Missouri Law Review

Volume 69
Issue 4 *Fall 2004*

Article 10

Fall 2004

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Homo economicus is under attack these days. Indeed, challenges to the rational choice model of human behavior have become so common in legal scholarship[1] that some theorists have referred to "behavioral" law and economics, the primary area of legal scholarship challenging the rational choice model, as "the growth stock of legal academia."[2] Whereas the rational choice "model assumes that a person can perfectly process available information about alternative courses of action, and can rank possible outcomes in order of expected utility,"[3] behavioralism[4] emphasizes that individuals are beset by various cognitive quirks that preclude "perfect" information-processing. In particular, behavioralism contends that individuals are bad at processing information about low-risk occurrences.[5] While a few theorists have recently challenged the empirical evidence underlying

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1. *See, e.g.*, Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998); Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051 (2000); Donald C. Langevoort, *Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Review*, 51 VAND. L. REV. 1499 (1998); Thomas S. Ulen, *The Growing Pains of Behavioral Law and Economics*, 51 VAND. L. REV. 1747 (1998). *See generally* BEHAVIORAL LAW AND ECONOMICS (Cass R. Sunstein ed., 2000); CASS R. SUNSTEIN, RISK AND REASON: SAFETY, LAW, AND THE ENVIRONMENT (2002).

2. Stephen J. Choi & A.C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1, 7 (2003) (citing Kent Greenfield, *Using Behavioral Economics to Show the Power and Efficiency of Corporate Law as Regulatory Tool*, 35 U.C. DAVIS L. REV. 581, 583 (2002) ("If one could invest in areas of legal scholarship, 'behavioral law and economics' (BLE) would be a growth stock.")).

3. Robert C. Ellickson, *Bringing Culture and Human Frailty to Rational Actors: A Critique of Classical Law and Economics*, 65 CHI.-KENT L. REV. 23, 23 (1989) (summarizing the rational choice model).

4. "Behavioralism" is used throughout this Comment to refer to the field of "behavioral law and economics," an analytical approach to law that incorporates the insights of cognitive psychology into traditional economic analysis of law (primarily by tweaking the traditional rational choice model). It should not be confused with the study of operant conditioning or the work of B.F. Skinner.

5. *See* PAUL SLOVIC, THE PERCEPTION OF RISK 106-07 (2000); SUNSTEIN, RISK AND REASON, *supra* note 1, at 33-48 (documenting individuals' tendency to make large mistakes in assessing the magnitude of low risks and offering potential explanations for that tendency).

behavioralism's claims of human irrationality,[6] there does seem to be an impressive body of empirical scholarship demonstrating that individuals process risk information poorly.[7]

Despite their notable successes, behavioralists are susceptible to two errors. First, the growing catalog of cognitive quirks may lead behavioralists to hastily adopt "non-rational" explanations for otherwise rational behavior.[8] Second, because their evidence seems to undermine the rationality assumption of Chicago school law and economics, behavioralists may improperly assume that their work also undermines that school's default policy prescription—i.e., laissez faire. Consequently, they may advocate inappropriately paternalistic government policies.[9]

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6. *See, e.g.*, Gregory Mitchell, *Taking Behavioralism Too Seriously? The Unwarranted Pessimism of the New Behavioral Analysis of Law*, 43 WM. & MARY L. REV. 1907, 1945 (2002) ("In fact, when one examines the actual data gathered by decision researchers rather than just summary presentations of the data, one finds that at least a significant minority and often a significant majority of the subjects provided the 'right,' or rational, answer to the judgment or decision problem under consideration."); Gregory Mitchell, *Why Law and Economics' Perfect Rationality Should Not Be Traded for Behavioral Law and Economics' Equal Incompetence*, 91 GEO. L.J. 67, 86-105 (2002) (summarizing the "growing body of empirical research demonstrating that individuals vary widely, and predictably, in their propensities to act rationally"); William H. Riker, *The Political Psychology of Rational Choice Theory*, 16 POL. PSYCHOL. 23, 36 (1995) ("None of the experiments displaying inconsistencies in choice portray all subjects as inconsistent. For experimenters to recommend the abandonment of expected utility theory when the experiments themselves show that many people—often well over half, as in the preference reversal experiments—are indeed expected utility maximizers is to ignore the evidence that the experimenters have themselves created."); Richard F. West & Keith E. Stanovich, *The Domain Specificity and Generality of Overconfidence: Individual Differences in Performance Estimation Bias*, 4 PSYCHONOMIC BULL. & REV. 387, 387 (1997) ("Despite this overall finding of overconfidence on many tasks, performance across a sample of participants is almost always characterized by enormous variability. It is almost always the case that some participants show no global bias toward overconfidence."). *See generally* Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551 (1998); Robert E. Scott, *The Limits of Behavioral Theories of Law and Social Norms*, 86 VA. L. REV. 1603 (2000).

