THE BEHAVIORAL ECONOMICS OF MERGERS AND ACQUISITIONS

DONALD C. LANGEVOORT*

I. INTRODUCTION

One need not spend much time in business settings to observe that reason does not always rule. My own academic curiosity in the psychology of organizational behavior started while I was still in practice, first in a law firm and then in government, recently having studied corporate law informed by the law and economics movement of the 1970's. This was a time when even political progressives had become enamored with marketplace solutions to regulatory problems (the wave of deregulation in the airline industry, banking, etc.), and the rational actor model of competitive behavior had taken a firm grip on policy analysis.

Even though I was a junior lawyer, I was fortunate enough to find myself in a number of projects where I was able to observe (quietly and without any hope of influencing) senior executives of very important companies and very high government officials at work. I also paid close attention to the senior lawyers who advised them. My impression, which later turned into a particular research interest,[1] was that ego often seemed the more compelling force in judgment and decision-making than cold, hard rationality, and that senior subordinates were often enablers of egotistical choices. The lawyers and executives I most admired were those clever enough to prompt different, and presumably better, choices via flattery and other influence techniques that left the top person's inflated self-esteem relatively intact.

Even then, of course, there was a large body of scholarly work in social psychology and organizational behavior that questioned the assumption of pervasive rationality in competitive business settings and readily accommodated pervasive egotistical inference and other cognitive biases. Orthodox economics has had its doubters all along. Over time, this academic joust has turned into a remarkably fruitful research agenda.[2] While some interdisciplinary tension remains, the collaboration between psychology and economics has become constructive and productive under the heading of behavioral economics. The genre often referred to as "new institutional economics" readily incorporates ideas such as bounded rationality, information deficiencies, transaction costs, agency costs, moral hazard,

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* Thomas Aquinas Reynolds Professor of Law, Georgetown University. My thanks to Bob Thompson, Eric Sundstrom, and Joan Heminway for very helpful comments and discussion.

[1] Donald C. Langevoort, *Ego, Human Behavior, and Law*, 81 VA. L. REV. 853, 860-65 (1995); Donald C. Langevoort, *Organized Illusions: A Behavioral Theory of Why Corporations Mislead Stock Market Investors (and Cause Other Social Harms),* 146 U. PA. L. REV. 101, 120-30 (1997) [hereinafter Langevorrt, *Organized Illusions*].

[2] *See The Behavioral Foundations of Economic Theory*, 59 J. BUS. S181 (1986) (An important symposium published in the *Journal of Business* in 1986 set forth the differences and common ground between the traditionalists and the behavioralists, the latter having been particularly influenced by the Nobel Prize-winning work of Amos Tversky and Daniel Kahneman); Donald C. Langevoort, *Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Review*, 51 VAND. L. REV. 1499 (1998) (for a review of how the debate between traditionalist and behavioralists quickly diffused into legal scholarship).

and the like into theories of behavior that depart considerably from the Bayesean depiction of rational choice commonly used in formal economic models. In turn, scholarship in corporate and securities law has borrowed extensively from this new learning, especially in the last decade or so, to try to incorporate limits on rationality into legal analysis of corporate behavior.

What has become clear for both descriptive and normative analysis is that incorporating insights from psychology into corporate and securities law means having to climb four tall steps to gain plausibility. The first tall step to overcome stems from the fact that what psychologists describe as predictable cognitive traits or biases are not observed consistently even in the decision-making of a single individual. Most people are capable of acting more or less rationally, depending on a host of situational, emotional, and other contingent influences. As a result, we have to know much about the situation as well as the person to make any robust behavioral prediction.[3] The psychologically prudent answer to any question of how someone, for example a CEO in a particular setting or a board of directors involved in group deliberation, will think or act is almost always "it depends," which does not lend itself to particularly bold or confident legal analysis.

The strength and intensity of dispositional traits and biases observed in both laboratory and field settings vary considerably among the population. Therefore, the second tall step to overcome is that some people are more likely to display these predicable cognitive traits or biases than others. In other words, even if we know the situational context, we also have to know something about the personality and related dispositional makeup of the particular actor.[4] One of the conventional economists' major gauntlets for behavioralists to negotiate is the idea that people who become CEOs, CFOs, and board members are different from the average person, and, by hypothesis, substantially more "rational." If rationality leads to competitive success, then rationality will be favored in the selection and promotion tournaments that determine who exercises corporate power. To me, this is the most interesting step in the challenge to behavioral law and economics, about which I and others have written much.[5]

The third tall step is institutional, meaning that even if we decide that some behavioral trait, such as overconfidence or emotionally-driven risk-taking, is likely to affect executive judgment and decision-making, there is no reason to automatically assume that it will affect the *firm's* choices. Almost all important corporate decisions follow a process—multiple people involved sequentially, and often with group collaboration at various steps along the way. We have to predict that the process will permit the bias to survive, as against

[3] Indeed, one of the fundamental messages of contemporary social psychology is that the situation often matters more than the disposition, notwithstanding the so-called fundamental attribution bias that leads people to think otherwise. *See, e.g.*, RICHARD NISBETT & LEE ROSS, HUMAN INFERENCE: STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT (Prentice-Hall, Inc. 1980). One of the important contributions to corporate behavioral economics casts doubt on whether something as robust as the endowment effect has significant power when decisions are made by corporate agents. *See* Jennifer Arlen et al., *Endowment Effects Within Corporate Agency Relationships*, 31 J. LEGAL STUD. 1 (2002).

