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2004

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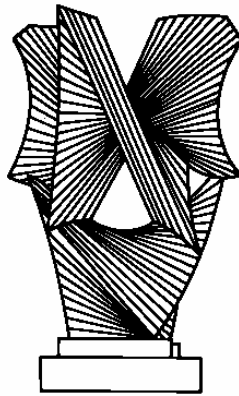
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Cass R. Sunstein & Christine Jolls, "Debiasing through Law" (John M. Olin Program in Law and Economics Working Paper No. 225, 2004).

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CHICAGO

JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 225
(2D SERIES)



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**THE LAW SCHOOL
THE UNIVERSITY OF CHICAGO**

September 2004, revised March 2005

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Debiasing Through Law

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Abstract

Human beings are often boundedly rational. In the face of bounded rationality, the legal system might attempt either to “debias law,” by insulating legal outcomes from the effects of boundedly rational behavior, or instead to “debias through law,” by steering legal actors in more rational directions. Legal analysts have focused most heavily on insulating outcomes from the effects of bounded rationality. In fact, however, a large number of actual and imaginable legal strategies are efforts to engage in debiasing *through* law – to help people reduce or even eliminate boundedly rational behavior. In important contexts, these efforts promise to avoid the costs and inefficiencies associated with regulatory approaches that take bounded rationality as a given and respond by attempting to insulate outcomes from its effects. This paper offers both a general description of debiasing through law and an account of how such debiasing does or could work to address central legal questions across a range of areas, from consumer safety law to corporate law to property law. Discussion is also devoted to the risk of government manipulation that is sometimes created when debiasing through law is employed..

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Introduction

A growing body of legal analysis focuses on how human behavior deviates systematically from what would be predicted by the traditional economic assumption of unbounded rationality.¹ To the extent that legal rules are designed on the basis of their anticipated effects on behavior, bounded rationality is obviously relevant to the formulation of legal policy. But an important and little addressed question is precisely *how* it is relevant to the formulation of legal policy. The most obvious possibility is that, given a demonstration of the existence and importance of a particular aspect of bounded rationality, the law should be structured to presume the existence of that particular shortcoming in human behavior.

Most existing work in behavioral law and economics is of this character. Consider, for instance, the large literature examining the belief by boundedly rational consumers that potentially risky products are substantially safer than they in fact are. In the presence of such beliefs, the law might – and to some degree does – respond by adopting heightened standards of manufacturer liability for consumer products (e.g., Hanson and Kysar 1999a:1511-12). Or consider the argument that “Monday morning quarterbacking” by judges or juries adversely affects judgments reached by these decision makers on matters of corporate law, so that corporations are held liable for bad events even if preventing those events would have been extremely difficult (Rachlinski 1998:620-21). If so, then the law could respond, as indeed it has with the “business judgment rule,” by largely vitiating the liability of corporate law actors, who would otherwise be vulnerable to such second-guessing on the part of adjudicators. More generally, rules and institutions might be, and frequently are, designed so that legal outcomes do not fall prey to problems of bounded rationality.

Boundedly rational behavior thus might be taken to justify a strategy of *insulation*, attempting to protect legal outcomes from falling victim to bounded rationality. To date, most treatments of bounded rationality in law have been of this character. Strategies for insulation can be characterized as a method for “debiasing law.”

¹ See, for example, Jolls, Sunstein and Thaler (1998), Korobkin and Ulen (2000), Parisi and Smith (2004), Sunstein (2000), and law review symposia in Northwestern University Law Review (2003) and Vanderbilt Law Review (1998).

A quite different possibility – one that has received much less attention in law and elsewhere – is that legal policy may respond best to problems of bounded rationality not by insulating legal outcomes from its effects, but instead by operating directly on the boundedly rational behavior and attempting to help people either to reduce or to eliminate it. We describe legal policy in this category as “debiasing through law.” Debiasing through law will often be a less intrusive, more direct, and more democratic response to the problem of bounded rationality.

In fact there exists a substantial, empirically-oriented social science literature on prospects for debiasing of individuals after a demonstration of a given form of bounded rationality.² But empirical findings on these forms of debiasing have made only limited appearances in the legal literature,³ and equally important, social scientists interested in such forms of debiasing have generally not investigated the possibility of achieving them through law. In many important settings, empirical evidence suggests the substantial potential of these sorts of debiasing strategies, and from a legal policy perspective it is obviously important to ask about the role that law can play in facilitating such debiasing. That is our major focus in this paper.

When debiasing through law has been discussed in the legal literature, the treatment has focused on existing or proposed steps taken in *procedural* rules governing adjudication by judges or juries. A well-known example stems from the work by Linda Babcock, George Loewenstein, Samuel Issacharoff and Colin Camerer (1995) on the tendency of litigants to evaluate likely outcomes, as well as questions of fairness, in ways that systematically serve their own interests. Thus, for instance, these authors find that individuals assigned to the role of the plaintiff and presented with exactly the same information as is presented to individuals assigned to the role of the defendant offer far higher estimates of the likelihood of a plaintiff victory in a lawsuit. Babcock, Loewenstein and Issacharoff (1997) find, however, that in an experimental setting, this self-serving bias may be eradicated by requiring litigants to consider the weaknesses in their case or reasons that the judge

² Leading examples include Fischhoff (1982), Sanna, Schwarz and Stocker (2002), and Weinstein and Klein (2002). Many other illustrations appear in the body of the paper.

³ As noted in the text just below, where debiasing of boundedly rational actors has been examined in the legal literature, the focus has been on achieving debiasing through procedural rules governing adjudication by judges or juries. We discuss several examples below.

might rule against them. In these circumstances, individuals in the plaintiff's and defendant's roles have similar views on likely trial outcomes and fair settlements.⁴ The present paper, by contrast, gives primary emphasis to a different and broader form of debiasing through law – a category we call “debiasing through substantive law.”

The central idea of debiasing through substantive law is that in some cases it may be desirable to structure the substance of law – not merely the procedures by which the law is applied in an adjudicative setting – with an eye toward debiasing those who suffer from bounded rationality. Through a series of examples from areas of law outside of adjudicative procedure, we hope to show that the prospect of reducing bounded rationality through substantive law holds previously unrecognized promise for both understanding and improving the legal system.

Section 1 below begins by offering a general description of debiasing through law. Our analysis emphasizes the basic distinction between debiasing of boundedly rational actors and the provision of incentives – another important instrument for affecting actors' behavior.

Section 2 focuses on debiasing through substantive law. It illustrates the general scope and power of this form of debiasing by describing the role it does or could play in addressing important questions across a range of legal domains, from consumer safety law to corporate law to property law. Our analysis of debiasing through substantive law contrasts with the almost reflexive focus in the existing legal literature in these domains on “debiasing law” solutions to problems of bounded rationality.

Section 3 explores some of the normative questions raised by debiasing through law (whether achieved through procedural rules or through substantive law). Compared to the usual approach of “debiasing law,” an important advantage of strategies for debiasing through law is that they aim to correct errors while still preserving some opportunity to make choices. Under Babcock, Loewenstein and Issacharoff's approach of debiasing through procedural rules in response to litigants' self-serving bias, for instance, no decision making power or information is removed from litigants' hands; by contrast, a “debiasing law” approach to litigants' self-serving bias suggests keeping information out of their hands entirely (Issacharoff and

⁴ It is possible that “real” self-serving bias – outside of the lab – is more resilient (Farnsworth 2003:582-85).

Loewenstein 1995). An important corollary of this attribute of debiasing through law is that, unlike “debiasing law” strategies, the approach of debiasing through law will frequently make it possible for government to improve outcomes for individuals who exhibit bounded rationality while leaving unrestricted the choices of those who would not otherwise err. An emerging theme in the legal literature on bounded rationality is that it is preferable, when possible, to avoid imposing significant costs on those who do not exhibit boundedly rational behavior (Camerer, Issacharoff, Loewenstein, O’Donoghue and Rabin 2003:1212; Mitchell 2002:132); below we describe specific strategies for debiasing through law that achieve this goal. In this sense, debiasing through law provides real advantages over “debiasing law” strategies.

