then, is not to deny the economic loss that is attributable to mistakes of all sorts. It is to create an incentive structure to minimize their adverse effects.

A similar analysis applies to errors of value. If I value your violin at \$100 when it is worth only \$50, and hence pay you \$75 for it, I end up a \$25 loser in the transaction, which therefore has no social gain, but only invites potential sellers to step up their efforts to realize a gain that they should not in general obtain (by pushing against the boundaries of fraud).²³ That loss might be reduced if the subjective value to the buyer is positive, but even here, the response is that that

¹⁸ The Second Restatement of Contracts has just such an illustration:

A says to B, "I offer to sell you my horse for \$100." B, knowing that A intends to offer to sell his cow for that price, not his horse, and that the word "horse" is a slip of the tongue, replies, "I accept." The price is a fair one for either the horse or the cow. There is a contract for the sale of the cow and not of the horse.

Restatement (Second) of Contracts § 20, Illustration 5 (1981). But note that it is hard to imagine that this scenario has any real commercial relevance. Professional traders do not make this kind of mistake.

¹⁹ See, for example, *Hurst v W.J. Lake & Co*, 141 Or 306, 16 P2d 627, 631 (1932) (holding that 50 percent horse meat scraps meant by trade usage 49.5 percent or more).

²⁰ 2 H & C 906, 159 Eng Rep 375 (Ex 1864).

²¹ *Id* at 376 (holding that no shipping contract had been formed when the parties intended to ship cotton by different vessels with the identical name *Peerless*).

²² See the instructive account in A.W. Brian Simpson, *Contracts for Cotton to Arrive: The Case of the Two Ships Peerless*, 11 Cardozo L Rev 287 (1989) (explaining the historical and commercial context behind *Raffles*).

²³ See, for example, *Smith v Zimbalist*, 2 Cal App 2d 324, 38 P2d 170, 174 (1934) (excusing the buyer due to a mutual mistake of fact when he purchased two forged violins for \$8,000 that were actually worth one-tenth that price).

subjective value need not exceed the objective loss, and would in any event be even more positive if the purchase had been concluded at a lower price, absent the fraud.

The common law that is solicitous of victims of fraud turns strongly against setting aside transactions on the ground of a unilateral subjective mistake of value, and for good and sufficient reasons.²⁴ Unilateral mistakes are legion in all manner of cases, so that the burdens imposed on the legal system determined to eliminate them become large relative to the burdens of the extra efforts of self-protection that individuals can take to guard against error. In addition, any judicial effort to guard against the risks of mistake will often increase the risks of frauds that move in the opposite direction. Thus suppose that after the agreement has been reached, the buyer regrets the transaction because the value of violins has sharply declined. At this point, it becomes too easy for the buyer to claim that he has been duped at the outset and thus to evade the transaction. The effort to provide relief from unilateral mistake for the unfortunate thus translates into an unearned option to cancel a transaction for the wily. Indeed, if the doctrine is applied to both buyers and sellers, then each side has the option to withdraw, which will act as a massive front-end inducement to avoid transactions—or to write in clauses that make it explicit that mistakes of this sort should not be excused. So why force the inclusion of a provision of this sort, when the sensible default rules this defense out of bounds?

III. GENERIC MISTAKES IN VALUE

One fair follow-up question is whether the extensive literature on cognitive error should induce a change in the basic common law approach toward mistakes over terms or value. In general, the answer is no, notwithstanding the potential resource misallocations that may flow from these errors. In part the reason is that the legal system should husband its resources to deal with the far greater risk of systematic fraud that includes, for example, the outright theft of credit card numbers by identity thieves. In part, however, the explanation lies at a simpler level. The kinds of pervasive mistakes concerning generic goods that might, hypothetically, lead to some form of resource misallocation are the sorts that are least likely to survive in any public setting.

²⁴ See, for example, *Laidlaw v Organ*, 15 US (2 Wheat) 178, 195 (1817) (refusing to excuse the seller from a tobacco sales contract when only the buyer had advance knowledge of the impending end of the War of 1812 and the lifting of the blockade of New Orleans).