7. Jeffrey J. Rachlinski, *The Uncertain Psychological Case for Paternalism*, 97 NW. U. L. REV. 1165, 1167 ("Empirically, the cognitive phenomena on which the case for paternalism rests are well understood and have support from hundreds of studies that have used a wide variety of subjects, contexts, and incentives."). *See generally* Langevoort, *supra* note 1, at 1499-1506 (discussing empirical studies purportedly demonstrating various systematic irrationalities).

8. *See, e.g.*, Posner, *supra* note 6, at 1556 (referring to behavioralists' "tendency to give up on rational-choice economics too soon"); *id.* at 1570-75 (offering alternative rational explanations for purportedly irrational observed behavior).

9. *See* Rachlinski, *supra* note 7, at 1168 (arguing that behavioralists have tended to default to paternalistic policy approaches too quickly and arguing that "[m]erely linking a cognitive bias in judgment to a decision that law could regulate should not support implementing a constraint on individual choice"). *See also* Thomas A. Lambert, *Avoiding Regulatory Mismatch in the Workplace: An Informational Approach to Workplace Safety Regu-*

The papers presented by Professors Feigenson and Slovic may exemplify these two errors. Professor Feigenson and his co-authors appear to commit the former error; Professor Slovic, the latter.

I. MISTAKE NUMBER ONE: DISCOUNTING THE RATIONAL ACCOUNT TOO QUICKLY

In *Perceptions of Terrorism and Disease Risks: A Cross-national Comparison*,[10] Professors Feigenson, Bailis, and Klein purport to demonstrate that national identity influences individuals' perceptions of the magnitude of certain low-probability risks. Specifically, they show that Americans perceived the risk of terrorism (an "American" risk) to be greater than Canadians did; that Canadians perceived the risk of SARS (a "Canadian" risk) to be greater than Americans did; that Americans perceived the risk of terrorism to exceed that of SARS; and that Canadians perceived the risk of SARS to exceed that of terrorism.[11] Based on these findings and other survey data correlating respondents' risk perceptions with the extent to which they identify with their home countries, Professors Feigenson et al. conclude that the perception of the severity of certain nationally distinctive risks is not determined solely by the actual magnitude of those risks, as the rational choice model would predict, but is instead influenced by subjects' national identities.[12]

To reach this conclusion from the underlying survey data, the authors must assume that, in reality, Canadians and Americans face the same risk of SARS and terrorism, so that the reported difference in risk perception cannot be based on the difference in the *actual* magnitude of risk. This is a rather dubious assumption. Because SARS is a communicable disease,[13] the risk of infection is objectively higher in areas where there have been outbreaks. Through August 2003, there were 251 cases of SARS in Canada, with forty-one fatalities; in the United States, there were thirty-three cases, with no fatalities.[14] Thus, as an objective matter, it would seem that Canadians *were* at a greater risk of contracting the disease than

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lation, 82 NEB. L. REV. 1006, 1053-66 (2004) (arguing that behavioralists have too quickly assumed that purported irrationalities justify paternalistic workplace safety regulation rather than a less intrusive and more market-oriented informational approach).

10. 69 MO. L. REV. 991 (2004).

11. *Id.* at 995 ("Canadian respondents perceived SARS to be a significantly greater risk, to themselves and others, than terrorism. Canadians also perceived SARS to be a significantly greater risk than Americans did. . . . Americans, by contrast, perceived terrorism to be a significantly greater threat than SARS, and, by some measures, a significantly greater threat than Canadians did.").

12. *Id.* at 999-1007.

13. *See* Centers for Disease Control and Prevention, *Basic Information About SARS*, *available at* http://www.cdc.gov/ncidod/sars/factsheet.htm (last visited Sept. 13, 2004).

14. Feigenson et al., *supra* note 10, at 999.

were Americans.[15] Similarly, it is likely that the risk of terrorism is objectively greater in the United States than in Canada. While the animus of the terrorist organizations may be directed at the West generally, it is clear from known terrorists' statements that the United States is "Public Enemy Number One."[16] Accordingly, the risk of a terrorist attack is likely greater in this country than it is in Canada. Because Professors Feigenson et al. do not exclude the possibility that differences in respondents' perceptions of risk might be based on differences in *actual* risk, their conclusion that national identity influences risk perception may be overstated.