Still, at bottom, debiasing through law in either of its two varieties (substantive or procedural) involves the government in a self-conscious process of changing the behavior of at least some people by altering their perceptions of the reality around them. In some respects such government action is entirely routine, as government frequently and uncontroversially regulates in response to individuals’ misinformation; many strategies for debiasing through law are of just this character. But in some contexts debiasing through law could come to resemble a system of government propaganda in violation of widely-shared normative commitments; as our examples below will illustrate, however, many actual and conceivable forms of debiasing through law do not have this problem.

1. A General Description of Debiasing Through Law

1.1 Preliminaries

If debiasing through law is a response to bounded rationality, then an obvious first step is to understand the basic idea of bounded rationality. As is now well known in the legal literature and beyond, researchers in psychology and behavioral economics have uncovered a wide range of departures from unboundedly rational behavior. These departures take one of two general forms. First, individuals may exhibit “judgment errors.” Second, human behavior may deviate from the precepts of expected utility theory. We briefly describe these two basic categories.

1.1.1 Judgment Errors

Judgment errors stem from “heuristics” and “biases” that often shape human decision making. Begin with a familiar example of a heuristic. Asked how many words in a 2,000-word section of a novel end in “ing,” people give much larger estimates than those asked how many words have “n” as the second-to-last letter in the same material, notwithstanding the obvious fact that more words must satisfy the latter criterion than the former (Tversky and Kahneman 1983:295). According to the “availability heuristic” at work in cases of this sort, the probability of an event is estimated after an assessment of how easily examples of the event can be called to mind. The availability heuristic often produces sensible judgments and behavior for people who lack detailed statistical information, but it can lead to significant and severe errors. The prospect of errors in some cases does *not* suggest that the behavior in question is “irrational” in the sense of being arbitrary or lacking plausible justification. The point instead is that the behavior, even if sensible in many cases, leads to systematic error in some of them. Bounded rationality is hardly the same as “irrationality.”⁵

The use of heuristics has also been shown to lead people to misestimate probabilities by committing the “conjunction fallacy” (concluding that characteristics X and Y are more likely to be present than characteristic X alone) – errors produced by the so-called representativeness heuristic. For instance, after reading a paragraph about a thirty-one year old woman, Linda, who was concerned with issues of social justice and discrimination in college, most people erroneously tend to say that Linda is more likely to be “a bank teller and active in the feminist movement” than to be “a bank teller” (Tversky and Kahneman 1982:92-94). Heuristics, then, are not themselves biases, but they can produce biases. Thus “availability bias” might be said to arise when the availability heuristic leads people to make predictable errors in assessing probabilities.

A related set of findings by psychologists and behavioral economists emphasizes not mental short-cuts, but more direct biases that lead to inaccurate judgments. An example is hindsight bias, in which decision makers attach excessively high probabilities to events that ended up occurring; we referred to this bias above in discussing corporate law’s business judgment rule. We also referred above to self-serving bias – in which individuals interpret information in directions that serve their own

⁵ For further discussion, see Jolls, Sunstein and Thaler (1998:1594).

interests – in illustrating prospects for successful debiasing through procedural rules.

Another bias that has received significant attention in the legal literature – and that we suggest in section 2 creates important opportunities for debiasing through substantive law – is optimism bias. Optimism bias refers to the tendency of people to believe that their own probability of facing a bad outcome is lower than it actually is. People typically think that their chances of having an auto accident, contracting a particular disease, or getting fired from a job are significantly lower than the average person’s chances of suffering these misfortunes – although of course this cannot be true for everyone. Estimates offered by individuals for their own probabilities range from twenty to eighty percent below the average person’s probability.⁶

While this “above average” effect is well established, it does not by itself establish that people optimistically underestimate their statistical risk (Viscusi 2002:162-66). People could believe, for example, that they are less likely than most people to contract cancer, while also having an accurate sense of the probability that they will contract cancer. But substantial evidence suggests that people sometimes exhibit optimism bias in the estimation of actual probabilities, not simply relative risk. For example, professional financial experts consistently overestimate likely earnings, and business school students overestimate their likely starting salary and the number of offers that they will receive (Armour and Taylor 2002:334-35). People also underestimate their own likelihood of being involved in a serious automobile accident, and their frequent failure to buy insurance for floods and earthquakes is consistent with the view that people are excessively optimistic.⁷ It is also noteworthy that these data pointing to optimism bias come from individuals making judgments that they make regularly in their everyday lives, rather than judgments far removed from those they would ordinarily make.

1.1.2 Departures from Expected Utility Theory

Along with the category of judgment errors, the idea of bounded rationality includes ways in which actual choices depart from the predictions of expected utility theory – a foundational feature of standard rational-choice

⁶ See Jolls (1998:1659-62) for a discussion of the relevant studies.

⁷ Jolls (1998:1660-61) describes the relevant studies.

analysis. While departures from expected utility theory have received only modest attention in the existing social science literature on debiasing of boundedly rational actors (for reasons we shall explain), below we suggest their relevance to debiasing through law.

A leading alternative to expected utility theory is Daniel Kahneman and Amos Tversky's (1979) prospect theory. According to this theory, people evaluate outcomes based on the change they represent from an initial reference point, rather than based on the nature of the outcome itself. For example, discovering that one will receive a bonus of \$2500 is often experienced differently if the previous year's bonus was \$0 than if the previous year's bonus was \$5000, wholly apart from any tangible financial obligations the individual faces. Prospect theory also posits that people weigh losses more heavily than gains, thus showing "loss aversion."

Related to loss aversion is the "endowment effect," according to which an individual's valuation of an entitlement depends on whether the individual is given initial ownership of that entitlement (Kahneman, Knetsch and Thaler 1990). Thus, for example, individuals endowed with university mugs demand substantially more to sell these mugs than unendowed individuals are willing to pay to buy them.

Also related to loss aversion are framing effects. Losses matter more than gains, and thus framing outcomes as losses rather than gains will greatly affect how people respond. Many studies support this idea⁸ – as does a widely-publicized dispute over the content of a government advertising campaign in the United States (Peterson 2003). The advertising campaign in question involved the effects of breastfeeding of newborns. In the approach favored by breastfeeding advocates, the advertisements would refer to the risks to the child of leukemia and other diseases from not consuming breast milk – whereas infant formula manufacturers favored an approach that stressed the benefits to the child from breastfeeding. Showing an intuitive understanding of prospect theory, the infant formula manufacturers fought to have the government emphasize the advantages of breastfeeding rather than the affirmative harms (losses) of not breastfeeding.

⁸ For a recent overview, see Mellers (2004).

1.2 Debiasing Versus Incentives

What does it mean, in general, to “debias” boundedly rational actors? The general question of what counts as “debiasing” of boundedly rational actors is important because there are many channels by which boundedly rational behavior may be made to “go away” or diminish in degree. Some but not all of these qualify as debiasing of boundedly rational actors under the general definition we develop here.

Consider the following examples:

(1) People are prone to social influences, so much so that many people will ignore the clear evidence of their own senses, and hence provide incorrect answers, if they are confronted with the unanimous views of others (Asch 1955). This kind of “conformity bias,” in which the views of others are used as a kind of heuristic for the proper answer, is significantly reduced when financial incentives are provided. When people stand to gain economically from a correct answer and when they have confidence in their own judgment, they are far more likely to ignore the crowd, to say what they think, and to answer correctly (Baron 1996).

(2) Recall from the introduction that individuals in the role of litigants have a tendency to see cases in the light most favorable to their own side. But imagine that they are required to consider weaknesses in their side or reasons that the judge might rule against them. In that case, the “self-serving bias” bias they had previously exhibited vanishes (Babcock, Loewenstein and Issacharoff 1997).

(3) We have already mentioned thirty-one year old Linda, who was concerned with issues of social justice and discrimination in college. Recall from section 1.1.1 above that most people tend to say that Linda is more likely to be “a bank teller and active in the feminist movement” than to be “a bank teller.” This is a familiar example of the conjunction fallacy, produced by the representativeness heuristic. But as Gerd Gigerenzer has demonstrated, people are less likely to commit the conjunction fallacy when asked about frequencies rather than probabilities. If asked, “of 100 people who fit the description” of Linda, how many are bank tellers and how many are bank tellers and active in the feminist movement, the level of conjunction violations drops from 80 percent or more to 20 percent or less (Gigerenzer 2000:250).