This problem is posed by Oren Bar-Gill, who asks about the persistence of mistake in a market that contains two products that are bundled together in sale.²⁵ “Bundling” simply means that the price of the two products when purchased together is not equal to the price that is paid when they are sold separately. In this sense, a bundle is weaker than a traditional tie-in arrangement under which the individual who wants to purchase one product, the “tying” product, must agree to purchase the “tied” product only from the seller of the tying product. One of the most common illustrations of this sort of tie-in, which is now before the Supreme Court in the antitrust context, involves the sale of a printhead on condition that the original equipment manufacturer and its customers only use its ink.²⁶ Those antitrust cases do not turn on the kinds of misperceptions built into the Bar-Gill example, for the claims are brought by third-party firms who protest their exclusion from the after-market by virtue of the original tie-in arrangement.²⁷

The initial question, therefore, is how to think about an arrangement in which the cost (or value, for in equilibrium in competitive markets the two converge) of one of the two products is, by assumption, systematically misunderstood by consumers but not by producers. To understand what is at stake, it is easier to start with a hypothetical case that ignores the bundling problem, and just assumes that certain goods that have a real cost (equal to value) of say \$20 are systematically perceived by consumers to be worth either \$15 or \$25.

In the first situation, where the product is perceived to be worth \$15, one has to come up with some explanation for why consumers undervalue the good. Just as there is an optimism bias in some people, it seems easy to identify an “Eeyore” effect in others, who are excessively risk averse with respect to the outcome of future events. (After all, that is one reason why people might put too much of their savings into debt instruments. And never overlook the possibility that their gloomy assessment may be correct.)

If this bias operates, then the market will shut down unless something is done to correct the consumer misperception. Here the only complication is to identify which of the sellers of the identical product

²⁵ See Oren Bar-Gill, *Bundling and Consumer Misperception*, 73 U Chi L Rev 33, 36 (2006) (arguing that consumer misestimation of future product use leads sellers to bundle goods in a welfare-reducing fashion).

²⁶ See *Independent Ink, Inc v Illinois Tool Works, Inc*, 396 F3d 1342, 1344 (Fed Cir 2005), reversing *Independent Ink, Inc v Trident, Inc*, 210 F Supp 2d 1155, 1174 (CD Cal 2002) (holding that a rebuttable presumption of market power does not necessarily arise from the possession of a patent of a tying product), cert granted, 125 S Ct 2937 (2005).

²⁷ See *Independent Ink*, 396 F3d at 1345.

will undertake the cost of correcting consumers' misperception. One possibility is that none will do it, because any such seller's action will benefit others who expend no resources on correction. But this conclusion only illustrates the hopeless artificiality of any example that presupposes universal ignorance of the value of any standard commodity. One firm may well try to individuate its product by branding, so that it can capture the gains of correction. More likely, some curious consumer will figure out that the common perception is incorrect and spread the word to his friends. Remember, all consumers will not, in any real-world setting, have identical valuations, so one is likely to uncover this ostensible mistake of unknown origin. There is no incentive on the part of any consumer to disregard the truthful information once it is acquired, for this case is not one where there is a future probability of some uncertain event, where various consumers have to decide the extent of their risk aversion. These are all cases where the values are certain, but unknown. It seems quite improbable that no one will be able to work out the mistakes. In practice, it will not be an interesting case.

The situation differs some when the perceived value of this product is \$25 and in fact its true value is only \$20. One possibility in the printer/toner example used by Bar-Gill is that individuals will be over-optimistic about their anticipated levels of use, in which case they will buy too much of the toner. At this point, no producer has the incentive to correct any systematic misperception. Nonetheless, we should expect the price to drop to \$20 because the competition between the sellers will drive it down even if the buyers are not made aware of the truth. But a new inefficiency will persist in this odd market: with the perceived value at \$25 too many consumers will enter the market. But once again, it hardly seems like the misperception in this case could survive, for some consumer will share information with his friends about the over-valuation, or some seller of a somewhat different product will draw away the customers by trumpeting the mistake. The point here is that there is no sustainable equilibrium when the mistake in information is about a standardized product that everyone can test and use. Sooner or later the correct information will come out. There is no real long-term market distortion that anyone should correct.