[4] *See* Gregory Mitchell, *Why Law and Economics' Perfect Rationality Should Not Be Traded for Behavioral Law and Economics' Equal Incompetence*, 91 GEO. L.J. 67 (2002).

[5] *See, e.g.*, Langevoort, *Organized Illusions*, *supra* note 1; *see also* Donald C. Langevoort, *Diversity and Discrimination from a Corporate Perspective: Grease, Grit and the Personality Types of Tournament Survivors*, *in* 3 NYU SELECTED ESSAYS ON LABOR AND EMPLOYMENT LAW: BEHAVIORAL ANALYSES OF WORKPLACE DISCRIMINATION 141 (Mitu Gulati & Michael Yelnosky eds., 2007).

(presumably) strong competitive incentives to "de-bias" individual shortcomings. Organizational behavior research has identified common de-biasing mechanisms frequently used by corporations.[6]

This third step can only be addressed empirically because psychology itself stops being concretely helpful once we pass beyond small group behavior. Organizational scholars trained in sociology push back strongly against excessive focus on individual cognition, claiming that broad social and cultural forces, not psychological ones, are the proper subjects of inquiry for thinking about the firm.[7] Unfortunately, sociology tends not to generate simple, tractable behavioral models except when reduced backwards to something like an economic (rational choice) approach, so that rigorously testing hypotheses is difficult. Moreover, the empirical questions—identifying whether outcomes are rational or non-rational, and then trying to isolate causal connections with respect to a particular corporate decision—can be extraordinarily complicated. Many instances of "poor" firm-level choice can plausibly be characterized as either behaviorally problematic or the result of simple, rational opportunism by corporate insiders, i.e., an agency cost problem.

These are three high steps to climb, but, as we shall see, they are surmountable if taken carefully. But even if we make it that far, we reach the normative question: so what? If some form of non-rational behavior is commonplace, there is a prima facie case for intervention. Deciding what that intervention should be, however, can itself be vexing. The challenge is both ideological and practical. Research suggests that, especially among those with a conservative ideological orientation, behavioral explanations do not qualify as legitimate excuses, and the right remedy for cognitive bias is to make the person (or firm) learn painfully from the experience.[8] And even for those willing to engage in some kind of paternalistic intervention, such interventions are very costly and hard to accomplish successfully. Perhaps the most common illustration, which I and others have explored at length,[9] is that corporate and securities law's favorite strategy—more disclosure—often fails when up against a well-ingrained, institutionally favored behavioral bias. There may be places where a legal or regulatory "nudge" can work, but there are many others where a much stronger shove is necessary, because judges and regulators will feel both ill-trained and under-resourced to give and follow through on such a "nudge," with respect to the expected and unanticipated consequences. In other words, there are probably places where corporate law recognizes the likelihood of persistent behavioral biases that threaten shareholders' best interests, but is without a precise, legitimate, cost-efficient response and so just ignores it. That is not necessarily wrong, even if it may seem lamentable.

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[6] *See, e.g.*, Chip Heath et al., *Cognitive Repairs: How Organizational Practices Can Compensate for Individual Shortcomings*, *in* 20 RESEARCH IN ORGANIZATIONAL BEHAVIOR 1-37 (Barry M. Staw & L.L. Cummings eds., 1998).

[7] *See* Barry M. Staw & Robert I. Sutton, *Macro Organizational Psychology*, *in* SOCIAL PSYCHOLOGY IN ORGANIZATIONS 350-84 (Keith Murnighan ed., 1993) (useful response from researchers sympathetic to the use of psychology).

[8] *See* Philip E. Tetlock, *Cognitive Biases and Organizational Correctives: Do Both Disease and Cure Depend on the Politics of the Beholder?,* 45 ADMIN. SCI. Q. 293 (2000).

[9] This is especially so when a seller has an interest in taking advantage of the bias. *E.g.,* Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630 (1999). In addition, there is a strong cultural and historical tolerance for advertising and marketing techniques that are at heart mildly manipulative, making it difficult to excise from business practice. Donald C. Langevoort, *The SEC, Retail Investors and the Institutionalization of the Securities Markets*, 95 VA. L. REV. 1025, 1043-48 (2009); Sendhil Mullainathan et al., *Coarse Thinking and Persuasion*, 123 Q.J. ECON. 577 (2008).