The first of these examples is one in which boundedly rational behavior is eliminated by the provision of financial incentives. A broad definition of debiasing of boundedly rational actors might embrace this sort of technique, but we think it is preferable to exclude the underlying form of behavior here from the category of boundedly rational behavior (so that the removal of the behavior by the provision of incentives does not count as “debiasing” of boundedly rational actors in the sense that we use that term). For some purposes, it might be useful to understand incentives as a way of overcoming boundedly rational behavior by increasing the stakes. Baruch Fischhoff, for instance, describes “rais[ing] stakes” as a possible strategy for debiasing of boundedly rational actors (Fischhoff 1982:424; Fischhoff 2003:732).

But it seems most conservative, and most consistent with existing conventions in analyses of bounded rationality, to limit the category of boundedly rational behavior to that which survives even in the presence of financial or other consequences for exhibiting the behavior.⁹ If an apparent departure from unbounded rationality is eliminated with the provision of financial incentives, then many would conclude that it was not a departure from unbounded rationality at all, but instead a mere result of lazy or careless decision making by an actor who had no reason to be other than lazy or careless. Under our definition, therefore, the technique used in the first example above is not a strategy for debiasing of boundedly rational actors. And the same goes for techniques that eliminate boundedly rational behavior by improving a previously faulty aspect of an experimental design – although here again Fischhoff’s broad conception of debiasing of boundedly rational actors embraces such manipulations.

The second and third examples above are standard cases of debiasing of individuals exhibiting bounded rationality. Subjects are asked to consider arguments or information of a particular sort, and the consideration of such arguments or information reduces or eliminates the boundedly rational behavior they previously exhibited. It is important to emphasize how the technique here differs from incentives. Actors are not asked to repeat the very same task with the very same structure, with the sole difference that they now have greater reason to take care in making their choices (which in the legal domain would correspond to some, although not all, “debiasing law”

⁹ Camerer and Hogarth (1999) make this implicit claim, and offer a great deal of evidence that many cases of boundedly rational behavior are not eliminated by the provision of incentives.

strategies – for instance, those that increase punishments for certain types of behavior); instead the environment is restructured in a way that alters not actors’ motivation but the actual process by which they perceive the reality around them. Thus, we define debiasing of boundedly rational actors as using *techniques that intervene in and alter the situation that produces the boundedly rational behavior, without operating on the degree of motivation or effort an actor brings to the task*. Debiasing through law is then the use of legal rules to achieve such debiasing of boundedly rational actors.

2. Debiasing Through Substantive Law

This section fills out the general description offered in section 1 by developing a set of organizing examples of debiasing through substantive law. (The introduction and the appendix refer to existing examples of debiasing through procedural rules.) We show how the idea of debiasing through substantive law can or does address important choices the legal system must make across a range of legal domains. Our discussion follows the division in section 1.1 between bounded rationality in the form of judgment errors and bounded rationality in the form of departures from expected utility theory.

The domain of our analysis in this section is forms of bounded rationality that the existing social science literature has shown to be responsive to strategies for debiasing of boundedly rational actors. This point is important because not all types of bounded rationality respond well to such strategies. Many manipulations fail to reduce hindsight bias, for instance; and, even worse, some seemingly sensible strategies for reducing this bias have actually increased it (Sanna, Schwarz and Stocker 2002). To be sure, studies that have required subjects to “rethink the inferences that they have made upon learning [an] outcome” and have then “demonstrated to them that other inferences remained plausible” have shown some success in reducing hindsight bias (Rachlinski 1998:586-88).¹⁰ However, in most cases strategies – even fairly aggressive ones – for debiasing boundedly rational actors have enjoyed limited, if any, success in combating hindsight bias (Fischhoff 1982:427-31; Hastie and Viscusi 1998:917; Kamin and Rachlinski 1995:97-98; Rachlinski 1999:824). But in other contexts, techniques for debiasing of boundedly rational actors have shown substantial promise. One example is

¹⁰ Stallard and Worthington (1998:680-81) is an example of successful debiasing of hindsight-biased behavior.

the case of self-serving bias; as noted, having subjects consider the weaknesses in their case or reasons that the judge might rule against them appears effective in eliminating self-serving bias in litigation – a form of debiasing through procedural rules (Babcock, Loewenstein and Issacharoff 1997). We focus below on cases in which debiasing of boundedly rational actors has shown a strong likelihood of success in the existing social science literature.

2.1 Debiasing Through Substantive Law in Response to Judgment Errors

2.1.1 Debiasing Through Consumer Safety Law

A vast number of federal and state laws regulate the safety of products used by consumers.¹¹ A major impetus for these laws is the belief that consumers often do not adequately understand the potential risks of such products. Consumers may not adequately understand such risks because they are imperfectly informed, because they suffer from bounded rationality – most familiarly because of the phenomenon of optimism bias described in section 1.1 above – or both.

The traditional law and economics view of the consumer safety context is that the problem (if there is one at all) merely involves imperfect information, and thus is appropriately corrected by the straightforward provision of additional information (Stiglitz 1986:90-91). However, as the earlier discussion of optimism bias suggested and as Jon Hanson and Douglas Kysar (1999a:1511-12; 1999b:729-30), among others, have emphasized, optimism bias will lead many consumers to underestimate their personal risks even if they receive accurate information about average risks. To be sure, optimism bias is context-dependent (Armour and Taylor 2002:338-41). But the factors that tend to reduce the extent of the bias – deliberation, close temporal proximity between the decision and the outcome of the decision,

¹¹ See, for example, 15 U.S.C. §§ 2601-2692 (2000) (Toxic Substances Control Act); 15 U.S.C. §§ 2051-2084 (2000) (Consumer Product Safety Act); Restatement (Third) of Torts: Products Liability (state tort law).

and severe consequences of error – are likely to be absent in the consumer safety context, with the possible exception of the severity of consequences.¹²

It would not be unreasonable to conclude that optimism bias justifies heightened standards of products liability as an alternative to the provision of additional statistical facts about the product in question. Hanson and Kysar (1999a:1560), for instance, argue in favor of enterprise liability on the basis of (among other factors) optimism bias. However, such an approach – seeking to “debias law” by insulating outcomes from the effects of boundedly rational behavior – imposes large costs of its own (Priest 1987). A still more aggressive “debiasing law” approach, available under existing law in the case of some products, is an across-the-board ban on the product’s use. A number of federal statutes give agencies a choice among disclosure requirements and partial or complete bans.¹³ In response to evidence of inadequate information, optimism bias, and other consumer errors, some regulators might well be tempted to impose a ban even if the statute reflects a preference for disclosure.¹⁴

An alternative to these “debiasing law” strategies is to use the law to reduce the occurrence of boundedly rational behavior in the first instance. At the broadest level, strategies for debiasing through consumer safety law provide a sort of middle ground between inaction or the economists’ spare prescription of “more information,” on the one hand, and the aggressive “debiasing law” strategies of heightened products liability standards or outright bans, on the other. Strategies for debiasing through consumer safety law may be far more successful than the mere provision of statistical facts, and also far more protective of consumer prerogatives than the strategy of an across-the-board ban. Our analysis shares a starting point with traditional proposals for better “informing” consumers, but comes to a quite different end point given our empirically-based appreciation of the limits of some forms of information provision, such as those that simply offer general statistical facts.

¹² Hanson and Kysar (1999a:1511-12) provide further discussion of the role of contextual factors in determining optimism bias in the consumer safety context.

¹³ See sources cited in note 11 above.

¹⁴ See *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991) (interpreting Toxic Substances Control Act to require the least restrictive regulatory alternative).