The overall situation does not change when one product, say, the toner, is sold in a bundle that is perceived to cost less than it really does. The Bar-Gill model assumes that all producers in this market will backload the price of the tied good while underpricing the tying

good, perhaps even offering it for free.²⁸ One objection to this strategy is that savvy customers will take both printers, and then play each supplier against the other. A second difficulty relates to how we set up the basic problem. Suppose it turns out that individuals do make mistakes in value, but the background of homogenous individuals is false. False in what sense? One possibility is that all individuals do suffer from a certain bias that pulls them in a distinct direction, but to different extents. At this point the dispersion of demand will not lead to any change in strategy. Firms will bid down the price to \$20 as before, but the higher demanders will purchase more at that price than the lower demanders. The real art in this business then would be to estimate the total market-clearing demand.²⁹

Yet in most cases the cognitive biases are likely to operate in ways that make the marketing decisions more complicated for any potential seller. Some buyers may suffer from pessimism and doubt, and thus underprice the goods. Others may be optimistic as to their use. In the bundling situation, the proper response to the first situation is to keep the price of the front-end product high, and to lower that of the tied good—to keep this buyer in the market at all. The opposite strategy looks appropriate for individuals who suffer from the optimism bias. But no consumer wears a black or white hat that indicates his or her class, so it may well be that the best strategy is to ignore these biases altogether. The increased variance has no direction, so that it is hard to tilt one way or other.

The situation here is hardly surprising. The problem of variation in demand just makes the position of the seller more difficult than it would otherwise be. But there is hardly any reason to be troubled by that observation. Any argument that demand curves are negative also strongly suggests what is doubtless the case, namely, that buyers do not have uniform demands. This lack of uniformity often inspires an effort to price discriminate where a seller has some limited market power. But at this point the behavioral critique loses much of its bite, because it can no longer predict any *systematic* direction to the market errors. Nor should that point come as a large surprise, for these offset-

²⁸ See Bar-Gill, 73 U Chi L Rev at 39 (cited in note 25) (concluding that because “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).

²⁹ Market-clearing demand describes an economic process of seller price adjustment until supply equals demand and the market is “cleared” of all surpluses and shortages. See Donald W. Moffat, *Economics Dictionary* 291 (Elsevier 2d ed 1983) (defining “clearing the market” as a price equilibrium at which “everyone who wants to buy at that price can obtain the product and everyone who wants to sell at that price can find a buyer”).

ting biases are common elsewhere. In dealing with any compound probability it is possible either to overweight the individual event (representativeness or availability) or overweight the background estimation of probability (anchoring). For example, in the standard case of identifying a particular bus, observers could err in their estimation that the particular bus they saw was blue, or in the background probability of blue and yellow buses. There is little reason to deny that these effects have some impact in individual cases. But it is hard to make policy recommendations in the absence of information as to which effect is likely to be most profound in any given setting. The behavioral critique lacks real bite.

The behavioral position contains one other error. The constant effort to find reasons why mistakes will lead to misallocation should never be allowed to blind us to traditional antitrust analysis. As Bar-Gill recognizes, it is possible to offer other explanations for whether a particular arrangement is efficient or works in restraint of trade.³⁰ The tying illustration raised in *Independent Ink, Inc v Illinois Tool Works, Inc*³¹ offers a good example of this situation. First, nothing in that case turned on any alleged misperception of the demand for ink in toner cartridges. Rather, the case involved the sale of high-end commercial printheads and ink that were used to print out bar codes for large and sophisticated retailers who made cold-blooded calculations of their demand.³² In this context, it is just far-fetched to see any optimism bias. Too many cost controls and protocols block that conclusion.

Nor does the psychology have anything to do with the proper analysis of the case. The argument used against tying the sale of the printheads and ink was that the various patents that Illinois Tool Works held in the tying product created a presumption of market power.³³ The argument on the other side was twofold. First, there can be no presumption of market power when there are multiple sellers in the market with systems that compete with the defendants, as there were in this case.³⁴ It may be that the exclusive dealing provision lands a devas-

³⁰ Bar-Gill, 73 U Chi L Rev at 53 (cited in note 25) (acknowledging that bundling can result either from anticompetitive seller behavior or consumer misperception).

³¹ 396 F3d 1342 (Fed Cir 2005), cert granted, 125 S Ct 2937 (2005).

³² 396 F3d at 1344.

³³ Id at 1348–49 (“In sum, the Supreme Court cases in this area squarely establish that patent and copyright tying . . . do not require an affirmative demonstration of market power. Rather, [cases] make clear that the necessary market power to establish a [Sherman Act] section 1 violation is presumed.”).

³⁴ Id at 1352 (noting that “there is testimony here by the president of an OEM [printer manufacturer] that consumers use labels as substitutes for [the defendant’s] printhead technology . . . and it is undisputed that two competitors offer competing printheads”). In addition to direct competitors, other labeling systems were available in the marketplace. See *Independent Ink*, 210 F Supp 2d at 1159.

tating blow to competitors in the ink market who have no printheads to sell, but it does not result in the loss of consumer welfare, which is the touchstone of the antitrust laws. Nothing about this tying arrangement requires the printhead manufacturers to produce their own ink. They can buy that in the open market, contract out for that with third persons if they so choose, bring the appropriate personnel in house, or any combination of the above, without running afoul of the antitrust laws.

