
**A COMMENT ON AHDIEH, *BEYOND INDIVIDUALISM IN
LAW AND ECONOMICS***

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Robert Ahdieh has been a marvelously productive legal scholar, producing a string of first-rate articles¹ and an insightful book on recent Russian law.² His most recent piece – *Beyond Individualism in Law and Economics*³ – is, like its predecessors, lucidly written and forcefully argued. Here the contention is that the field of economics has a commitment to a methodology of investigation that makes economic analysis inappropriate for illuminating some core legal concerns.

Because I have such a high regard for Professor Ahdieh's previous work, it pains me to say that I disagree with much of what he has written in his article. The criticisms that he levels at law and economics and at the field of economics are, I believe, misplaced and out of date. His analyses revive a long-standing and still widely held criticism among law professors of economics and law and economics. Unfortunately, these criticisms either have been addressed or are off-kilter. In essence, Professor Ahdieh's criticisms attack an enemy who has long since been vanquished from the field of battle. Economics, in its own area of inquiry, and law and economics in its area have both moved far, far beyond whatever constraining effect methodological individualism had in the 1970s and 1980s. Indeed, I would go much farther: I think that we are living in a golden age of scholarly inquiry into human behavior, and that golden age is illustrated, at least in part, by the remarkable range of scholarship that is being done by legal scholars, many of whom are using such up-to-the-minute tools of law and economics as behavioral science, psychology,

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¹ See, e.g., Robert B. Ahdieh, *Trapped in a Metaphor: The Limited Implications of Federalism for Corporate Governance*, 77 GEO. WASH. L. REV. 255 (2009); Robert B. Ahdieh, *Law's Signal: A Cueing Theory of Law in Market Transition*, 77 S. CAL. L. REV. 215 (2004); Robert B. Ahdieh, *Making Markets: Network Effects and the Role of Law in the Creation of Strong Securities Markets*, 76 S. CAL. L. REV. 277 (2003).

² ROBERT B. AHDIEH, *RUSSIA'S CONSTITUTIONAL REVOLUTION: LEGAL CONSCIOUSNESS AND THE TRANSITION TO DEMOCRACY, 1985-1996* (1997).

³ Robert B. Ahdieh, *Beyond Individualism in Law and Economics*, 91 B.U. L. REV. 43 (2011).

and empirical methods. Moreover, some of these changes are taking place in precisely the fields of inquiry that Professor Ahdieh claims that neither economics nor law and economics would touch because of their mutual commitment to methodological individualism.

My contention is that, in the past thirty years, this golden age has so greatly advanced our understanding of human behavior over what it was in the early 1980s that the progress is breathtaking. To take just one example, social scientists have replaced the somewhat robotic rational decision maker of the first generation of law and economics with decision makers who make predictable errors, are swayed by context in demonstrable ways, and take their cues on many decisions from the social norms that guide much of their life.⁴ Because empirical work is now becoming so common in the law, we no longer have to provide merely coherent, consistent theories of how these now-more-recognizable humans respond to legal directives. We can set up experiments, do surveys, and run regressions to confront those theories with evidence to see if the theories are correct, misleading, or need further refinement. There is so much interesting scholarship appearing in the social, behavioral, and economic sciences that only the insomniac, unemployed, or retired can keep up with it. This is not to say that this golden age and its vast output have resulted in a complete and perfect theory of human behavior. It clearly has not yet done so. But we are much closer today than we were a decade ago and will, without doubt, be closer still ten years hence.⁵

Let me try to boil my disagreements with Professor Ahdieh to one big point and a corollary. Economists' commitment to methodological individualism would indeed be problematic if it had kept the field from investigating some of the important issues (such as social norms, collective action and coordination games, and network externalities) that Professor Ahdieh mentions.⁶ But nothing of the sort has happened. Rather, the issues that Ahdieh contends have been left fallow by methodological individualism have, in fact, been lavishly cultivated not only by economists but also, importantly, by law and economics scholars. Just as behavioral law and economics has developed as an emendation of "rational choice theory"-based law and economics, so too has the legal study of social norms, to take one example, developed as a by-product of empirical investigations into the truth or falsity of the Coase theorem.⁷

As a minor corollary to this central criticism, I would suggest that even if Professor Ahdieh is correct about economists' slavish devotion to methodological individualism, he misses the central significance of what has been happen-

⁴ I comment on most of these characterizations later. See *infra* notes 13-47 and accompanying text.