In our discussion below of debiasing through consumer safety law, we will focus on scenarios in which optimism bias is likely to produce an *overall* underestimation by consumers of the risk associated with a given product. In some circumstances, a competing form of bounded rationality could lead consumers to overestimate rather than underestimate the risk associated with a product. For instance, highly available instances of accident or injury can lead to excessive pessimism – a distortion opposite to the one produced by optimism bias (Schwartz and Wilde 1983:1437). Alternatively, likelihoods of very low probability events may be overestimated, although the empirical evidence here is mixed, with some studies suggesting overestimation of the likelihood of very low probability events (Viscusi 1988:287-88) and other studies suggesting underestimation of the likelihood of such events (Kunreuther 1976:231-39). A general countervailing factor in the consumer product context – suggesting overall underestimation of risk in many cases – is that market pressures will tend to lead manufacturers of such products to present their products in ways that minimize consumers’ perceptions of risk (Hanson and Kysar 1999a:1425-26). Our focus in this section is on cases in which optimism bias leads to underestimation of the risks associated with a given product.

2.1.1.1 Evidence on Debiasing in Response to Optimism Bias

Straightforward potential strategies in the social science literature for debiasing in response to optimism bias include suggesting reasons that negative outcomes might occur and considering risk factors related to negative outcomes. However, such approaches usually fail to reduce optimism bias (Weinstein and Klein 2002:322-23). The social science evidence thus suggests that successful strategies for debiasing in response to optimism bias will typically require harnessing separate aspects of boundedly rational behavior. Consider two distinct possibilities.

Debiasing through the availability heuristic. One potential response to the risk that optimistically biased individuals believe “it won’t happen to them” is the availability heuristic described in section 1.1.1 above. Recall our earlier example of this heuristic: individuals asked how many words in a 2,000-word section of a novel end in “ing” give much larger estimates than individuals asked how many words have “n” as the second-to-last letter (Tversky and Kahneman 1983:295). Use of the availability heuristic often produces a form of judgment error; as with optimism bias, availability can lead to systematic mistakes in the assessment of probabilities. (Thus

“availability bias,” in the form of excessively high estimates, and “unavailability bias,” in the form of excessively low estimates, involve complementary errors stemming from the use of this heuristic.) But because making an occurrence “available” increases individuals’ estimates of the likelihood of the occurrence (Sherman, Cialdini, Schwartzman and Reynolds 2002), availability has been found to be a promising strategy for debiasing of boundedly rational actors suffering from excessive optimism.

In fact a recent series of studies of smoking behavior finds a phenomenon of this kind. A notable theme of the book-length treatment by Sloan, Taylor and Smith (2003) is that smokers are more likely to believe that smoking will harm their health if they are aware of specific instances of such harm.

As an example of the basic idea of debiasing through the availability heuristic, consider the finding of Neil Weinstein (1980:810) that many people substantially underestimate their risk of cancer. Imagine that women asked to estimate their risk of breast cancer are told, before giving their estimates, a poignant and detailed story about a woman their age with similar family and other circumstances who was diagnosed with breast cancer. If so, then the empirical results noted above (Sherman, Cialdini, Schwartzman and Reynolds 2002) suggest that their estimated probabilities will typically be higher. (Of course, they may be too much higher or not enough higher – points we discuss at some length in our normative analysis in section 3 below).

Debiasing through framing. A second possible mechanism for debiasing in response to optimism bias involves framing effects of the sort discussed in section 1.1.2 above. As we noted, the social science evidence shows that many people weigh losses more heavily than gains in evaluating potential outcomes. This evidence suggests that framing the presentation of information to exploit the extra weight attached to losses may counteract bounded rationality in the form of optimism bias.

Consider one well-known illustration of the effects of framing. In a study involving breast cancer risk and breast self-examination, material that describes the positive effects of self-examination – such as a higher chance of discovering a tumor at an earlier stage – is ineffective. By contrast, significant behavioral changes result from material that stresses the negative consequences of failing to undertake self-examination – such as a decreased chance of discovering a tumor when it remains treatable (Meyerowitz and

Chaiken 1987:505). Thus, if women are optimistically biased about the prospects that they will suffer from breast cancer and hence underestimate the value of engaging in recommended self-examinations, then framing the recommendation to self-examine in terms of losses rather than gains should increase the probability they attach to benefiting from a self-examination.

2.1.1.2 Legal Implications

We now apply these forms of debiasing in response to optimism bias to the context of consumer safety law. We consider debiasing through the availability heuristic and debiasing through framing in turn.

Debiasing through the availability heuristic. In the consumer safety context, debiasing through the availability heuristic would focus on putting at consumers' cognitive disposal the prospect of negative outcomes from use, or at least unsafe use, of a particular product. Specifically, the law could impose a set of requirements on the way that information about the product would be presented to consumers. Firms might be required – on pain of administrative penalties or tort liability – to provide a truthful account of consequences that resulted from a particular harm-producing use of the product, rather than simply providing a generalized warning that fails to harness availability. To enhance the efficacy of this proposed strategy, the law could further require that the real-life story of accident or injury be printed in large type and displayed prominently, so that consumers would be likely to see and read it before using the product. Mandatory warnings could conceivably raise first amendment issues, but so long as there is no political or ideological disagreement with the content of the message such warnings are likely to be constitutional.¹⁵

The evidence suggests that the approach of requiring the specific account as opposed to the generalized warning would help to reduce optimism bias (Sherman, Cialdini, Schwartzman and Reynolds 2002). Our point here is similar in spirit to Chris Guthrie's suggestion that legal policy makers bring "vivid information about plaintiff losses in frivolous litigation" to bear in reducing plaintiffs' overestimation of the probability of success in

¹⁵ Glickman v. Wileman Brothers & Elliott, 512 U.S. 1145 (1997). The Supreme Court will consider a related set of issues this Term in *Veneman v. Livestock Marketing Ass'n*, cert. granted 124 S.Ct. 2389 (mem.) (No. 03-1164).

such litigation – an illustration of debiasing through procedural rules (Guthrie 2000:210). More generally, the guiding idea is that the *way* information is provided may be just as important as (or more important than) *that* information is provided.

It bears noting that an effort to use availability to counteract optimism bias would improve not only the decision making of consumers suffering from optimism bias but also that of consumers suffering from simple information failures. A conspicuous, prominent account of injury from a product may help to correct the estimated probability of harm attached to the product by an optimistically biased consumer. At the same time, it should improve the behavior of imperfectly informed but not necessarily biased consumers.

Our earlier mention of the prospects for manufacturers' influence over how consumers perceive their products (Hanson and Kysar 1999a:1425-26) suggests the importance of legal control over the nature of the accounts manufacturers are required to provide. It is possible – and commentators such as Hanson and Kysar might well fear – that manufacturers, influenced by market pressures, would manage to subvert attempts to achieve debiasing through consumer safety law. Ultimately the question is an empirical one, but in our view the costs that Priest and others have noted of “debiasing law” alternatives suggest the value of investigating the efficacy of alternative strategies involving debiasing through law.

The effort to achieve debiasing through law in the way described here should be modest along two separate dimensions. First, a successful strategy would need to target a limited number of discrete products for which the problem of consumer optimism bias was most important. Consumers would begin to suffer from “information overload” if every time they went to buy any product – from a lawnmower to a candy bar to a fast food hamburger – they were hit with a real-life story of an individual harmed by use or consumption of the product. Their natural response might be to tune out all of the accounts provided by firms, even assuming these accounts were prominently displayed (Viscusi 1996:665-66).¹⁶

¹⁶ Elsewhere Professor Viscusi discusses ways of implementing multi-tiered systems, where high-risk products contain warnings on their labels while stores offer binders with risk information for low-risk products.

Second, the law would need to avoid overreaching in the severity of the featured outcomes. Firms should not be required to provide anecdotes reflecting highly unusual consequences of using their products; only if an outcome occurs with some frequency should the law seek to induce firms to make consumers aware of the prospect. An emphasis on worst-case scenarios might produce excessive responses (Sunstein 2002). If requirements of anecdote-based warnings sweep in extremely unusual or unlikely scenarios, consumers might overreact – or alternatively they might lose faith and fail to attach any weight at all to the accounts. Of course there are line-drawing problems here, but the basic point is straightforward.