II. BEHAVIORAL INSIGHTS ABOUT MERGERS AND ACQUISITIONS

Legal scholars have used psychology to analyze many different problems—board of director group behavior in corporate law[10] and marketplace "irrationality" in securities law[11] are particularly well-plowed fields. However, with the notable exception of work by Jim Fanto roughly a decade ago,[12] little attention has been given to integrating behavioral findings into mergers and acquisitions ("M&A") law, even though some classic insights came from that subject area early on. Most of the remainder of this essay will illustrate the methodological challenges and opportunities described in Part I as it applies to corporate M&A law. We are aided here by a number of recent and thorough literature reviews by financial economists on behavioral approaches to corporate financial activity.[13] In law, there is a small but helpful body of scholarship on the related subject of "behavioral antitrust" from which to borrow as well.[14]

The starting point here is a stark divide that exists in behavioral corporate finance.[15] Classical orthodox law and economics on merger activity assumes the rationality of both the managers and directors of the subject companies and their shareholders. Even if the belief about shareholder rationality is relaxed somewhat, the assumption remains that the stock price will be set rationally in an efficient market and that the stock price will be the main reference point for shareholder best interests. As a result, the possibility of irrational individual shareholder behavior is unlikely to be of much consequence.

If, however, we relax the assumption of market price efficiency, things change dramatically. Since the high point of market efficiency theory in the mid to late 1970's, contrarians have pointed out a number of anomalies in real world market price behavior vis-à-vis the predicted world of near-perfect efficiency.[16] Among other things, there is too much trading behavior, too much volatility, and too many instances of pricing excess (bubbles and crashes) to conform easily to the efficiency hypothesis. To be sure, many classical financial economists still believe strongly in efficiency and work hard to justify the observations as consistent with risk-adjusted models of efficient pricing, but today the assumption is, at the very least, heavily contested within mainstream finance, if not on the decline.

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[10] *E.g.,* James D. Cox & Harvey L. Munsinger, *Bias in the Boardroom: Psychological Foundations and Legal Implications of Corporate Cohesion*, 48 LAW & CONTEMP. PROBS. 83 (1984); Claire A. Hill & Brett H. McDonnell, *Disney, Good Faith, and Structural Bias*, 32 J. CORP. L. 833 (2007).

[11] *See, e.g.*, Donald C. Langevoort, *Taming the Animal Spirits of the Stock Markets: A Behavioral Approach to Securities Regulation*, 97 NW. U. L. REV. 135 (2002); Lynn A. Stout, *The Mechanisms of Market Inefficiency: An Introduction to the New Finance*, 28 J. CORP. L. 635 (2003).

[12] *See* James A. Fanto, *Quasi-Rationality in Action: A Study of Psychological Factors in Merger Decision-Making*, 62 OHIO ST. L.J. 1333 (2001); James A. Fanto, *Braking the Merger Momentum: Reforming Corporate Law Governing Mega-Mergers*, 49 BUFF. L. REV. 249 (2001).

[13] *See, e.g.*, Malcolm Baker et al., *Behavioral Corporate Finance: A Survey*, *in* THE HANDBOOK OF CORPORATE FINANCE EMPIRICAL CORPORATE FINANCE (B. Espen Eckbo ed., 2007) [hereinafter Baker et al., *Behavioral Corporate Finance*].

[14] *See, e.g.*, Maurice E. Stucke, *Behavioral Economists at the Gate: Antitrust in the Twenty-first Century*, 38 LOYOLA U. CHI. L.J. 513 (2007); Avishalom Tor, *The Fable of Entry: Bounded Rationality, Market Discipline and Legal Policy*, 101 MICH. L. REV. 482 (2002).

[15] *See* Baker et al., *supra* note 13.

[16] *See* Langevoort, *supra* note 11; Stout, *supra* note 11.

We need not explore in detail what behavioral finance substitutes for market efficiency. There is certainly no agreed upon model of non-rational stock price movements (if there were, it would promptly be arbitraged away). Instead, there are often conflicting predictions of overreaction and under-reaction to news, momentum trading, trading on pseudo-news, and the like, many of which can be tied to well-known behavioral regularities like loss aversion, ambiguity aversion, the representativeness heuristic, limited attention, etc. We can fairly assume that these traits are prompted by large numbers of situational factors whose interaction can be extraordinarily complex and contingent, making the "irrational" market seem fairly chaotic and subject to unpredictable mood swings. Numerous book-length treatments of this field are available.[17]

For purposes of legal analysis, we need only assume that stock market prices can diverge from fundamental value for sustained time periods (either for individual securities, industries, or asset classes generally) and/or that market prices do not immediately impound all available public information. We then lose confidence in market price as a discipline, which was the primary assumption that motivated the bold predictions of corporate law and economics in the 70's and 80's in articulating optimal (often largely deregulatory) M&A legal policy— e.g. the celebrated work of Easterbrook, Fischel, and others.

This brings us to the main fork in the road. Irrational markets are plausible because they involve the participation of large numbers of smaller unsophisticated investors ("noise traders") who, under the right conditions—particularly limited arbitrage because of short selling restrictions and limitations—can have sustained effects on stock prices. The smart money in the form of larger, sophisticated investors is generally, though not inevitably, presumed to be more rational but unwilling or unable to stem the tide of marketplace emotions. If we then assume rationality on the part of corporate managers, there are opportunities to exploit. Most obviously, there will be prices of individual companies that are depressed temporarily vis-à-vis their fundamental value, which makes them vulnerable to cherry-picking in the M&A market for less than a "fair" price.[18] Conversely, if it is the potential acquirer whose shares are overpriced because of irrational exuberance, it is time to do a stock-for-stock deal.[19] If structural or governance deficiencies exist on the target side that lead too readily to a sale, we may have an unnecessary and inappropriate transfer of wealth to acquiring firms, unfortunately with collateral consequences to employees, suppliers, etc. when the transactions are highly leveraged and thus carry excessive risk.