⁵ See my discussion of Andrew W. Lo's SBE 2020 article, *infra* note 48 and accompanying text.

⁶ See Ahdieh, *supra* note 3, at 58-67.

⁷ See the discussion of Robert Ellickson's *Of Coase and Cattle*, *infra* notes 14-25 and accompanying text.

ing to the use of economics in legal analysis. By failing to take a broader view of how scholarship generally, and legal scholarship particularly, develops, the criticism misses an important corrective dynamic at work in the modern academy. With respect to law and economics, the initial bold claims of the field, which were premised on the use of rational choice theory, have been variously tempered, extended, strengthened, and overturned over the course of the last thirty years as new perspectives and new disciplinary tools (such as those from cognitive and social psychology, empirical methods, anthropology, history, and other disciplines) have been brought to bear on legal subjects.⁸ That is, even if in 1980 someone had made Professor Ahdieh's criticism of why one ought to be skeptical of the use of economics in examining the law because economics is devoted to methodological individualism and that is inappropriate for some important aspects of legal inquiry, events since 1980 would have proved that criticism wrong. Professor Ahdieh's critique is no longer accurate because, I deeply believe, there is a remarkably strong and successful imperative in the great universities toward better understanding.⁹ Whatever mistakes we cling to now are almost certain to be uncovered and corrected by a vigilant and active and extremely talented professoriate in the future. My contention is that that process has already done a great deal of the correcting that Professor Ahdieh calls for.

The most troubling criticism of methodological individualism that Professor Ahdieh levels, in my view, is this: the focus on individual decisionmaking has caused economics and law and economics to ignore or short-change the study of economic and legal aspects of community or of large social aggregations of human beings.¹⁰ In particular, he identifies the following topics as being im-

⁸ Professor Ahdieh does acknowledge the remarkable development of behavioral law and economics. Ahdieh, *supra* note 3, at 45. For a survey of the field, see Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051, 1053 (2000).

⁹ No one more forcefully captured this scholarly imperative than the great mathematician David Hilbert. Repeating the concluding words of his retirement speech to the Society of German Scientists and Physicians in Fall, 1930, these words are carved on his tombstone in Göttingen: "We must know. We will know." Victor Vinnikov, *We Shall Know: Hilbert's Apology*, THE MATHEMATICAL INTELLIGENCER, Mar. 1999, at 42, 44; *see also* CONSTANCE REID, HILBERT-COURANT 220 (1986).

¹⁰ Ahdieh, *supra* note 3, at 47-48. I am setting aside Professor Ahdieh's contention that modern economics and law and economics are, in fact, devoted to examining only individual decisionmaking. *Id.* at 49. I do not believe that to be the case; however, if I were to dwell on the criticism of methodological individualism per se, I would elaborate on these points: (1) there is nothing at all wrong with giving an account of how individuals respond to market prices and other market signals; (2) in my graduate education in economics and the many decades since, no one has ever contended to me that the appropriate focus of economic inquiry is *only* on individual decisionmaking; (3) economists are and have long been aware of the limitations of assuming that preferences are exogenous to the economic model and have periodically tried to bring preference-formation within the economic models; (4)

portant and ignored because of the fields' devotion to methodological individualism: social norms, collective action, network externalities, and community.¹¹