Note in addition that worst-case scenarios are likely to be much more easily avoided with our suggestion of a legal requirement that firms provide truthful anecdotes about genuine harms than with the alternative strategy – frequently used by government – of public information campaigns concerning risky consumer products. Such campaigns have often resulted in the use of extremely vivid and salient images, to the point of seriously risking overreaction or even backlash as a result of citizens’ perceptions of government “manipulation.” In the smoking context, for instance, the European Union has experimented with requirements that a percentage of cigarette packages sold have their fronts covered with vivid pictures of rotting teeth and blackened lungs.¹⁷ We think the approach suggested here is sounder because it is more restrained. Similar to the European Union, the Canadian Health Ministry has required not only clear warnings (“Cigarettes cause strokes,” “Tobacco smoke hurts babies,” “Don't poison us,” and “Tobacco can make you impotent”) but also graphic pictures such as bleeding gums and two lungs with cancerous tumors.¹⁸ Likewise, in the United States a well-known anti-drug advertisement from the 1980s featured a picture of an egg frying in a pan with the voiceover, “This is your brain on drugs” (Dawan 2004). Again, we think it is often valuable to avoid such extreme messages.

In sum, our suggestion of requiring, on pain of administrative sanctions or tort liability, truthful narratives of harm is a more modest and measured response to optimism bias than the approaches just described – approaches that harness availability by aggressively exploiting highly salient,

¹⁷ See <http://lists.essential.org/pipermail/intl-tobacco/2001q1/000426.html> (visited 9/3/04).

¹⁸ See http://www.abc.net.au/news/science/health/2000/12/item20001224133940_1.htm (visited 9/3/04).

gripping images and that for this very reason may run an especially high risk of manipulation, overshooting, and other problems.

The idea of requiring firms to provide truthful accounts of harm has analogies in current practice. The American Legacy Foundation, a non-profit organization founded out of the 1998 settlement agreements between the United States tobacco industry and state attorneys general, has launched an information campaign employing a close parallel to the strategy outlined here of debiasing through the availability heuristic. The Foundation has publicized parting letters to children and other loved ones from mothers dying of smoking-related diseases; for instance, one letter reads, “Dearest Jon, I am so sorry my smoking will cheat us out of 20 or 30 more years together. Remember the fun we had every year at the lake. I will ALWAYS love and treasure you. Linda.”¹⁹ Our suggested approach reflects much the same spirit.²⁰

Debiasing through framing. Framing effects also point toward potentially effective methods of debiasing through substantive law in the consumer safety context. Simple requirements that firms “provide information” may be ineffective in this context in part because firms’ interest will be in framing the information in a way that minimizes the risks perceived by consumers. (Recall the shrewd infant formula manufacturers, described in section 1.1.2, who showed an intuitive appreciation of loss aversion.) By contrast, a legal requirement that firms identify the negative consequences associated with their product or a particular use of their product, rather than the positive consequences associated with an alternative product or with an alternative use of their product, may be an effective means of reducing optimism bias exhibited by consumers. Such a step could make significant progress toward ensuring that consumers have a more accurate understanding of the risks associated with particular products, and could reduce the need for either a complete ban on some of the products in question or other “debiasing law” solutions.

¹⁹ See <http://women.americanlegacy.org/index.cfm> (visited 9/3/04).

²⁰ It is possible that, as Douglas Kysar (2003:1786 n364) has noted, “debiasing law” strategies such as enterprise liability would give some firms indirect incentives to provide the sorts of truthful accounts we suggest here. Our emphasis, however, is on more direct strategies for debiasing through substantive law.

2.1.2 Debiasing Through Corporate Law

A basic question in corporate law concerns the optimal breakdown of board composition between so-called “inside” and “outside” directors.²¹ Inside directors are those who are primarily employed by or otherwise closely connected with the corporation; outside directors, by contrast, have no such close links to the firm.

A number of arguments support the inclusion of at least some outside directors on the board (Gilson and Kraakman 1991:873; Pozen 1994:140). Of particular relevance for our purposes is Donald Langevoort’s (2001:803, 809) suggestion that the involvement of such directors may help to overcome optimistically biased judgments (“organizational optimism”) on the part of inside directors – although Langevoort himself does not ultimately join those pressing for increases in outside directors. A “debiasing law” solution to the problem of board decisions impaired by optimistically biased inside directors would be to remove these decisions from the hands of the biased decision makers. By contrast, an approach of debiasing through substantive law would take the shape of increasing the number of outside directors on the board. Might legal rules mandating some threshold number of outside directors on the board constitute an effective form of debiasing through substantive law?

2.1.2.1 Evidence on Debiasing in Response to Optimism Bias (Again)

If outside directors on corporate boards would help to overcome optimistically biased judgments on the part of inside directors, two things would have to be true. First, outside directors would have to be less subject to optimism bias than inside directors. Second, the involvement of outside directors would have to alter the ultimate group judgment reached by the board members. What do we know about each of these empirical propositions?

The degree of optimism bias exhibited by inside versus outside directors has not been rigorously explored, but the corporate law literature suggests two tentative reasons for believing that outside directors will show a lesser degree of such bias (Langevoort 2001:803, 809). The first is that the selection of outside directors is less likely to be heavily influenced by whether candidates have highly optimistic views of the firms’ prospects (in

²¹ For a recent summary of the debate, see Langevoort (2001:797-99).

contrast to the case of top executives' selection). The second reason is that outside directors' self-conception and esteem are less closely bundled up with the firm's fortunes.

But will some minimum number of outsider directors improve the collective judgment reached by board members? A large body of empirical evidence shows that the probability of erroneous decisions often increases when deliberations are undertaken by like-minded people; those who agree with one another typically end up at a more extreme point in line with their predeliberation tendencies (Sunstein 2003). In the context of corporate boards, the prediction is that optimistic members will lead one another in the direction of further optimism and excessive risk-taking. As a result, boards might well end up more optimistic than the median board member before deliberation began. Thus, the mandated inclusion of outside directors might well serve to check deliberative processes that fuel unrealistically optimistic decisions.²²

2.1.2.2 Legal Implications

A requirement of the recently-enacted Sarbanes-Oxley Act is that boards use outside directors to perform all auditing functions – so that a threshold number of outside directors must be named to the board.²³ The requirement of independent directors – reflected as well in various exchange-listing rules (Sale 2004) – can be understood as a form of debiasing through substantive law because the presence of the outside directors responds to the risk of optimism bias on the part of boards stacked with inside directors.

Corporate law rules governing the structure of the legal-organizational form of the board of directors may be a reasonable way to reduce the degree of optimism bias exhibited by inside directors on boards. Of course, it is possible that market pressures will impose meaningful constraints on optimism bias from inside directors or the boards they

²² Because, as discussed at the beginning of section 1.2, a solitary actor may find it hard to resist pressure from the remainder of the group, it might be important to ensure the presence of more than one outside director on the board.

²³ Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, § 301.

populate.²⁴ But at the same time, other forces may increase the degree of optimism bias such actors exhibit; these include the process by which managerial executives are selected and the link between these individuals' optimistic judgments and their self-conception and esteem (Langevoort 1997:140; Langevoort 2001:809). Of course, wholly apart from the requirements of Sarbanes-Oxley, many boards do contain some outside directors, and this may represent a self-conscious effort by firms interested in (among other things) combating the problem of optimism bias on the part of inside directors. A legal requirement such as Sarbanes-Oxley, however, is likely to facilitate such debiasing on a broader scale, although at a cost of requiring outside directors on all covered boards notwithstanding substantial firm- and industry- specific variation in ideal board structure.²⁵ We return to this last point in section 3 below.

2.2 Debiasing Through Substantive Law in Response to Departures from Expected Utility Theory

Social scientists have paid little attention to debiasing in response to departures from expected utility theory (in contrast to debiasing in response to judgment errors). The reason may be that such departures are not unambiguous “errors,” and thus it is controversial to say (for example) that the endowment effect, or loss aversion, is a kind of mistake that requires correction. Perhaps for the same reason, “debiasing law” strategies – familiar in the contexts discussed in section 2.1 above – are not prominent where departures from expected utility theory are in play.