Perhaps anticipating this criticism, Professor Feigenson and his co-authors contend that "[t]he objective risk data . . . do not support these divergences in perceived risk."[17] Their argument in support of that claim, however, is unconvincing. In essence, the authors contend that because *all* these risks are very low, differences in actual risk levels cannot explain the statistically significant difference between Canadians' and Americans' risk perceptions.[18] The absolute size of the risks, however, has nothing to do with whether respondents rationally perceived differences in their relative magnitudes (i.e., the degree to which one risk exceeded the other). If one tiny risk were actually smaller than the other, then one would expect (and the rational choice model would predict) that individuals would perceive it to be smaller. Here, Canadians perceived their admittedly tiny

15. This is analogous to the fact that a sexually active gay man living in San Francisco or New York City, where HIV infection rates are relatively high, faces a greater risk of contracting HIV than an equally sexually active gay man living in a city with a lower HIV infection rate. The fact that "disease risks like SARS do not respect national boundaries," Feigenson et al., *supra* note 10, at 993, does not change the fact that the risk of infection is higher in areas where there are more infections per capita than it is in areas where there are fewer.

16. *See* Transcript of Osama bin Laden's Speech, Nov. 1, 2004, *available at* http://english.aljazeera.net/NR/exeres/79C6AF22-98FB-4A1C-B21F-2BC36E87F61F.htm.

17. Feigenson et al., *supra* note 10, at 999.

18. With respect to SARS, the authors note that the infection risk in Canada was .0008 percent, so even if the risk to Americans were zero, the minuscule difference between that zero risk and the .0008 percent risk of a Canadian catching SARS cannot justify Canadians' significantly greater perception of their distinctive risk (i.e., 7.43 percent vs. 2.18 percent). *Id.* at 996, 999-1000 ("[E]ven if one assumes that the objective risk posed by SARS to Americans was zero . . . the difference between the objective risk posed by SARS to Canadians and Americans, respectively, does not justify the significant difference in perceived risk between the two groups."). With respect to terrorism, the authors point out that a very high estimate of the risk to Americans of death from terrorism is .001 percent, and they conclude that even if the risk to Canadians were zero, the minuscule difference between that zero risk and a .001 percent risk cannot justify Americans' greater perception of their distinctive risk (*i.e.*, 8.27 percent vs. 6.04 percent). *Id.* at 996, 1000 ("The difference between .001 percent [the estimated actual risk of an American dying in a terrorist attack within a year] and zero . . . would not appear to justify the distinction our American respondents drew between the likelihood that they would be victimized by terrorism as opposed to SARS within the year.").

SARS risk to be about 3.4 times greater than Americans did (7.43 percent vs. 2.18 percent), and Americans perceived their admittedly tiny terrorism risk to be about 1.4 times greater than Canadians did (8.27 percent vs. 6.04 percent).[19] This divergence in perceived risk levels is rational if it corresponds to actual cross-national differences in risks, and there is no reason to believe it does not do so.[20]

Of course, we're still confronted with the fact that the perceived risk levels were orders of magnitude greater than actual risk levels—respondents from *both* countries greatly overestimated the actual risk of both occurrences (SARS and terrorism). It would be interesting to speculate about why they did so. Perhaps we are seeing the operation of the availability heuristic,[21] given that both of these risks had been much in the news around the time the survey was conducted.[22] Or perhaps the magnification can be explained by the fact that both terrorism and SARS are uncontrollable and dreaded, factors which cause risks to loom larger in people's perceptions.[23] But the fact that both sets of respondents (Canadians and Americans) overestimated the risks does not suggest that their perceptions were affected by their national identity.

Professor Feigenson and his co-authors have created a tough task for themselves: They must isolate a couple of risks that have some "national identity" but are, in reality, no greater in the countries with which they are identified. One supposes that risks attaining some sort of national identity generally do so because they are, in fact, particularly great in the country with which they are identified. SARS and terrorism risk may be as close as we can get, but it is important to acknowledge that there are cross-national differences in *actual* risk and that those differences may account for cross-national difference in perceived risk. Failure to do exemplifies the first mistake to which behavioralists are particularly susceptible—the tendency to hastily adopt a non-rational account of observed behavior.[24]

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19. *Id.* at 996.

20. *See supra* notes 13-16 and accompanying text.