We see the source here of many of the debates about takeover policy. The less confidence we have in market prices, the less we can trust individual shareholders to make rational decisions about whether or not to tender into a hostile bid. Collective action problems abound, and so most market critics tend toward accepting the need for a shareholders' "bargaining agent" to make a sophisticated financial analysis of the bidder's offer and act on their behalf. The poison pill is the mechanism of choice here, which moves

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[17] *E.g.,* GEORGE AKERLOF & ROBERT SHILLER, ANIMAL SPIRITS: HOW HUMAN PSYCHOLOGY DRIVES THE ECONOMY AND WHY IT MATTERS FOR GLOBAL CAPITALISM (2010); HERSH SHEFRIN, BEYOND GREED AND FEAR: UNDERSTANDING BEHAVIORAL FINANCE AND THE PSYCHOLOGY OF INVESTING (2003); ANDREI SHLEIFER, INEFFICIENT MARKETS: AN INTRODUCTION TO BEHAVIORAL FINANCE (Oxford University Press 2004) (2000). *See also* JUSTIN FOX, THE MYTH OF THE RATIONAL MARKET (2009) (for an accessible recount of the intellectual history of the efficiency-inefficiency debate).

[18] *See* Reinier Kraakman, *Taking Discounts Seriously: The Implications of "Discounted" Share Prices as an Acquisition Motive*, 88 COLUM. L. REV. 891 (1988).

[19] *See* Andrei Shleifer & Robert Vishny, *Stock Market Driven Acquisitions*, 70 J. FIN. ECON. 295 (2003).

us quickly to the question of whether a committee of independent directors of the target is likely to be a faithful bargaining agent. Scholars and practitioners disagree about that issue.[20] An alternative might be to force greater disclosure from the bidder and/or target upon the commencement of a contested transaction and let the shareholders vote—a strategy that relies on a number of difficult assumptions about both the efficacy of disclosure and the rationality of shareholder voting decisions.

Again, this legal literature is so well developed that we need not dig any deeper into it. It is enough for now to see the connection between the behavioral finance literature and the unraveling of the law and economics orthodoxy when stock prices become less reliable. But a second branch of behavioral corporate finance relaxes the assumption of managerial rationality instead of (or in addition to) assuming market inefficiency, positing that managers make predictable cognitive errors either in bidding for another company or in responding to a bid, in both negotiated and hostile transactions.

This is a particularly interesting subject for our purposes because it brings into play all four of the steps that behavioral law and economics must take to claim the desirability of some kind of law reform. M&A transactions are extraordinary financial events and so receive deep and sustained attention, not the kind of setting for "quick and dirty" heuristics. They are negotiated by the most seasoned business professionals—senior executives, aided by teams of lawyers and bankers—not your ordinary psychology laboratory subjects. Further, they are subject to an extensive multi-person process of deliberation and approval on both sides.

To be sure, there are conflicts of interest and incentive deficiencies that may distort decisions. Putting aside the "merger of equals" transaction, companies either acquire or are acquired, which means a premium will be paid to the target company shareholders (and perhaps pay-offs to their insiders as well). It has been well known for some time that there are incentives that favor acquisitions quite apart from strategy or profitability. So-called corporate imperialism is an agency cost problem arising from the fact that executive compensation and perquisites are more closely tied to size than efficiency. Hence managers may prefer non- value-enhancing growth. And so, the empirical evidence that many acquisitions are "value-destroying" in hindsight comes as no surprise.[21] But that is not irrationality, and requires no keen psychological insight to anticipate.

There is, however, a growing body of work suggesting that the agency cost explanation may not be entirely accurate, offering a behavioral account of bidder overpayment instead. I will not try to summarize all the research on this subject, but rather offer an overview. One of the initial contributions here was by a distinguished (and otherwise fairly orthodox) financial economist, Richard Roll, who put forth his "hubris

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[20] *E.g.,* Marcel Kahan & Edward Rock, *How I Learned to Stop Worrying and Love the Pill: Adaptive Responses to Takeover Law*, 69 U. CHI. L. REV. 871 (2002).

[21] *E.g.,* Gregor Andrade et al., *New Evidence and Perspectives on Mergers*, 15 J. ECON. PERSP. 103 (2001); Thomas Lys & Linda Vincent, *An Analysis of Value Destruction in AT&T's Acquisition of NCR*, 39 J. FIN. ECON. 353 (1995); Sara Moeller et al., *Wealth Destruction on a Massive Scale? A Study of Acquiring Firms Returns in the Recent Merger Wave*, 60 J. FIN. 757 (2005). The precise extent of the harm from acquisitions is open to question. *See* William Bratton, *Whither Hostility?, in* CORPORATE GOVERNANCE AND REGULATORY IMPACT ON MERGERS AND ACQUISITIONS 103 (Greg Gregoriu & Luc Renneboog eds., 2007).

hypothesis"[22] that there is something akin to a winner's curse that arises out of any auction-like setting because the winner will, by definition, have the most optimistic valuation of the asset in question and thus presumably be an outlier. His use of hubris, a form of poor judgment, prompted others to look more closely at the psychological make-up of the person who controls the bidding: the acquirer's CEO.