Our emphasis in this section is on the endowment effect, which says that individuals' willingness to accept – the amount at which they would sell an entitlement – differs from their willingness to pay – the amount they would pay to purchase the entitlement. As suggested just above, in many settings the endowment effect is not an “error” in the sense of the judgment errors discussed in section 2.1, where individuals are making objective mistakes in estimating probabilities; instead it may be a reflection of potentially valid reasons for the difference between the two measures of value. In other contexts, however, a decision maker may determine that either willingness to accept or willingness to pay is the “correct” measure of value.

²⁴ Tor (2002) provides analysis of the effects and limits of market pressures as a constraining force in the context of firm entry into new industry.

²⁵ On the importance of such variation, see Langevoort (2001:815).

Such settings are our focus in this section; we consider the role of debiasing through law in moving toward the chosen measure of value.

2.2.1 Debiasing Through the Structure of Property Rights

A fundamental question of property law is whether legal entitlements should be protected by “property rules” or “liability rules” (Calabresi and Melamed 1972; Kaplow and Shavell 1996). Under a property rule, entitlement holders are not required to part with their entitlements unless they voluntarily agree (typically in a bargained-for exchange) to do so. Under a liability rule, by contrast, entitlement holders may be forced to give up their entitlements as long as they are paid an agreed-upon amount in damages. In the analysis just below we assume that a decision maker has determined that lowering willingness to accept to the level of willingness to pay (in cases which they differ) is desirable; we then ask how the choice between property and liability rules might play a role in achieving this effect.

2.2.1.1 Evidence on Lowering Willingness to Accept to the Level of Willingness to Pay

A preliminary empirical study by Jeffrey Rachlinski and Forest Jourden (1998) points to a possible relationship between the divergence between willingness to accept and willingness to pay and the way in which the entitlement being valued is protected from violation. Rachlinski and Jordan’s study finds a marked reduction in the endowment effect, and hence the disparity between willingness to accept and willingness to pay, when liability rules rather than property rules protect the entitlement in question. In the standard endowment effect pattern, willingness to accept is well above willingness to pay when the entitlement is protected by a property rule. But Rachlinski and Jourden find that when it is protected by a liability rule, willingness to accept falls to the level of willingness to pay. The authors offer an explanation of their results by suggesting that “a right that is protected by a damages remedy might convey less of a sense of ownership than does a right that is protected by an injunctive remedy” (p.1560). Such incomplete ownership may prevent a perfection of the emotional attachment that is harbinger of the endowment effect.

2.2.1.2 Legal Implications

As Ian Ayres (1998:811-12) has suggested, Rachlinski and Jordan's empirical findings imply that in domains in which the lower measure of value – willingness to pay – is determined by a decision maker to be the “correct” measure, liability rules may be preferable to property rules (although a complete analysis of the choice between property and liability rules involves many additional considerations²⁶). Choosing liability rules over property rules may thus be regarded as a form of debiasing through substantive law, given our assumption above that the excess of willingness to accept over willingness to pay in the context in question is a form of “error” in need of correction. Liability rules, under Rachlinski and Jourden's findings, eliminate the endowment effect by moving individuals' willingness to accept down to the level of their willingness to pay.

It remains to be seen whether the device of choosing liability rules over property rules would generally have this effect. People are often unaware of how, exactly, their entitlements are protected; if the legal system uses liability rules rather than property rules, many people will not be aware of it. Note also that in Rachlinski and Jourden's study, the entitlements involved environmental amenities. In that distinctive context, the occurrence of the endowment effect under a property rule may have been “motivated by subjects' belief that it is improper to sell an environmental resource that one can protect,” while this belief was not triggered under a liability rule “because the law permitted the destruction of the resource for a price” (Korobkin 2003:1285). Absent the societal commitment to environmental amenities, for which people often demand a great deal and on occasion refuse to sell at any price at all (Kahneman, Knetsch and Thaler:1327), it remains possible that the choice between property and liability rules would not have the same impact on willingness to accept versus willingness to pay. Further empirical work could help to shed light on this question.²⁷

²⁶ Kaplow and Shavell (1996) provide a general analysis.

²⁷ Lewinsohn-Zamir (2001:250-57) argues, but without presenting any direct empirical evidence, that property rules may be preferable to liability rules for reducing the endowment effect in some contexts.

2.2.2 Debiasing Through Agency Law

In the context of merchants, as opposed to individuals acting in their private capacities, a strong endowment effect seems clearly undesirable, simply because it will make merchants reluctant to sell their goods – the very service they are performing for society. Might debiasing of boundedly rational actors – accepting as an assumption that the excess of willingness to accept over willingness to pay in this context is an “error” calling for correction – be possible in this domain, and if so is there a potential role for law to play?

2.2.2.1 Evidence on Lowering Willingness to Accept to the Level of Willingness to Pay (Again)

An important empirical paper by Jennifer Arlen, Matthew Spitzer, and Eric Talley (2002) shows how debiasing of boundedly rational actors exhibiting the endowment effect – again assuming such an effect is an “error” calling for correction – can occur in sales transactions. Arlen, Spitzer and Talley find that actors exhibit the endowment effect when they are acting in their ordinary individual capacities, but not when they are acting in the role of corporate managers in a business agency context. Individuals who are instructed that they are acting as agents for the corporation that employs them “manifest[] virtually no endowment effect whatsoever” (p. 5).

What explains these findings? The two most likely explanations involve the business context and the manager’s agency relationship with the firm. Someone working in business – even if acting not as the agent of a corporation but as a sole proprietor of the business – will probably exhibit less of an endowment effect than someone acting in an ordinary individual capacity. One might think, for instance, that transactions conducted by a shoe store – whether or not the store is run by a manager – would not exhibit a large endowment effect. As suggested above, such a store would be unlikely to stay in business long if a strong endowment effect led it – whether acting through a manager or a proprietor – to price shoes at an amount well above people’s willingness to pay.

It seems likely, however, that the agency relationship further dampens the tendency toward exhibiting an endowment effect. This is so because the endowment effect is often linked to a desire by entitlement holders to avoid

regretting a bad decision to engage in a transaction (sale of the entitlement).²⁸ But agents are less likely than ordinary individuals to experience regret because their personal stake in the outcomes that occur is lower (Korobkin 2003:1255). Thus, it is reasonable to conjecture that the agency relationship itself helps to account for the finding of an absence of the endowment effect in a business agency relationship – although of course a definitive empirical study separately testing the two explanations could help put the conclusion on firmer ground.

2.2.2.2 Legal Implications

An implication of this analysis is that existing rules of agency law, in structuring the relationship between corporations and their managers, may achieve a form of debiasing through substantive law for managerial actors (assuming, again, that the context in question is one in which the excess of willingness to accept over willingness to pay is an “error” calling for correction). Acting in the context of the relationship specified by the default rules of agency law, individuals may not display the endowment effect that has proven robust in other settings.

Of course, in theory the obligations associated with a business agency relationship could be specified by privately negotiated arrangements rather than by the default rules of agency law. Such arrangements, without the assistance of agency law, could ensure that much of business is done by agents acting on behalf of firms under a specified set of duties. But, as Frank Easterbrook and Daniel Fischel (1982:702) have suggested in the related context of “standard form” fiduciary duties, such arrangements would usually be inferior to what emerges from a well-functioning system of law. The complexity and nuance of the requirements to be imposed point to the important value of legal rules. Easterbrook and Fischel’s specific focus is the standard form set of fiduciary duties provided by corporate law, but their claim that such standard forms allow for the “elastic contours” that a business relationship requires – and that make ex ante privately negotiated arrangements so difficult – is readily applicable here.

A related point is that the provision by agency law of a default set of legal rules has the important effect – by comparison with a default rule

²⁸ For recent discussions, see Camerer, Issacharoff, Loewenstein, O’Donoghue and Rabin (2003:1224-25); Korobkin (2003:1254-55).

specifying no duties of agents to their firms, so that everything would be left to privately negotiated arrangements – of economizing on the substantial transaction costs that would arise with such negotiated arrangements. These costs might induce parties not to adopt agency relationships that (among other desirable consequences) reduce endowment effects in contexts in which those effects are “errors” calling for correction. Our suggestion here is simply that the basic rules of agency law provide an illustration of how existing rules may help to promote debiasing through substantive law in response to such “errors”.