The most forceful rebuttal that I can make to this criticism is to give many examples of the work that economists and law and economics scholars have done on precisely the fields that Ahdieh says that they ignore due to their devotion to methodological individualism. To keep this Response relatively brief, I will focus on the contention that methodological individualism has induced law and economics scholars to pay insufficient attention to the issue of social norms.¹²

economics has paid significant attention to the processes and pitfalls of group decisionmaking; and (5) one of the great glories of late twentieth century economics has been the remarkable literature on social choice (how to aggregate individual preferences into consistent social preferences), as in the work of Nobel Laureates Kenneth J. Arrow and Amartya Sen. See generally KENNETH J. ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES* (2d ed. 1963); Amartya Sen, *The Possibility of Social Choice*, 89 AM. ECON. REV. 349 (1999). On the role of context in determining individual choices, including preferences, see Korobkin & Ulen, *supra* note 8, at 1107-33.

¹¹ See *supra* note 6 and accompanying text.

¹² I do not want to give the impression that economists have ignored social norms or culture and that only law and economics scholars have found that topic important. That impression would not be correct. Economists have paid a great deal of attention to norms and culture. Some recent literature in economic history and economic development has contended that culture (admittedly a slightly different topic from but closely related to social norms) has been a central feature of modern economic growth. For example, the distinguished economic historian David Landes contends that culture (and particularly English culture) is the most important factor in successful economic growth and development. See DAVID LANDES, *THE WEALTH AND POVERTY OF NATIONS* 513-14 (1998); David Landes, *Culture Makes Almost All the Difference*, in *CULTURE MATTERS* 2, 2 (Lawrence E. Harrison & Samuel P. Huntington eds., 2000); see also FRANCIS FUKUYAMA, *TRUST: THE SOCIAL VIRTUES AND THE CREATION OF PROSPERITY* xiv (1995); Luigi Guiso et al., *Does Culture Affect Economic Outcomes?*, J. ECON. PERSP., Spring 2006, at 23, 23. I would also reference the literature on social capital, such as ROBERT D. PUTNAM, *MAKING DEMOCRACY WORK: CIVIC TRADITIONS IN MODERN ITALY* (1993) and ROBERT D. PUTNAM, *BOWLING ALONE: THE COLLAPSE AND REVIVAL OF AMERICAN COMMUNITY* (2000). Putnam is a political scientist in the Department of Government at Harvard University, but his work has been very influential among economists. The gist of the idea of social capital is that it is a byproduct of private investment in which there is a social benefit (perhaps unintended and unanticipated) in addition to the private benefit that the investor or investors intended. In his study of towns in northern Italy, Putnam drew attention to the importance in successful democracies of having "choral societies," informal clubs that create horizontal connections among citizens in the town that strengthen the vertical relationships between citizen and government. The founders of these informal clubs intended only to further their own interests but, according to Putnam, they also generated social benefits that greatly furthered the well-functioning of local government. *MAKING DEMOCRACY WORK*, *supra*, at 90-91. For an empirical investigation of the contribution of social capital to growth, see also Stephen Knack & Philip Keefer, *Does Social Capital Have an Economic Payoff? A Cross-Country Investigation*, 112 Q.J.

Consider how the topic of social norms came to be of importance in the law and economics literature.¹³ Robert Ellickson, then a professor at Stanford Law School, learned that there was a legal situation in a large northern California county that might be construed as a natural experiment of the Coase Theorem.¹⁴ The situation in Shasta County had to do with legal liability for damage done to residential property or crops by unsupervised cattle.¹⁵ Ellickson had been told that liability for this damage was different in the eastern and western halves of this large county: in the eastern half, cattle owners were not liable for the damage done by their cattle, while in the western half, they were liable.¹⁶ Following the Coase Theorem, Ellickson hypothesized that the actual behavior of people throughout the county might be the same, despite the different liability regimes, if the transaction costs between cattle ranchers and others were very low, as they might be in a sparsely populated, large rural community.¹⁷ He interviewed cattle ranchers, residents who did not own cattle, judges, lawyers, and others in Shasta County to determine if negotiation or tacit convergence had led to uniform behavior across the entire county, the difference in liability notwithstanding.¹⁸