Second, there is some efficiency justification for the tying arrangement, which allows the patent holder to more accurately price the combination to the various customers, in ways that are no different from supplying a telephone at low cost on condition that all calls be made through the phone company in question. The variable cost allows the seller to meter differences in demand. Breaking the tie would push up the cost of the original units so that the ink could be sold at competitive prices, which would have the effect of pricing out of the market anyone who had low demand for the printhead/ink combination. Whether this theory is sufficient to explain the high prices of the tied good is a disputed proposition. But if the presumption in favor of market power in a tying good should create a presumption of illegality under the antitrust laws, as does not seem likely, the behavioral critiques of overoptimism don't explain why.

IV. CREDIT AND CREDIT CARDS

The standard behavioral economics critiques do not apply only to ordinary contract transactions, but also carry over to a full range of payment transactions, both credit and debit. Debit transactions use money in some preexisting account for payment. Credit transactions in the broad sense cover any transaction in which a promise is made today to pay a certain sum of money tomorrow. They therefore include ordinary promissory notes, charge cards that are tied to particular merchants, and the far more flexible credit cards, which may be used at any establishment that honors them, but only those establishments.³⁵ The ordinary charge card is a two-party relationship, while the credit card is a complex network arrangement in what are called "two-sided" markets, that is, ones in which it is not possible to sign up customers unless you have signed up merchants, and vice versa.³⁶ There

³⁵ For an exhaustive account of the various players in the credit transaction, including the merchant, its (acquiring) bank, the customer, and its (issuing) bank, see David S. Evans and Richard Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing* 1–12 (MIT 2d ed 2005). In effect, the merchant gets about 98 percent of the purchase price. The rest goes to fund the transaction, including an interchange fee that the credit card company imposes.

³⁶ See *id.* at 115–35, 150–51.

are many questions as to how costs should be allocated between the parties in these markets, but the general equilibrium position appears to be that the merchants are more eager to get the customers than the customers are to have the merchants, so that the bulk of the cost of running the system comes from the merchant, not the consumer.³⁷ The peculiar problem with credit cards in behavioral economics, however, is not the complex arrangements among the various participants to the scheme, but the direct relationship between the bank that issues the credit card and the customer to whom that card is issued. To what extent do any of the behavioral anomalies lead us to revise our view of the efficiency of these transactions, which have become ubiquitous and expanding in the past fifty years?

To answer this question, it is critical to identify the reasons why credit cards, when they work, are regarded as so desirable. They allow individuals to acquire goods that they need today for cash that they will pay tomorrow, sometimes with interest, but often not (as when bills are paid within thirty days of presentation). The extra time allows for gains from trades for all parties. It also reduces the need to carry cash, checks, or charge cards from multiple establishments. The credit line is all-purpose, so it allows customers to comparison shop in order to get the best price. It takes little more than personal reflection to realize that individuals rely heavily on these cards. It may take a bit more awareness to realize that credit cards have not crowded out other forms of plastic. Debit cards (which operate in much the same fashion as credit cards) are now the most rapidly growing part of the business.³⁸

To someone like myself who has used credit cards without incident for years, it seems odd even to pose the question of whether they operate in some nefarious fashion. But once attention is focused on emotional and cognitive deviations from rational behavior, it is fair to ask whether the marketing practices of issuing banks are responsible for individuals taking on excessive debt, which could lead to bankruptcy and consequent personal dislocation.³⁹ The basic argument is

³⁷ Id at 3–8.

³⁸ See Jonathan Zinman, *Why Use Debit Instead of Credit? Consumer Choice in a Trillion-Dollar Market* 1, Federal Reserve Bank of New York Staff Reports No 191 (July 2004), online at http://www.ny.frb.org/research/staff_reports/sr191.html (visited Dec 30, 2005) (“Debit’s ascension has been sudden, with 47 [percent] of households using it by 2001, up from 18 [percent] in 1995.”).