I noted earlier that there is no reason to believe that CEOs are psychologically similar to the general population; the standard assumption has been that they are more cognitively adept and rational. But there is significant literature in behavioral economics—both theoretical and empirical—that challenges that assumption and says that CEOs, on average, are likely to be both overly confident in their abilities and more risk-seeking than a rational choice model would predict. In their overview of behavioral corporate finance, Baker, Ruback, and Wurgler offer the basic intuition:

> There are good reasons to focus on these particular biases in a managerial setting. First, they are strong and robust, having been documented in many samples, in particular samples of managers. Second they are often fairly easy to integrate into existing models, in that optimism can be modeled as an overestimate of a mean and overconfidence as an underestimate of variance. Third, overconfidence leads naturally to more risk-taking. Even if there is no overconfidence on average in the population of *potential* managers, those that are overconfident are more likely to perform extremely well (and extremely badly), placing them disproportionately in the ranks of upper (and former) management. And fourth, even if managers start out without bias, an attribution bias—the tendency to take greater responsibility for success than failure—may lead successful managers to become overconfident. . . .[23]

This all follows fairly predictably from the tournament theory of organizational selection and promotion: as skill levels become more concentrated up the ladder, the winner of a contest among managers is the one willing to risk the most and lucky enough not to have it blow up on him or her.[24] Overconfidence leads to diminished risk perception.

In a series of articles, Malmendier and Tate take this idea and test it empirically against patterns of corporate M&A behavior, using a sample of Forbes 500 firms from 1980

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[22] Richard Roll, *The Hubris Hypothesis of Corporate Takeovers*, 59 J. BUS. 197 (1986); *see also* Bernard Black, *Bidder Overpayment in Takeovers*, 41 STAN. L. REV. 597 (1989) (theorizing that stockholders realize gains in takeovers because bidders overpay, which is expected by the stockholders and incorporated into the price).

[23] *See* Baker et al., *Behavioral Corporate Finance*, *supra* note 13 at 37.

[24] *See* Anand Goel & Anjan Thakor, *Overconfidence, CEO Selection, and Corporate Governance*, 63 J. FIN. 2737 (2008); Donald C. Langevoort, *The Organizational Psychology of Hyper-competition: Corporate Irresponsibility and the Lessons of Enron*, 70 GEO. WASH. L. REV. 968 (2002); *see also* Colin Camerer & Dan Lovallo, *Overconfidence and Excess Entry: An Experimental Approach*, 89 AM. ECON. REV. 306 (1999) (for an example of the extensive experimental literature); Mathew Hayward & Donald Hambrick, *Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris*, 42 ADMIN. SCI. Q. 103 (1997) (for many large-scale empirical studies). This literature is closely related to work suggesting that CEO narcissism has an effect on acquisition behavior. *See* Arijit Chatterjee & Donald Hambrick, *It's All About Me: Narcissistic CEO's and their Effects on Company Strategy and Performance*, 52 ADMIN. SCI. Q. 351 (2007); *see also* Nihat Aktas et al., CEO Narcissism and the Takeover Process: From Private Initiation to Deal Completion (Nov. 19, 2010) (unpublished paper *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1638972).

to 1994 to support the overconfidence hypothesis.[25] Choosing an objective metric for overconfidence is challenging, of course; Malmendier and Tate use stock option non-exercise as a way of identifying those managers with inflated perceptions of how their firms will perform under their direction, a methodology that has now become fairly standard.[26] Recently, a Duke University study by Graham, Harvey, and Puri sought to dig more deeply and was able to administer standard psychology tests to a large sample of CEOs and CFOs then run regressions to identify correlations between personality types and basic corporate financial decisions, including M&A. The results confirmed the basic intuition that CEOs, at least, are substantially more optimistic and risk tolerant than the general population. The researchers found a significant relationship, but made no claim about the direction of causality, between these traits and the frequency of M&A activity, which they found consistent with the hypotheses in both Roll and Malmendier and Tate.[27]

Although the overconfidence-based theory is the dominant approach in behavioral corporate finance, there are other provocative findings about M&A behavior. For example, a recent paper by Baker, Pan, and Wurgler considers the influence of the target's historic 52 week high (economically irrelevant old news) on both bidder offers and target responses.[28] With respect to target psychology, their hypothesis is:

> The most obvious application involves the disposition effect, or the reluctance to realize losses relative to the reference point. While for some investors the reference point is likely to be their purchase price, another important reference point—and, importantly, one that is common across shareholders—is the firm's 52 week high price. . . . This logic predicts that targets are more likely to approve mergers in which the offer price approaches or exceeds the 52 week high. The S-shaped value function, on the other hand, predicts that the further is the current price from the 52 week high, the less influence the marginal dollar has in terms of the

[25] Ulrike Malmendier & Geoffrey Tate, *Who Makes Acquisitions? CEO Overconfidence and the Market's Reaction*, 89 J. FIN. ECON. 20, 21 (2008) (finding correlation between overconfidence and value destroying acquisitions, especially where firm has substantial internal resources). *See also* Ulrike Malmendier & Geoffrey Tate, *CEO Overconfidence and Corporate Investment*, 60 J. FIN. 2661 (2005) (linking corporate manager confidence with investment decisions).