What Ellickson found was that there was indeed a uniform practice across Shasta County with respect to damage done by cattle, but that uniformity was not because of negotiation or convergence to a single liability rule. Rather, the uniform practice was compliance with a social norm of being a “good neighbor.”¹⁹ So, for example, if stray cattle wandered onto property and did some damage, it was the practice for the property owner to put the cattle in a safe place (such as a garage), feed and water them, and then call the cattle owner to tell him where his cattle were and to ask him to come to get them.²⁰ Most cattle owners were grateful for the care, offered to pay for any damage done (an offer typically rejected) and for keeping his cattle (an offer also usually re-

ECON. 1251, 1252 (1997).

¹³ I tell a more elaborate version of this story in Thomas S. Ulen, *The Impending Train Wreck in Current Legal Education: How We Might Teach Law as the Scientific Study of Social Governance*, 6 U. ST. THOMAS J.L. 302 (2009).

¹⁴ R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15-16 (1960) (asserting that in the absence of transaction costs, an efficient allocation of resources will obtain regardless of the law). See the treatment in ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 5, 101, 105 (1988). There have been some experimental tests of the Coase Theorem but very few real situations that might be used as empirical tests of the Theorem’s predictions.

¹⁵ Robert Ellickson, *Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County*, 38 STAN. L. REV. 623, 626 (1986).

¹⁶ *Id.*

¹⁷ *Id.* at 624-25.

¹⁸ *Id.* at 645-55.

¹⁹ *Id.* at 680-82.

²⁰ *Id.* at 673.

jected), and promised to come to get the cattle as soon as possible.²¹ Even if it took some time for the cattle owner to retrieve his cattle, there were typically no recriminations between the rancher and the property owner, and almost never was there litigation.²²

In those rare circumstances in which the cattle owner and property owner litigated, the parties typically included a plaintiff or a cattle owner who was not observing the prevailing social norm of neighborliness – often because the plaintiff or defendant was either a well-known curmudgeon or a recent immigrant to Shasta County from out of state.²³ Law – including implicit threats to litigate for compensation – was not a day-to-day device for governing society; rather, that task was performed by social norms, with resort to the law being reserved for end-game situations or for dealing with those who refused to comply with the social norms.²⁴

Ellickson's remarkable discovery created a flurry of important new scholarship on the positive and normative relationships between law and social norms.²⁵ For our purposes here, the remarkable thing about this article is that the modern legal literature on social norms arose from a law and economics investigation about a completely different matter: confirming or refuting a well-known proposition in law and economics. Ellickson dropped that goal in favor of trying to understand the actual behavior that he discovered from his survey evidence. This is the way that the very best scholarship develops; it is driven by a desire to understand and not simply to confirm preconceptions.

I could go on at some length about how the fields of economics and of law and economics have also contributed to the literature on network externalities²⁶ and collective action.²⁷ But I would rather suggest through examples that the

²¹ *Id.* at 674.

²² *Id.*

²³ *Id.* at 683-85.

²⁴ This view that norms, not law, governed behavior had notably been suggested in contract law in the early 1960s. Stewart Macaulay, *Non-contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55, 63 (1963). A recent paper – Adam Badawi, *Relational Governance and Contract Damages: Evidence from Franchising*, 7 J. EMP. LEGAL STUD. 753 (2010) – offers empirical evidence on the extent to which franchisors use formal legal directives (threat to exercise a liquidated damages clause for noncompliance of franchise agreement terms) and informal governance norms (such as the promise of an additional franchise outlet) to govern franchisor-franchisee relations.

²⁵ See, e.g., ROBERT C. ELICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES 123 (1991); ERIC A. POSNER, LAW AND SOCIAL NORMS 3 (2000); Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 340 (1997); Symposium, *Law, Economics & Norms*, 144 U. PA. L. REV. 1643 (1996).

²⁶ Quite to the contrary of what Professor Ahdieh contends, economists defined the concept of network externalities and path dependence. See, e.g., Paul A. David, *Clio and the Economics of QWERTY*, 75 AM. ECON. REV. 332, 334-35 (1985).