³⁹ See generally Cass R. Sunstein, *Boundedly Rational Borrowing*, 73 U Chi L Rev 249 (2006) (discussing possible ways that bounded rationality causes excessive consumer borrowing and examining possible countermeasures); Oren Bar-Gill, *Seduction by Plastic*, 98 Nw U L Rev 1373, 1395–1401 (2004) (examining excessive credit-card borrowing due to imperfect self-control, optimism bias, and hyperbolic discounting).

that credit cards are seductive to consumers because they eliminate the pain of separation that comes when people have to take cash out of their wallets or write personal checks. “Charge it” is just too easy. Unwary consumers therefore develop various forms of myopia that lead to insufficient self-control, resulting in the purchase of items that they may not really need and want. Being overconfident in their ability to pay their debts when they come due, intensive card users fall into bankruptcy at a higher rate than other individuals who do not resort to credit cards at such levels.⁴⁰ Sometimes low introductory or “teaser” rates lure people into the credit card trap.⁴¹

On balance, this critique is unpersuasive. One weakness is that it tends to ignore the usual remedies against fraud, misrepresentation, and material nondisclosures (force is not a problem) that are available to individual credit card users. In particular, the Truth in Lending Act (TILA)⁴² operates chiefly as a full disclosure provision; although it, rightly, does not limit the content of the credit card bargain, it does offer protection against misleading offers in part by use of the so-called “Schumer Box,” which contains in accessible form the key dimensions of the loan transaction, including any fixed annual fee associated with credit card use.⁴³ Issuing banks, anxious to expand their roster of customers, commonly waive these annual fees, often through credit card solicitations that place the word “none” in that box.

The question of how to read that word “none” arose in *Rossmann v Fleet Bank (R.I.) National Association*.⁴⁴ Some six months after the credit card had been issued, the bank imposed a \$35 annual fee, consistent with a contractual provision that reserved to the bank a general power to alter, with notice, the terms of the arrangement unilaterally.⁴⁵

⁴⁰ See Bar-Gill, 98 Nw U L Rev at 1385–86 (cited in note 39) (claiming that “[c]areful statistical analysis . . . verifies the causal relationship between credit card debt and consumer bankruptcy filings”), citing a previous draft of the study by Ronald J. Mann, *Global Credit Card Use and Debt: Policy Issues and Regulatory Responses* 47 (University of Texas Law and Economics Research Paper No 49, Apr 2005), online at <http://ssrn.com/abstract=509063> (visited Dec 30, 2005) (providing a comparative analysis of credit card use worldwide, and suggesting policy reforms to limit the accumulation of consumer debt).

⁴¹ See Bar-Gill, 98 Nw U L Rev at 1392–93 (cited in note 39) (discussing “teaser rates” generally).

⁴² 15 USC § 1601 et seq (2000).

⁴³ TILA requires that, for credit card applications and solicitations sent through mail, any annual, periodic, or membership fees be disclosed in a tabular format commonly referred to as a “Schumer Box” after Senator Charles E. Schumer of New York. See 15 USC § 1637(c)(1)(A); 15 USC § 1632(c).

⁴⁴ 280 F3d 384, 387–88 (3d Cir 2002) (“Within the Schumer Box, there was a column with the heading ‘Annual Fee’; the box beneath that heading contained only the word ‘None.’”).

⁴⁵ Id at 388 (“The Agreement . . . contained a change-in-terms provision, which stated: ‘We have the right to change any of the terms of this Agreement at any time. You will be given notice

Although none was required, the bank's explanation for imposing this fee was that higher interest rates from the Federal Reserve made "it difficult for credit card issuers to maintain products and services at current rates."⁴⁶ The annual percentage rate remained at 7.99 percent.⁴⁷

Rossman presents nice questions of contract interpretation and business practice. On the former, the court had to determine the implicit *duration* of the no annual fee promise. One possible reading is that the promise operates in perpetuity, notwithstanding the reserved power to alter the agreement at any time. The plaintiff thus argued that the provision has the latent subtext, "no annual fee (ever)."⁴⁸ But that extreme view is inconsistent with the level of flexibility required in commercial transactions where cost conditions can vary substantially over time. On the other hand, it would amount to a clear case of "bait and switch" to assume that the company could have customers pay the cost of completing a credit application only to change the annual fee the next day, so that the only requirement was that the statement was literally accurate when made.⁴⁹ The Third Circuit in *Rossman* appreciated the weaknesses of both extremes and read Fleet's offer as barring an annual fee for the first year.⁵⁰ That result seems an eminently sensible effort to make commercial sense of an agreement, by using the term "annual" in the disclosure form to benchmark the duration of the promise. That interpretation of the contract left open the question of whether Fleet's initial offer was a "bait and switch" operation because the bank had planned from the outset to impose an annual fee before the end of the year.