[26] *See* Chip Heath et al., *Psychological Factors and Stock Option Exercise*, 114 Q.J. ECON. 601 (1999) (for earlier work setting the stage for this preference).

[27] John Graham et al., Managerial Attitudes and Corporate Actions 25-26 (July 2009) (unpublished paper *available at* http://papers.ssrn.com/sol3/papers.htm?_id=1432641). An obvious question to consider is how this benefits the firm such that firms are willing to hire overconfident CEOs. There are many answers in the literature. The dominant one is that an excess of optimism at the top has positive collateral effects that outweigh the occasional damage, such as encouraging cooperation and enthusiasm in the culture of the firm, or of promoting innovation. *See* David Hirshleifer et al., Are Overconfident CEOs Better Innovators? (April 2010) (unpublished paper *available at* http://papers.ssrn.com/sol3/papers.htm?_id=1598021); *see also* Eric Van Den Steen, *Organizational Beliefs and Managerial Vision*, 21 J.L. ECON. & ORG. 256 (2005).

[28] Malcolm Baker et al., The Psychology of Pricing in Mergers and Acquisitions 7-8 (May 23, 2009) (unpublished paper *available at* http://archive.nyu.edu/handle/2451/28091). Other work in behavioral finance also considers the disproportionate effect of the 52-week high. *See* Thomas George & Chuan-Yang Hwang, *The 52 Week High and Momentum Investing*, 59 J. FIN. 2145 (2004).

> perception of losses. . . . Anchoring and adjustment may also reinforce these predictions at the strategical level of negotiations over price.[29]

With respect to bidders:

> The bidder's psychology can be affected by anchoring and adjustment both directly and strategically. . . . The bidder may reason, if the target was valued at that level a few months ago, shouldn't we, with our ability to realize synergies, value it above or at least near that same level? To the extent that logic is employed, the 52 week high becomes an anchor, and insufficient adjustment from that level becomes the norm. . . . A bit more subtly, it suggests that since the bidder's investors do not think as hard as its board about the target's potential valuation, they are less biased by the anchoring phenomenon and so more likely to view 52 week high driven bids as overpaying. Once a valuation is established, the bidder must consider the minimum price that the target will accept. Bidder boards advised by experienced investment bankers are likely to predict that the target's 52 week high will both be used as a strategic anchor against them in negotiations as well as a reference point that their own investors truly care about.[30]

After considering a number of possible non-psychological alternative hypotheses, they present data showing that the 52 week high exerts a strongly disproportionate effect on deal outcomes, which they attribute largely to the target's psychology and the bidder's anticipation thereof.

I could go on at length, as there is much more behavioral corporate finance literature that speaks to M&A activity either directly or indirectly. Going back to the hubris hypothesis and the winner's curse, for example, one can also find emotion-based explanations for the competitive urge that may produce excessive valuations on the part of acquirers, and perhaps reactive devaluation by targets.[31] Commitment, confirmation, and sunk cost biases are also likely to come into play.[32] Group-level biases (risky shift,[33] "groupthink") may come into play as well. The explosion of psychological research on negotiation behavior in the past few decades touches on issues of importance in M&A deal making in many ways.

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[29] Malcolm Baker et al., The Psychology of Pricing in Mergers and Acquisitions 7-8 (May 23, 2009) (unpublished paper *available at* http://archive.nyu.edu/handle/2451/28091).

[30] *Id.* at 8-9.

[31] *E.g.*, Deepak Malhotra, *The Desire to Win: The Effects of Competitive Arousal on Motivation and Behavior*, 111 ORG. BEHAV. & HUMAN DEC. PROCESSES 139 (2010); Deepak Malhotra et al., *When Winning is Everything*, HARV. BUS. REV., May 2008, at 78. There may be hormonal influences here, observable in merger-related activity. *See* Maurice Levi et al., *Deal or No Deal? Hormones and the M&A Game*, 56 MGMT. SCI. 1462, 1463 (2010) (finding that younger CEOs are more dominance-seeking in M&A activity than older ones, and attributing this to the influence of testosterone levels).

[32] *See* Vicki Bogan & David Just, *What Drives Merger Decision Making Behavior? Don't Seek, Don't Find, and Don't Change Your Mind*, 72 J. ECON. BEHAV. & ORG. 930 (2009).

[33] As the contemporary literature points out, groups can be both more risk seeking and more risk averse, depending on context. *See, e.g.*, Kfir Eliaz et al., *Choice Shifts in Groups: A Decision-Theoretic Basis*, 96 AM. ECON. REV. 1321 (2006).

In addition, there is laboratory evidence to support the idea that cultural conflicts may disable mergers even when they make sense on paper. Businesses fail to anticipate the learned linguistic and perceptual commonalities that help coordinate productive behavior in the constituent firms, and the firms clash and fail upon consolidation.[34] Here again, overconfidence and other egocentric biases may result in firms underestimating the difficulty in finding synergies and eliminating redundancies when two distinct entities merge.