²⁷ Economists have long recognized and offered economic explanations for the difficulties of collective action. See, e.g., DAVID N. HYMAN, MODERN MICROECONOMICS: ANALYSIS

fields of economics and of law and economics have not at all been constrained from considering important issues of society and community and how preferences are formed. For example, scholars have written on the issues of social identity and its impact on economic behavior.²⁸ Others have written extensively on the relationship between religious belief and economic success and failure.²⁹ Many have engaged in scholarship on the notion of “social distance” and its impact on societal growth and individual success.³⁰ They have done experiments on the influence of neurotransmitters such as oxytocin on cooperative behavior.³¹ Others have examined the impact of social structures on economic outcomes³² and on the impact that morality has on decisions to breach a contract.³³ In a telling example of my point about the remarkable fertility of modern economic thought – and particularly its interest in social issues – the most recent issue of the *American Economic Review* had three articles on issues related to the economics of social identity.³⁴

AND APPLICATIONS 676 (2d ed. 1989).

²⁸ George A. Akerlof & Rachel E. Kranton, *Economics and Identity*, 115 Q.J. ECON. 715, 715 (2000); Steven N. Durlauf & Yannis M. Ioannides, *Social Interactions*, 2 ANN. REV. ECON. 451, 452 (2010).

²⁹ EKELUND ET AL., *THE MARKETPLACE OF CHRISTIANITY* 1 (2006); EKELUND ET AL., *SACRED TRUST: THE MEDIEVAL CHURCH AS AN ECONOMIC FIRM* 3 (1996); Benito Arruñada, *Protestants and Catholics: Similar Work Ethic, Different Social Ethic*, 120 ECON. J. 890, 909-10 (2010); Robert J. Barro & Rachel M. McCleary, *Religion and Economic Growth*, 68 AM. SOC. REV. 760, 760 (2003); Sascha O. Becker & Ludger Woessman, *Was Weber Wrong? A Human Capital Theory of Protestant Economic History*, 124 Q.J. ECON. 531, 532 (2009); Edward L. Glaeser & Spencer Glendon, *Incentives, Predestination and Free Will*, 36 ECON. INQ. 429, 430 (1998).

³⁰ See, e.g., Alberto Alesina & Eliana La Ferrara, *Who Trusts Others?*, 85 J. PUB. ECON. 207, 208 (2002); Nancy R. Buchan et al., *Let's Get Personal: An International Examination of the Influence of Communication, Culture, and Social Distance on Other Regarding Preferences*, 60 J. ECON. BEHAV. & ORG. 373, 374 (2006); Gary Charness & Uri Gneezy, *What's in a Name? Anonymity and Social Distance in Dictator and Ultimatum Games*, 68 J. ECON. BEHAV. & ORG. 29, 30 (2008); Elizabeth Hoffman et al., *Social Distance and Other-Regarding Behavior in Dictator Games*, 86 AM. ECON. REV. 653, 653 (1996); Iris Bohnet & Bruno S. Frey, *Social Distance and Other-Regarding Behavior in Dictator Games: Comment*, 89 AM. ECON. REV. 335, 335 (1999).

³¹ Ernst Fehr et al., *Neuroeconomic Foundations of Trust and Social Preferences: Initial Evidence*, 95 AM. ECON. REV. 346, 346 (2005).

³² Mark Granovetter, *Economic Action and Social Structure: The Problem of Embeddedness*, 91 AM. J. SOC. 481, 482 (1985).

³³ Tess Wilkinson-Ryan & Jonathan Baron, *Moral Judgment and Moral Heuristics in Breach of Contract*, 6 J. EMP. LEGAL STUD. 405, 406 (2009).