Rossman shows both that the prohibition against false and misleading statements has some pop in the truth-in-lending context, and that it is possible to read an open-ended term to comport with the reasonable expectations of both parties to the transaction. Any bank that wants to avoid this misunderstanding can just state that the annual fee is waived for the first year only, and be done with the ambiguity. The key question, however, is what *Rossman* does, or does not, tell us about possible biases and abuses that might infect the credit indus-

of a change as required by applicable law."'). The provision applied to outstanding as well as future balances.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.* at 393.

⁴⁹ *Id.* at 396 ("Bait advertising, although not necessarily literally false . . . is nonetheless considered deceptive, insofar as it suggests the product advertised is actually offered and intended to be sold, when the real intention is simply to create a contact . . . that allows the seller to switch the consumer to a more profitable sale.").

⁵⁰ *Id.* at 394 ("[W]e believe that 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 one year.").

try. Sorry, there is no cautionary tale. The general disclosure remedies are shown to have a place.

But where is the abuse that goes beyond that? The broad power that Fleet Bank reserved to raise its fees and interest rates at will did not result in a wholesale set of new charges right after the original contract had been signed. Indeed, the most striking feature about the case was how cautiously the bank chose to exercise its rights. It did not just give notice of the increase but gave its own increased costs as a reason for its decision. The original loan agreement could have allowed it to raise its interest rates, but the bank chose instead to impose a fixed fee, which works to the advantage of large as opposed to small borrowers. Consumers' net losses from the new fee, relative to any allowable rate increase, seem quite small, because there was a \$35 cap on such losses per cardholder. TILA or no TILA, 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 Fleet card will have a second or third card as well. Any increase in rates is likely to generate a migration of business elsewhere. The usual rational choice model seems to work pretty well thus far.

Are any other legal remedies needed to respond to consumer biases, then? Not many, seems to be the best response. The basic charge against issuing banks (and remember it is not Visa or MasterCard that enters into credit arrangements with individual cardholders) is that they tend to encourage excessive consumer borrowing. But how does anyone distinguish excessive from appropriate charges? At one level, banks do this themselves with the various credit scoring methods they use to set card limits for each customer.⁵¹ Of course, the bank chooses its limit to optimize its risk-adjusted return: this number need not match the ideal credit limit for each customer. But which way runs the deviation? Few people seek lower credit limits, and most people think the larger the line of credit, the better. Even if credit limits are not optimal, defaults in payment hurt the banks and merchants, who collect little or nothing in bankruptcy—assuming that they have not sold off their paper for, typically, ten cents on the dollar. Banks know how to live with predictable defaults, but they hardly regard the failure of their borrowers as an advantage to themselves. It does not seem likely that banks fall prey to any cognitive or emotional deficits in setting their limits. Their self-interest is a powerful market constraint against excessive borrowing.

⁵¹ See Evans and Schmalensee, *Paying with Plastic* at 106–07 (cited in note 35) (discussing use of credit scoring techniques to predict the likelihood of cardholder default).

Nor is it a sufficient response to point to the positive correlation between increased credit and higher rates of bankruptcy. That correlation is an expected outgrowth of the wider dissemination of credit. In the olden days, individuals of limited means had to endure clunky secured credit mechanisms if they could get credit at all. There were fewer bankruptcies because there was less borrowing. The credit cards that increase bankruptcies *ex post* also increase business and consumption choices *ex ante*. Part of the mix therefore is the vast majority of individuals who profit from credit card use. Their business transactions may not be perfect, but they easily meet our test of rationality, by making incremental improvements in their lives.

Nor are bankrupt parties necessarily victims of some underlying cognitive bias. Credit cards allow purchase of expensive equipment needed to start a new risky business venture. Any *ex post* failure need not signal an *ex ante* mistake in judgment. People lose rational bets all the time. Doubtless some (smallish) fraction of borrowers resorts to the bankruptcy proceedings strategically, to shed their debts. In some cases, the usual assumptions are reversed, as wily customers take advantage of sophisticated but remote banks. Any reference to consumer fraud leaves open this question: is it fraud on, or by, consumers? There is this haunting question: what if these individuals could not get credit cards? It hardly follows that they would be denied all lines of credit. They could easily spend their paychecks in a single day, feast on traditional charge cards, borrow at high rates from loan sharks, or take on home mortgages that they could not meet. The bankruptcies matter, but without a good deal more information, they shed little or no light on the role of cognitive and emotional shortfalls in credit transactions.