3. Normative Issues In Debiasing Through Law

In many settings, debiasing through law provides a more direct and effective response to problems of bounded rationality than the more typical approach of “debiasing law,” which seeks to insulate legal outcomes from boundedly rational behavior that itself is taken as a given. Below we develop and defend this central claim about the normative appeal of debiasing through law. We also address possible normative objections to debiasing through law.

3.1 The Problem of the Second Best

A threshold point that is common to normative analysis of both “debiasing law” and “debiasing through law” strategies is that, wholly apart from any legal intervention, a given form of boundedly rational behavior may always be offset by another aspect of bounded rationality that tends in the opposite direction. Simply put, some departures from unbounded rationality can counteract others. In such cases efforts either to insulate legal outcomes from the effects of a given form of bounded rationality (“debiasing law”) or to engage in debiasing through law in response to this form of bounded rationality might actually make things worse rather than better – a clear application of the general theory of the second best (Besharov 2004).

Whether a given aspect of bounded rationality is in fact likely to be in an offsetting relationship with some other feature of bounded rationality will obviously depend on the particular context.²⁹ In our applications in section 2,

²⁹ Jolls, Sunstein and Thaler (1998:1524), for instance, discuss the partially offsetting relationship between hindsight bias and optimism bias in the tort law context.

we focused on situations in which there was no readily apparent counterforce to the aspect of bounded rationality that argued for debiasing through law. Obviously, if an offsetting relationship with another feature of bounded rationality exists, a legal response – whether “debiasing law” or debiasing through law – may well be unwarranted.

3.2 Correcting Factual Errors

Section 2 above distinguished between debiasing through law in response to judgment errors (section 2.1) and debiasing through law in response to departures from expected utility theory (section 2.2). In the latter context, the government intervention cannot be said simply to operate by correcting factual errors; and thus in section 2.2’s analysis we assumed rather than argued that, in certain contexts, eliminating the endowment effect was a suitable target of debiasing through law. By contrast, when, as in section 2.1, debiasing through law is a response to a judgment error, the normative impetus for the government intervention is more straightforward.

Debiasing through law in response to judgment errors – for instance, a consumer’s underestimation of the probability that an accident will occur – is indistinguishable from a vast array of existing government initiatives. In countless domains, the government either discloses information on its own or requires disclosure by those providing goods or services in response to erroneous factual perceptions people would otherwise hold (Viscusi and Magat 1987; Karkainen 2001). When people are committing a clear factual error, there is broad agreement that government may legitimately concern itself with correcting the error. It seems hard to think of a plausible objection to this ground for government intervention.

While the government’s ends in our analysis are thus uncomplicated (either because the ends involve correction of factual errors or because, as in section 2.2, we have simply assumed that eliminating the endowment effect is a suitable target of government action), the *means* employed in debiasing through law require further discussion. In the examples of debiasing through consumer safety law and through the law of corporate boards, for instance, the government action in question involves harnessing separate departures from unbounded rationality to correct errors. This additional complexity raises important and distinctive issues, to which we now turn.

3.3 Heterogeneous Actors

As recent literature has appropriately emphasized, not all individuals are likely to be boundedly rational, at least not to the same degree (Mitchell 2002:83-119). In such circumstances, a strategy of debiasing through law could introduce new distortions through its effect on those who did not previously exhibit bounded rationality. Consider, for instance, the strategic employment of the availability heuristic in response to optimism bias, discussed in section 2.1.1 above. In this case, the legal intervention might distort the behavior of individuals who did not suffer from optimism bias in the first place. For those who previously had an accurate understanding of the situation, such strategies for debiasing through law could produce a kind of unrealistic pessimism. In such cases, it is no longer possible to say that, even if the legal intervention does not provide much help, it is unlikely to cause much harm. (Note the contrast with traditional strategies of providing information to those who previously lacked it; such strategies should not significantly affect those who already possessed the information.) A similar problem arises with respect to debiasing through corporate law in the form of the Sarbanes-Oxley Act. If, among the set of heterogeneous corporate boards, some do not exhibit optimistically biased decision making, then the legally-mandated presence of outsiders on the board could introduce distortions for boards whose behavior was previously undistorted. So too, the strategies described in section 2.2 for debiasing through law in response to the endowment effect conceivably could distort measures of value for those who did not initially exhibit an endowment effect.

In some (perhaps many) cases, actors who do not suffer from a particular form of bounded rationality, such as optimism bias, will also be free of other forms of bounded rationality, such as reliance on the availability heuristic. If those who are immune from optimism bias also tend to be immune from availability bias, then the strategies described above for debiasing through the availability heuristic should not affect those who did not previously suffer from optimism bias. In such cases, strategies for debiasing through law – like traditional informational strategies (Camerer, Issacharoff, Loewenstein, O’Donoghue and Rabin 2003:1232-35) – should not affect those who did not err prior to the legal intervention.

When the absence of one form of bounded rationality correlates in this way with the absence of others, strategies for debiasing through law fit with a broader emerging theme in the legal literature on bounded rationality: *Adopt approaches that will correct errors, but without imposing significant*

costs on those who are unlikely to err. Colin Camerer, Samuel Issacharoff, George Loewenstein, Ted O’Donoghue, and Matthew Rabin (2003:1212), for instance, have argued on behalf of “asymmetrical paternalism,” that is, a strategy that counteracts forms of bounded rationality that reduce welfare, but that does not significantly affect people who did not previously exhibit boundedly rational behavior. Strategies of this kind are desirable because some people, intuitively or reflectively alert to the risk of such behavior, can be expected to take responsive action on their own (Rachlinski 2003:1211-19).

To the extent that debiasing through law has no significant effects on those whose behavior did not initially exhibit bounded rationality, the approach greatly contrasts with the alternative approach of “debiasing law.” Suppose, for instance, that one responds to optimism bias on the part of consumers not by trying to reduce biased judgments but by insulating legal outcomes from the effects of such judgments through a mandatory rule expanding manufacturer liability for consumer products. If so, then one will have altered some legal outcomes that were not in any need of reform at all. The potential contrast with strategies for debiasing through law is clear.³⁰

In all of our examples of debiasing through law, the government intervention is unlikely to be entirely cost-free for those who did not previously show bounded rationality. But any provision of information by government – often a wholly uncontroversial strategy – will impose costs on those who did not err prior to the intervention simply because of the burden of processing the information. If the intervention produces important benefits for those who are prone to bounded rationality, then the intervention may be desirable even if it imposes modest costs on others. Here, as in other contexts, the only option is to weigh the effects of the different possible strategies. Of course efforts to debias people through law should be undertaken, whenever possible, in ways that do not produce confusion or misperception, as we discuss more fully in the next subsection.

3.4 Overshooting and Autonomy

³⁰ As Jeffrey Rachlinski (2003:1224) has written (in the course of discussing forms of debiasing different from the approach emphasized in this paper), “[G]overnments can adopt measures that restructure decisions as a less intrusive alternative to paternalistic restrictions on choice.”

Strategies for debiasing through law that harness other departures from bounded rationality raise two additional concerns that require separate analysis. The first is the risk of overshooting. If truthful narratives are used in the context of consumer safety law, individuals who previously showed optimism bias might be led to exaggerate the risks of consumer products. The effort to debias through law would then be producing biases and errors of its own.

Experimentation would be required to calibrate the degree to which availability or another form of bounded rationality would need to be brought to bear in engaging in debiasing through law – just as, in a conventional “debiasing law” approach, experimentation is necessary to determine the appropriate level or scope of the legal response. The problem of the scope of a legal corrective is ubiquitous in the law, not specific to strategies for debiasing through law.

A second and more fundamental concern, however, involves individual autonomy. The point is most obvious with respect to debiasing through law in response to the endowment effect, for any determination that the excess of individuals’ willingness to accept over their willingness to pay is an “error” requiring correction is likely to be controversial to some. Thus, debiasing through law in this setting inevitably raises important issues of autonomy, as people’s preferences are, in a fundamental sense, indeterminate in the presence of the endowment effect.