³⁴ David P. Baron, *Morally Motivated Self-Regulation*, 100 AM. ECON. REV. 1299, 1299 (2010) (“This paper examines the scope of self-regulation motivated by altruistic moral preferences that are reciprocal and stronger the closer are citizens in a socioeconomic distance.”); Daniel J. Benjamin et al., *Social Identity and Preferences*, 100 AM. ECON. REV. 1913, 1914 (2010) (seeking to explain racial and ethnic differences in norms of human capi-

One of the most dramatic examples of the fecundity of modern economic thought with profound implications for the fields of both economics and law and economics is an emerging literature that questions the effectiveness of incentives. Many people summarize the central teaching of microeconomics as follows: "People respond to incentives."³⁵ Certainly they do. But recently economists have begun to recognize that there are different degrees and kinds of incentives.

One of the most famous examples of this literature is the work of Uri Gneezy and Aldo Rustichini.³⁶ The phenomenon they studied was the attempts by several Israeli day-care centers to control the problem of parents arriving late to pick up their children at the end of the day.³⁷ Parents were supposed to pick up their children by 4 PM. If they were late, then the center had to pay for staff to remain on duty to supervise the children till the last parent arrived.³⁸ To avoid this expense, the day-care centers first tried hortatory messages.³⁹ When those did not correct the tardiness, some of the day-care centers tried a different strategy. Gneezy and Rustichini observed that about half the centers in the Haifa area sought to deter late-arriving parents by charging a modest additional fee if parents were ten minutes or more late.⁴⁰ To their surprise, they found that the number of late-arriving parents *increased* in the day-care centers that charged the additional fee but remained constant in those that did not.⁴¹ Far from discouraging being late, the fine seemed to encourage lateness. Parents apparently felt that once the day-care centers put a price on tardiness, they were free to consume more or less tardiness according to the same calculus by which they chose to consume more or less of other goods and services.⁴²

The implications of the Gneezy-Rustichini finding for the view that demand can be simplistically affected by altering prices are many. Consider, for instance, that imposing a higher price on, say, late-filing taxpayers may lead to an increase in the number of late-filers. Or that increasing the punishment for

tal acquisition as being tied to social identities); Yan Chen, F. Maxwell Harper, Joseph Konstan & Sherry Xin Li, *Social Comparisons and Contributions to Online Communities: A Field Experiment on MovieLens*, 100 AM. ECON. REV. 1358, 1358 (2010) (finding that "after receiving behavioral information about the median user's total number of movie ratings, users below the median demonstrate a 530 percent increase in the number of monthly movie ratings, while those above the median decrease their ratings by 62 percent").

³⁵ STEVEN E. LANDSBURG, *THE ARMCHAIR ECONOMIST: ECONOMICS AND EVERYDAY LIFE* 3 (1993); *see also* STEVEN D. LEVITT & STEPHEN J. DUBNER, *FREAKONOMICS* 20-22 (2005).

³⁶ Uri Gneezy & Aldo Rustichini, *A Fine is a Price*, 29 J. LEGAL STUD. 1, 2 (2000).

³⁷ *Id.* at 3.

³⁸ *Id.* at 4.

³⁹ *Id.*

⁴⁰ *Id.* at 4-5.

⁴¹ *Id.* at 7.

⁴² *Id.* at 10-11.

a particular crime may lead to either no effect or an increase in the number of those crimes committed.⁴³

Economics and law and economics scholars have recognized the importance of the Gneezy-Rustichini observation and have, as a result, begun to explore the power of incentives more deeply. For example, Roland Bénabou and Jean Tirole have provided an elegant model of the circumstances in which principals might best use extrinsic and intrinsic motivation.⁴⁴ One of the fascinating issues with which they deal is whether there are circumstances in which the offer of extrinsic rewards or punishments “crowds out” intrinsic motivation.⁴⁵ For example, if someone is eager to get the health benefits of regular exercise, should he try to cultivate the inner resolve to go to the gym regularly, or should he try a pre-commitment strategy (such as purchasing a year-long gym membership, knowing that if he does not go, he will rue the loss of the money)?⁴⁶ Similarly, if you are an employer who needs to have a presentation drawn up and made to a group of important clients, should you ask one of your new, young employees to undertake this assignment, telling her that this is tremendously important and that you’re counting on her, or should you offer her a monetary bonus for doing a good job at the presentation?⁴⁷