Finally, I am hard pressed to think of any form of direct regulation beyond TILA that could do any good. First, make the generous assumption that proposed legislation will not be hijacked as a result of political and factional risks. Virtuous legislators would be prey to all sorts of error, even if they were immune to the cognitive and emotional errors that plague the rest of us (which they're not). 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 homogenous mass.⁵² Some people

⁵² This problem of heterogeneity does not only exist in the context of credit regulation, but also in other contexts. The FDA approval process keeps needed medicines off the market because it does not take into account the variation in response of individual patients. Drugs that do not work for most may save the lives of a few, but will still be kept off the market. For discussion, see Richard A. Epstein, *Regulatory Paternalism in the Market for Drugs: Lessons from Vioxx and Celebrex*, 5 *Yale J Health Policy, L & Ethics* 741, 750–54 (2005).

borrow too much, but others borrow too little. Some years ago I read a story of two unmarried sisters who had roughly the same incomes, but very different spending patterns. One continued to live at the brink and to max out her credit cards at every opportunity. As she approached retirement, she had only \$5,000 in the bank. Her more prudent sister turned aside all these temptations and managed to accumulate \$500,000. The punch line: each sister thought that the other was crazy. Our moral is that any regulation that slows down the profligate borrower will also deter the cautious borrower from entering into the market by raising his costs of transaction.⁵³ That reluctance could be offset by some sentiment that the regulations in question actually help him. Yet by the same token, it is equally likely that this borrower will regard the protections as redundant, and hence of no benefit. Who is confident enough to decide which error counts for more, and to spend public money on the strength of their speculations?

Here is one example of the difficulty. Many laws impose a three-day cooling off period on prospective borrowers who take out home-mortgage loans.⁵⁴ The purpose is to curb improvident and impulsive borrowing. Some years ago when I took out one such mortgage and signed all the relevant forms, I asked the closing agent how many people had exercised their statutory right of cancellation. None, in ten or more years of experience, was the answer. People who borrow to buy new homes or refinance existing ones have gone through too many credit hoops to reconsider late in the day. And some small fraction, my agent reported, found themselves in genuine distress because of the three-day wait, particularly when the loan money was needed to stave off penalties or forfeiture on a related transaction. Any lender could offer this perk if it chose. I doubt many borrowers want it.

A second illustration concerns the role of so-called “teaser” or low introductory rates used to induce people to get a credit card. Consumers, the argument runs, may well overrate their benefit in the ini-

⁵³ A similar story is told in Kathleen Lynn, *No Time to Spare: Early Birds Catch the Best 401(k) Returns*, NJ Record L09 (Jan 6, 2004):

Twin sisters graduate from college at age 22 The first one signs up for her company's 401(k) plan . . . even though it means she has to watch her spending carefully. . . . Her sister lives extravagantly through her 20s But at age 31, she wakes up and starts saving \$2,000 a year—and continues saving that amount until she retires at age 65.

...

Who has more money at retirement? If you guessed it's the sister who saved less but started earlier, congratulations.

⁵⁴ See, for example, 15 USC § 1635 (2000) (providing that in any consumer credit transaction involving the provision of a security deposit, “the obligor shall have the right to rescind the transaction until the third business day following the consummation of the transaction”).

tial period relative to the cards' future costs.⁵⁵ The ostensible theoretical foundation for this conclusion is that individuals deviate from the usual standard rational choice models of uniform discount rates. Instead they engage in hyperbolic discounting: "A consumer is said to be a hyperbolic discounter if her short-run discount rate is larger than her long-run discount rate."⁵⁶ The implication of this position is that persons will borrow excessively today because they will underprice their obligation to repay the money tomorrow. Without doubt, impatient individuals do report, truthfully, in laboratory experiments that they would rather have \$15 today than \$20 in one month.⁵⁷ But there are few individuals who would borrow \$200,000 to purchase a home, knowing that they would have to repay their lenders \$400,000 in one month's time. Indeed the home mortgage interest tables show no trace of such discounting, but a predictable yield curve in which the annual cost of money varies between, say, 5.78 percent and 6.22 percent.⁵⁸

The real challenge is not to deny the experimental findings, but to explain the full range of personal and market mechanisms that make them disappear without a trace. Nor do the figures with respect to credit cards reflect some passionate desire for the present. Nearly half of ordinary borrowers pay off their card each month, which does not sound like hyperbolic discounting.⁵⁹ In addition, debit cards now constitute the fastest growing segment of the payment card business, because many people, especially those who have both, prefer to reserve their credit cards for unexpected situations.⁶⁰ It is not as if they max out on credit card limits before they turn to debit cards. Finally, in-

⁵⁵ See Bar-Gill, 98 Nw U L Rev at 1396–99 (cited in note 39).