But we need not go any more deeply into these ideas because we have enough for at least a prima facie case that behavioral economics and behavioral finance have *something* potentially interesting to say to M&A law. In other words, I think that the research in this area meets the burden of proof on the first three steps of the analysis set forth in Part I. This work takes seriously the need to focus specifically on behavioral traits as they are revealed in high level corporate executives, not just the general population. It addresses the problem of how such traits might persist, and perhaps flourish, in corporate settings by generating competitive gains that, on average, offset the harms predictably associated with rationally risky behavior. Further, it is sensitive to the institutional context, conceding that we need evidence of problematic outcomes in the marketplace before the causal possibility of heuristics and bias should seriously be considered.

Of course—and this is a point at which lawyers and social scientists often have difficulty with each other—methodological rigor in research in the social sciences cautions against too readily drawing generalizations from data, even when the results are statistically significant, because there are always alternative causal explanations, risks associated with highly controlled experimental design, and the need for future research. Law-making, on the other hand, cannot wait for scientific certainty, and must try to draw the best available behavioral inferences from whatever knowledge is at hand, even when it is incomplete. My simple point, then, is that the work on behavioral corporate finance, when coupled with evidence of poor outcomes for shareholders in many M&A transactions, provides enough cause for the legal profession to worry about the psychological risks we have been describing, and to at least consider whether there are interventions that might help.

III. THE LAW'S RESPONSE TO THE BUY-SIDE PROBLEMS

We know that many mergers are value destroying, with cyclical variations in average frequency.[35] The research described above offers some insight as to why these may occur. So how should the law respond?

We should pause here for a predictable interjection from conventional financial economics. As noted, there is also a plausible non-psychological explanation for value-destroying mergers (an agency cost story about empire-building); thus resorting to a behavioral account is unnecessarily complicated, because outcomes are all that really matter. For the purposes of legal analysis, however, this is simply wrong. Among other things, corporate law tends to work with state-of-mind categories like good faith, gross negligence, scienter, etc. that are necessarily cognitive in nature. For example, intent or good faith standards might be of use in deterring M&A transactions that are deliberately empire-

[34] *See* Roberto Weber & Colin Camerer, *Cultural Conflict and Merger Failure: An Experimental Approach*, 49 MGMT. SCI. 400 (2003).

[35] *See* Moeller et al., *supra* note 21, at 757-58 & 757 figure 1.

building (the economists' assumption),[36] but not those generated by overconfidence or similar biases that operate out of consciousness. We must know something about the underlying behavior in order to know what categories to use, unless we are prepared to rely on strict liability—a strongly disfavored legal standard given the close judgments and nuances typically involved in business judgments.

Thus we come back to the fourth step described in Part I: the normative choice. There are a number of possible interventions on the bidder's side of the transaction that could respond to concerns about hubris, overconfidence, and the winner's curse, the most obvious being greater shareholder say over acquisition transactions, greater independent director control, more intense disclosure obligations, or more probative judicial review. Those familiar with corporate law know that none of these provide much of a check on value-destruction. Shareholder voting on the acquirer side often is not legally required,[37] and with no approval requirement, both federal and state law disclosure obligations diminish as well. Board approval is required, but without any special role for independent directors (in contrast to conflict of interest transactions, discussed infra). Further, the business judgment rule puts in place a weak rational basis test for judicial review that can almost always be satisfied so long as procedural regularities are followed.[38]

Perhaps, then, corporate law is being psychologically naïve in not trying to do more, although my sense is that disinterest is to blame. After all, there are a number of Delaware corporate law cases in which judges at both the chancery court and supreme court levels have made astute-enough psychological observations to show that they are aware of structural biases and egotistical inferences that can affect high-stakes transactional judgments.[39]

Rather, there are other reasons for what is probably deliberate disregard. One, of course, is that we must have some confidence in the efficacy and cost-effectiveness of the suggested intervention, but these may be questionable for other psychological and economic reasons. For instance, the law could insist on greater independent director control over acquisitions based on the assumption that they are less likely to exhibit overconfidence. However, psychology research offers many reasons to be skeptical of director independence as a cure for bias, most relating to the mix of reciprocity demands, low-powered incentives and informational deficiencies that can produce excessive deference to managerial preference.[40] Greater shareholder approval rights may make sense, but are very costly and introduce uncertainty into the deal-making process. Additionally, a strong theory of rational and constructive shareholder voting behavior is necessary to predict that the benefits will

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[36] *See* Christopher M. Bruner, *Good Faith, State of Mind, and the Outer Boundaries of Director Liability in Corporate Law*, 41 WAKE FOREST L. REV. 1131, 1133-34 (2006).

[37] Robert B. Thompson, *Exit, Liquidity, and Majority Rule: Appraisal's Role in Corporate Law*, 84 GEO. L. J. 1, 7 (1995).

[38] Bruner, *supra* note 36, at 1133-34.

[39] *E.g., In re* Oracle Corp., 824 A.2d 917, 938 (Del. Ch. 2003) (discussing many motivations in judging others: "Delaware law should not be based on a reductionist view of human nature that simplifies human motivations on the lines of the least sophisticated notions of the law and economics movement."); Chesapeake Corp. v. Shore, 771 A.2d 293, 297 (Del. Ch. 2000) (questioning possibly unconscious motivations of directors); *see also infra* note 47.