21. The "availability heuristic" is individuals' "tend[ency] to think that events are more probable if they can recall an incident of their occurrence." SUNSTEIN, RISK AND REASON, *supra* note 1, at 33. *See generally id.* at 33-35; Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 3, 11 (Daniel Kahneman et al. eds., 1982) (describing availability heuristic). Professor Sunstein has recognized that terrorism risk may be over-estimated because of the availability heuristic. SUNSTEIN, RISK AND REASON, *supra* note 1, at 50 ("In the aftermath of a terrorist act, and for a period thereafter, the act is likely to be readily available—and thus to make people think that another such act is likely, whether or not it is in fact.").

22. Feigenson et al., *supra* note 10, at 1001-02.

23. *See* Paul Slovic, *Perception of Risk*, 236 SCIENCE 280 (1987); Paul Slovic et al., *Rating the Risks*, ENVIRONMENT, Apr. 1979, at 14.

24. *See supra* note 8 and accompanying text.

II. MISTAKE NUMBER TWO: REFLEXIVELY ADVOCATING A GOVERNMENTAL "FIX"

Professor Slovic's paper, *What's Fear Got to Do with It? It's Affect We Need to Worry About*,[25] exemplifies a second mistake to which behavioralists are susceptible. Having explained the fascinating role affect plays in forming individuals' risk perceptions, Professor Slovic abruptly turns to the question of what the government should do, in light of affect's influence, to educate the public regarding the risk of terrorism. It is this latter inquiry—or, more specifically, the automatic assumption that some governmental fix is desirable—that is troubling.

Not every problem should, or can, be fixed by the government. Like physicians, public officials ought to be guided by the maxim, "First, do no harm." Chicago school law and economics, with its emphasis on the rationality of individual actors and the superior ability of markets to process widely dispersed information and to maximize societal welfare by facilitating gains from trade,[26] starts with the assumption that governmental involvement in individuals' lives is undesirable.[27] That assumption, of course, can be rebutted by a demonstration (1) that some defect in the scheme of private ordering (e.g., a "market failure") is systematically causing suboptimal resource utilization, and (2) that governmental involvement could make things better by correcting the problem without imposing excessive costs.[28] The presumption, though, is that government meddling causes more harm than good. Behavioral theorists, having rejected the rational choice model of law and economics, seem similarly to have jettisoned both the presumption that gov-

25. 69 MO. L. REV. 971 (2004).

26. *See, e.g.*, F.A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519 (1945).

27. *See generally* 1 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 227 (Peter Newman ed., 1998) ("The distinctive approach associated with [the Chicago school of law and economics is a] willingness of members of the school to accept as working hypotheses that humans act rationally when making choices, including when making choices about how to respond to the legal system, that market-determined outcomes are consistent with social welfare, and that government intervention in market processes is in most cases unlikely to advance social welfare."); Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 948 n.67 (1979) (discussing the "deep distrust of government intervention that is associated with the Chicago School of Economics").

28. *Cf.* ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 43-49 (1st ed. 1988) (setting forth basic aspects of welfare economics, including the notion that public policy can be used to correct market failures); Stephen M. Bainbridge, *Director Primacy: The Means and Ends of Corporate Governance*, 97 NW. U. L. REV. 547, 585 & n.180 (noting that "regulatory intervention may be appropriate where there is a market failure" and that "[a] basic premise of welfare economics is that a market failure is a necessary, but not sufficient, justification for government intervention").

ernment intervention is undesirable and the view that government must justify its intrusion into the scheme of private ordering.[29]

Consistent with this trend, Professor Slovic advocates a governmental fix *without first asking* whether the government is institutionally capable of correcting individuals' affect-induced tendency to overestimate the risk of terrorism.[30] This is a crucial oversight since the answer to the question is probably no. As an initial matter, there is no reason to believe that bureaucrats are any less susceptible to cognitive quirks than the citizens they seek to protect.[31] More fundamentally, a democratically accountable agency faces *institutional* constraints that would render it incapable of correcting affect-induced overestimation of terrorism risks. Any democratically accountable agency charged with "accurately" informing individuals about terrorism risks (e.g., the Department of Homeland Security) will have an incentive to *overstate* those risks. If a warning is issued and no threat materializes, the governmental officials might take a little flak, but the criticism would likely be mild and could be easily rebuffed.[32] If, however, an attack oc-

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29. *See, e.g.*, Choi & Pritchard, *supra* note 2, at 4 ("Rejecting the laissez-faire normative outlook that underlies much law and economics scholarship, the behavioral economics school generally subscribes to an 'anti-antipaternalism.' As any high school English teacher no doubt could translate, this means a belief in the benefit of 'paternalism.'"); Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1293 (2003) ("The large body of evidence that human decisionmaking and choice deviates systematically from the usual law-and-economics assumptions of utility maximization, self-interest, and (often) wealth maximization, requires consequentialists to replace their default preference for unregulated private markets with a greater initial agnosticism concerning the relative institutional competence of markets and government intervention.") (footnotes omitted); Rachlinski, *supra* note 7, at 1166 ("[T]he psychological research arguably provides support for paternalism . . . . In fact, virtually every scholar who has written on the application of psychological research on judgment and choice to law has concluded that cognitive psychology supports institutional constraint on individual choice.").