But even debiasing through law in response to judgment errors raises important issues of individual autonomy. In some such cases of debiasing through law, government seems to be correcting bounded rationality by exploiting it, in a way that might give rise to fears of manipulation. In the applications discussed in section 2.1, this occurs most obviously with respect to harnessing availability and framing in response to optimism bias. Is this a legitimate form of government action? Under what circumstances?

If heuristics and biases are pervasive, then an informed government is likely to have little trouble in manipulating people in its preferred directions. The problem here is that government should respect its citizens, as emphasized, for instance, by the publicity condition in John Rawls’s *A Theory of Justice* (1971). Government should not engage in acts that it could not defend in public to those who are subject to those acts. If a public defense could not be made, the acts are an insult to the autonomy of citizens. In our applications in section 2.1, however, there is no reason to think government

would have to conceal or ambiguate its efforts to correct individuals' judgment errors.

Indeed, government efforts to correct such mistakes are widespread and largely uncontroversial; the worry about government "manipulation," if there is a worry, arises even with the widely accepted approach under which the government corrects simple information failures (where people are mistaken because they lack information entirely, rather than because they process information in a biased way) among citizens. As framing effects as well as other departures from unbounded rationality reveal, there is usually no neutral way to present information. Whenever the government is presenting even accurate information, it is making choices about presentation, choices that will affect how citizens perceive the reality around them (Benartzi and Thaler 1999). Thus, it is far too simple, and behaviorally naive, to draw a sharp line between acceptable "provision of information" and unacceptable "mind control." Unless the concern with government manipulation is strong enough to suggest that the government should never provide information to its citizens (an implausible suggestion), there must be some willingness to tolerate the prospect of government influence over citizens' perceptions of reality and the attendant risk of government manipulation.

Thus, for instance, if smokers were determined to discount the risks that accompany smoking, in part because of optimism bias, it is not obvious that government would violate their autonomy by giving a more accurate sense of those risks, even if the best way of giving that accurate sense were through concrete accounts of suffering. And it is far from clear in such a case that the government could not publicly defend its strategy to citizens as required by the publicity condition; recall in this connection the American Legacy Foundation letters campaign described in section 2.1.1 above.

This is not to say, of course, that no form of debiasing through law in response to judgment errors of the sort discussed in section 2.1 could be objectionable on autonomy grounds. Some forms might resemble systems of propaganda in clear violation of the publicity condition. If so, there is a real risk that the one-sidedness and aggressiveness of the government's effort will be exposed. If this happens, public trust will unquestionably be reduced. And if trust is reduced, government strategies are much less likely to succeed. These instrumental concerns are aggravated by strong moral ones: At least when minors are not involved, the law should treat citizens with respect, and extreme marketing strategies (going well beyond what we have suggested in

discussing strategies for debiasing through law in response to judgment errors) violate that principle.

With respect to autonomy, no general conclusion is likely to make sense; the nature and force of the objections discussed above will generally depend on the setting. However, these objections seem weakest when government is responding to a form of bounded rationality that unquestionably qualifies as an “error” and is using methods that do not distort the facts.

3.5 “Behavioral Bureaucrats”

Nothing said thus far denies the important fact that legal policymakers and administrators, including those who seek to engage in debiasing through law, will often suffer from both inadequate information and bounded rationality themselves. No less than ordinary people, bureaucrats use heuristics and are subject to predictable biases³¹; they are also susceptible to the influence of powerful private groups with stakes in the outcome. The combination of informational failures, cognitive biases, and interest-group power can lead government in extremely unfortunate directions (Noll and Krier 1990; Kuran and Sunstein 1999). In this light we do not make the naive and implausible suggestion that in the real world, strategies for debiasing through law will always be well-motivated and well-designed. (Nor will their “debiasing law” counterpart strategies.) Our claim is only that if people exhibit bounded rationality, debiasing through law may often be a promising response – one that it would be foolish to eliminate from the government’s repertoire.

4. Conclusion

The central goal of this paper has been to draw attention to the broad importance of debiasing through law. The social science literature has devoted a great deal of effort to the study of debiasing of boundedly rational actors, but with little effort to see how law and legal institutions might accomplish it. Those interested in bounded rationality and law have argued mostly that legal institutions should be insulated from the effects of

³¹ For a general discussion of “behavioral bureaucrats,” see Jolls, Sunstein and Thaler (1998:1543-44).

boundedly rational behavior, and in some cases that debiasing of boundedly rational actors should be pursued through changes in procedural rules governing the adjudicative process. In our view, debiasing through law – especially debiasing through substantive law – is a distinctive and sometimes far preferable alternative to the strategy of insulating legal outcomes from the effects of bounded rationality. Such debiasing – distinct from the more familiar approach of attempting to control behavior through incentives – often promises to be both more successful and less invasive than the more standard alternatives.

From the normative point of view, we have emphasized that many forms of debiasing through law may be seen as a distinctive kind of informational regulation. In many cases, the major questions are standard: whether such efforts are effective and whether their benefits justify their costs.

Nothing in our analysis is inconsistent with the claim that in some contexts unfettered markets are the best response to bounded rationality. Such markets might reduce the effects of bounded rationality by raising the stakes, as noted above³²; it is also possible that the costs of boundedly rational behavior are, in some contexts, lower than the costs of any effort to counteract it. We also do not disagree with the now-familiar suggestion that in the face of bounded rationality, aggressive regulation – some form of “debiasing law” – might sometimes be justified.³³ Instead our aim in this paper has been to chart the possibility of a middle course, one that asks legal institutions not to ignore people, but instead to reduce their bounded rationality. In some contexts, debiasing through law is likely to be effective, cost-justified, and minimally intrusive. We believe that some areas of the law reveal an appreciation of these points and hence an implicit behavioral rationality, using legal strategies as a mechanism for debiasing of boundedly rational actors. Our principal goal has been to understand those strategies in these terms and to explore the possibility of building on them to do more.

³² But for an entertaining demonstration of the persistence of bounded rationality amidst high stakes, see Lewis (2003).

³³ Jolls, Sunstein and Thaler (1998) provide various examples.

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Appendix: Debiasing of Boundedly Rational Actors Through Procedural Rules and Substantive Law

This appendix briefly summarizes some leading empirical research on debiasing of boundedly rational actors and its implications for debiasing through law.

	Evidence of unsuccessful debiasing?	Evidence of successful debiasing?	Illustration of debiasing through procedural rules?	Illustration of debiasing through substantive law?
JUDGMENT ERRORS				
1. Hindsight bias	Almost all approaches Source: Fischhoff (1982).	Telling people not to be “Monday morning quarterbacks.” Source: Stallard and Worthington (1998).	Requiring judges to instruct jurors not to be “Monday morning quarterbacks.” Source: Peters (1999).	
2. Self-serving bias	Alerting people to existence of the bias Source: Babcock, Loewenstein and Issacharoff (1997).	Asking people to make other side’s argument. Source: Babcock, Loewenstein and Issacharoff (1997).	Requiring litigants to make other side’s argument. Source: Babcock, Loewenstein and Issacharoff (1997).	
3. Optimism bias	Almost all approaches that directly target optimism bias. Source: Weinstein and Klein (2002).	Giving people a vivid sense of the relevant harms Source: Sloan, Taylor and Smith (2003).		Consumer safety law governing warnings (section 2.1.1).

	Evidence of unsuccessful debiasing?	Evidence of successful debiasing?	Illustration of debiasing through procedural rules?	Illustration of debiasing through substantive law?
<i>DEPARTURES FROM EXPECTED UTILITY THEORY</i>				
Endowment effect	Almost all approaches. Source: Kahneman, Knetsch and Thaler (1990).	Protecting entitlements by liability rule rather than property rule; having agents make decisions. Sources: Rachlinski and Jourden (1998); Arlen, Spitzer and Talley (2002).		Property law governing remedies (section 2.2.1); agency law (section 2.2.2).

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