The upshot of this selective survey of recent literature in economics is that the field is vibrant. Scholars are seeking a broader economic explanation (that is, beyond rational choice theory) for many of the issues that Professor Ahdieh

⁴³ Paul H. Robinson & John M. Darley, *Does Criminal Law Deter? A Behavioural Science Investigation*, 24 OXFORD J. LEGAL STUD. 173 (2004), have persuasively argued that well-established behavioral results suggest that criminal law (but not such other criminal justice system variables as the number of police and prosecutors) is unlikely to deter potential criminals or to have perverse, unintended results. *Id.* at 173. To give one example, findings that in remembering affective experiences people tend to ignore the duration of the event suggest that (1) those of us who have not experienced prison may be deterred from committing prison-eligible crimes because of our mistaken prediction of how awful it will be, but that (2) those who have already been to prison and who realized that it was “not so bad” – that is, that they adapted to prison conditions and returned to their pre-incarceration level of subjective well-being relatively quickly – are unlikely to be deterred by threats of imprisonment. *Id.* at 187-92.

⁴⁴ Roland Bénabou & Jean Tirole, *Intrinsic and Extrinsic Motivation*, 70 REV. ECON. STUD. 489, 495-506 (2003).

⁴⁵ *Id.* at 492.

⁴⁶ For fascinating experimental tests of these and other alternatives, see Stefano Della Vigna & Ulrike Malmendier, *Paying Not to Go to the Gym*, 96 AM. ECON. REV. 694 (2006), and Gary Charness & Uri Gneezy, *Incentives to Exercise*, 88 ECONOMETRICA 909 (2009).

⁴⁷ For scholarly discussions of these and similar issues of motivation and commitment, see DAN ARIELY, *THE UPSIDE OF IRRATIONALITY* (2010); IAN AYRES, *CARROTS AND STICKS* (2010) (see also Ayres’ website, www.stickK.com); Bruno S. Frey & Felix Oberholzer-Gee, *The Cost of Price Incentives: An Empirical Analysis of Motivation Crowding-Out*, 87 AM. ECON. REV. 746 (1997). For a very readable popular presentation of some of the same scholarly material, see DANIEL H. PINK, *DRIVE: THE SURPRISING TRUTH ABOUT WHAT MOTIVATES US* (2009).

believes (and I wholeheartedly agree) economics, and particularly law and economics, should be addressing.

Finally, earlier I referred to the current era of scholarship about human behavior generally and with respect to law particularly as a golden age. I join Professor Ahdieh in applauding the melding of economics, psychology, neuroscience, anthropology, empirical methods, and all the other relevant disciplines that have been brought together to generate insights that might have been missed by individual disciplines looking at legal issues. But while there is clearly much more to do in the crafting of a more complete theory for predicting human behavior, we have already come far enough that a faint outline of that more-complete theory is emerging. Recently, Andrew W. Lo, Harris & Harris Professor in the Department of Finance at MIT, has proposed this grand challenge to the Social, Behavioral, and Economic Sciences (SBE) Division of the National Science Foundation: “[C]an we develop a complete theory of human behavior that is predictive in all contexts [by 2020]?”⁴⁸ Professor Lo recognizes that this complete theory is not the property of any one discipline, nor is it likely to emerge without the SBE Division (or some other organization) providing significant encouragement and oversight.⁴⁹

I think that this is a marvelous challenge. And it pleases me immensely, as I am sure that it pleases Professor Ahdieh, that economics, law and economics, and law all have roles to play and various pieces to contribute to the fashioning of this complete theory of human behavior.

⁴⁸ Andrew W. Lo, *SBE 2020: A Complete Theory of Human Behavior 1* (Sept. 30, 2010) (unpublished manuscript), available at <http://www.ssrn.com/abstract=1686485>.

⁴⁹ *Id.*