30. To be fair, Professor Slovic recognizes that a governmental information campaign might cause more harm than good if it were to remind citizens of the startling images of the September 11th terrorist attacks—images that would tend (given the affect heuristic) to lead to overestimation of the risk of a terrorist attack. Part of Professor Slovic's "Difficult Balance" is balancing the need for accurate risk information against the likelihood that provision of information regarding terrorist risks would remind citizens of the affect-laden images that could lead to magnification of perceived risks. *See* Slovic, *supra* note 25, at 984 ("[T]here is a difficult balance between alerting and informing people about serious risks and creating exaggerated and harmful fears."). But Professor Slovic fails expressly to consider, prior to advocating governmental involvement, whether government is institutionally capable of correcting the public's tendency to overestimate the risk of terrorism.

31. *Cf.* Choi & Pritchard, *supra* note 2, at 5 (disputing claim that behavioral insights warrant increased intervention by securities regulators because "if everyone suffers from cognitive defects, doesn't that also include the commissioners and staff of the SEC?").

32. For example, the government could probably deflect any criticisms by responding that "it's better to err on the side of caution," or that "the terrorists must have changed

cured when a warning had *not* been issued, there would be political "hell to pay."[33] Thus, any governmental agency providing information about terrorism risks—regardless of political persuasion—will always have an incentive to err on the side of alarmism.[34] Government, in short, is institutionally ill-suited to provide accurate information about the actual risk of terrorist attacks.

CONCLUSION

Behavioralism has expanded our knowledge of risk perception and can surely lead to wiser public policy. Legal scholarship—especially law and economics scholarship—stands to benefit from any research that deepens our understanding of human behavior and incorporates that richer understanding into policy analysis. But behavioralism's insights should augment our understanding of economic models, not supplant them. The temptation to discount the rational choice model altogether and to advocate for governmental correction of human misperception forgets that ours is a government of the people. Agencies are no less susceptible to cognitive quirks than their individual analysts, and while markets (and other forms of private ordering) may have their ills, government—a human institution—is not a cureall.

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their minds after the threat was issued." Indeed, these sorts of responses to "crying wolf" criticisms appear to have been successful thus far. *See, e.g.*, William E. Gibson, *Threat or Political Camouflage?*, S. FLA. SUN-SENTINEL, Aug. 8, 2004, at 1H.

33. A recent column in London's *Independent* newspaper colorfully attributed the government's inescapable tendency to overstate the magnitude of terrorist risks to "the age-old instinct of those in authority to protect their rear ends." Rupert Cornwell, *War on Terror: U.S. Alert: How Politics of Terror Pushed Nation to the Edge*, INDEPENDENT (LONDON), Aug. 4, 2004, at 4 (also noting that while "[c]onstant unfounded warnings run the risk of crying wolf," there would be severe political repercussions "if officials ignored indications of a terrorist strike only for it to take place").

34. This argument resembles a similar point that has frequently been made about the incentives facing the Food and Drug Administration. *See* HENRY G. GRABOWSKI & JOHN M. VERNON, THE REGULATION OF PHARMACEUTICALS: BALANCING THE BENEFITS AND RISKS 10 (1983) ("[T]he institutional incentives confronting FDA officials strongly reinforce the tendency to avoid type 2 errors [approving dangerous drugs] at the expense of type 1 errors [failing to approve efficacious drugs]" because "[a]n FDA official who approves a drug subsequently shown to be not safe or effective stands to bear heavy personal costs" but "[t]he costs of rejecting a good drug are borne largely by outside parties (drug manufacturers and sick patients who might benefit from it)."); Charles J. Walsh & Alissa Pyrich, *Rationalizing the Regulation of Prescription Drugs and Medical Devices: Perspectives on Private Certification and Tort Reform*, 48 RUTGERS L. REV. 883, 938 n.264 (1996) (noting that "the FDA's incentive structure naturally tends towards caution" because "[a]n FDA employee working on a New Drug Application (NDA) has every reason to fear the death or severe injury that could follow from an ill-advised drug approval," but "the lack of concrete, identifiable injury often makes the likely ramifications of an erroneous non-approval scant, if not non-existent").