⁵⁶ Id at 1396. See also David Laibson, Andrea Repetto, and Jeremy Tobacman, *A Debt Puzzle*, in Philippe Aghion, et al, eds, *Knowledge, Information, and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps* 228, 230, 259–64 (Princeton 2003) (arguing that the concept of hyperbolic discounting helps to solve "the debt puzzle"—how consumers can at once aggressively save for retirement and impatiently borrow in credit markets); Peter Diamond and Botond Köszegi, *Quasi-Hyperbolic Discounting and Retirement*, 87 J Pub Econ 1839, 1840, 1843–59 (2003) (describing the saving behavior of "people who have self-control problems but realize this and behave according to it" by introducing a model that treats savings decisions "as an equilibrium in a sequential game played by different [intertemporal] selves").

⁵⁷ Shane Frederick, George Loewenstein, and Ted O'Donoghue, *Time Discounting and Time Preference: A Critical Review*, in Colin F. Camerer, George Loewenstein, and Matthew Rabin, eds, *Advances in Behavioral Economics* 162, 172–75 (Princeton 2004) (reporting discount rates of 345 percent for the first month, 120 percent for the year, and 19 percent for a ten-year wait).

⁵⁸ See, for example, Chase Home Finance, *Today's Interest Rates*, online at <http://mortgage02.chase.com/pages/shared/gateway.jsp> (visited Dec 30, 2005). See also *Consumer Rates: 30-yr. Fixed Rate Mortgage, 15-yr. Fixed Rate Mortgage*, Wall St J C2 (Sept 27, 2005).

⁵⁹ See Laibson, Repetto, and Tobacman, *A Debt Puzzle* at 228 (cited in note 56) ("At any given point in time, at least 63 percent of all households with credit cards are borrowing (i.e., paying interest) on those cards.").

⁶⁰ See Evans and Schmalensee, *Paying with Plastic* at 205–11 (cited in note 35). See also generally Zinman, *Why Use Debit Instead of Credit?* (cited in note 38).

debted people commonly take sensible steps to rationalize their debt through consolidation, hiring financial advisors, undertaking life counseling, and the like. Their choices are not perfect, but on average they meet the test of rationality here by bettering themselves incrementally.

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. The baker gets a new product to customers who might not buy the full package taste unknown. Wine is sold the same way. So it is with lending agreements. Try this bank out to see whether you like their customer service, their monthly payments, their promotional devices. There is an easy informational explanation that does not require an appeal to hyperbolic discount rates. Indeed, if that were the explanation, then we should expect frantic customers in search of short-term gains to grab the next teaser rate that comes along when the first expires. But most customers keep a bank because they like the relationship even when the low rate expires. Banning these rates will do no good, and it could easily work some anticompetitive harm, by making it more difficult for new banks to pry customers away from established competitors.

Indeed, one encouraging sign about this debate is that few voices call for aggressive regulations that ban interest above certain levels or impose fixed public maximums on who can borrow or how much. Those meat-cleaver measures cause too much dislocation to ordinary people. Instead there is a familiar call for “soft” paternalism, which seeks to alter default provisions or to encourage some public awareness about the dangers of excessive borrowing. The basic response to both is, why? Which of the default provisions should be altered, and why? If the new default provision is not meant to block freedom of contract, then banks could vary the terms that they offer anyhow. And the public information campaigns that promote “debiasing” seem ill-advised. Anyone can enter the market on information. It does not take a government to broadcast the dangers of borrowing, any more than it takes a government to broadcast the dangers of obesity. And by putting the government into the fray, there is always the risk that debiasing will take the form of rebiasing, by overstating credit card risks to individuals who would do well to have them.

Looked at in the aggregate, the payment card business, both on the credit and debit side, looks like one where markets work well. The commodity provided is standardized, interest rates can be effectively communicated, many parties can enter at one time, and collateral services are available to people who get into trouble. There are no evident nonpecuniary externalities to third persons. It would be a mistake to sound like Dr. Pangloss, the eternal optimist. But it is an equal mistake to sound like Cassandra, the prophetess of doom. On balance,

things are about right where they are. Reformers who are troubled by cognitive and emotional shortfalls would do better to look elsewhere.