[40] *E.g.*, Donald C. Langevoort, *The Human Nature of Corporate Boards: Law, Norms, and the Unintended Consequences of Independence and Accountability*, 89 GEO. L.J. 797, 816 (2001); *but see infra* note 44.

outweigh the costs. Given the rise of institutional investors that, when given the opportunity, show some willingness to counter unwise expansion plans by acquirer management,[41] the possibility of rational and constructive shareholder voting behavior is not out of the question. But neither is it self-evident, and for the most part, voting rights are a legislative rather than judicial issue.

Similarly, deference to the business judgment rule has many familiar justifications, even if we accept that psychological biases may exacerbate the problem of value-destroying transactions. The business judgment rule is a rule of abstention that stems from, among other things, judges' lack of confidence in their own second-guessing skills—perhaps even a sense of their own hindsight bias. The rule further stems from the fact that judicial review is labor and resource-intensive if offered by the courts.[42] As discussed in Part I, there is likely some ideological "just deserts" reasoning occurring as well, because shareholders who elect overconfident managers have themselves to blame in some abstract sense, and to the extent that executive overconfidence is, on average, a productive bias, shareholders should internalize the costs of competitive zeal along with the benefits.[43]

In sum, there are significant limits on a judge's ability and willingness to incorporate behavioral insights into M&A law, at least on the acquirer's side. However, by no means does that render this exercise trivial, because corporate law is about more than strategies of judicial or regulatory intervention. The *practice* of corporate law and corporate governance—in which lawyers are centrally involved— requires a great deal of psychological as well as economic astuteness, and the rich body of behavioral M&A research can and should inform how deals are negotiated, structured, and approved, even in the setting of minimal judicial review. As Malmendier and Tate say, well-motivated, independent directors need "to play a more active role in project assessment and selection to counterbalance CEO overconfidence"[44] whether or not the law compels them to. Behavioral research offers a useful assessment of psychological risk from which to structure more intelligent questioning of managers when they aggressively promote a deal. It is not simply a matter of figuring out whether the managers sincerely believe the deal is in the company's best interest, a test which I suspect many naïve directors too readily employ and to which the company's lawyers too willingly acquiesce.

IV. TURNING TO THE SELL-SIDE: CONFLICTS OF INTEREST

The overconfidence and winner's choice literature focuses on value-destroying acquisitions brought on by acquiring company hubris, from which target company shareholders, if not the target company as an entity, presumably benefit.[45] However, at least some of the insights can be transferred to the sell-side with respect to negotiated acquisitions. For example, managerial overconfidence among potential target companies

[41] *See, e.g.*, Alon Brav et al., *Hedge Fund Activism, Corporate Governance, and Firm Performance*, 63 J. FIN. 1729, 1730 (2008).

[42] Bruner, *supra* note 36 at 1134.

[43] Tetlock, *supra* note 8.

[44] Malmendier & Tate, *supra* note 25, at 42. *See also* Adam C. Kolasinski & Xu Li, Do Independent Directors Restrain Overconfident CEOs? 1, 33 (Sept. 2010) (unpulished paper *available at* http://ssrn.com/abstract=1573395) (for evidence that a well structured board does in fact counter executive-level overconfidence).

[45] Roll, *supra* note 22, at 197.

potentially frustrates deals that arguably should be made, and, as Baker, Pan, and Wurgler show in their research, other effects such as disposition, anchoring, and adjustment can influence seller behavior.[46] Negotiated deals that do not happen are, for the most part, insulated from judicial review, however, bringing us back to many of the same normative "fourth step" issues considered above.

But judicial review does intensify on the sell-side in a particular set of M&A transactions: defensive responses to hostile takeover bids under Delaware's *Unocal* and *Revlon* standards,[47] and the entire fairness inquiry under *Weinberger* and its progeny for conflict of interest transactions.[48] While this body of law is much too complicated to dig into deeply here,[49] a few brief observations are necessary.

In these M&A transactions, independent director control and/or shareholder approval are much more significant. As noted above, there may be good psychological justification for this approval, but that is rarely mentioned explicitly in case law or academic literature. The standard explanation for enhanced scrutiny in the takeover context is the fear of disloyalty by target management, and perhaps by target directors, in trying to hold on to jobs and other private benefits of control. In going private transactions, the controlling person's financial interest in freezing out the minority shareholders at a low price is clear, and the assumption is that the interest is strong enough to overwhelm any inclination of independent directors to do right by the minority.

With respect to judicial review, the insight that psychology can offer relates to the subtle, largely unconscious process by which people rationalize a preferred course of action as the right thing to do.[50] Conflicts of interest have a strong effect on corporate decision-making, even when the most obvious sources are removed. In other words, one can remove directly interested directors or shareholders from the deliberative process and still expect a bias in terms of transactional outcomes. Interesting psychological research has shown that "gatekeepers," even statutorily regulated independent auditors, are prone to motivated inference when there are strong client or customer preferences and some "wiggle room" for coming out the preferred way.[51] For purposes of the standard of review, allowing too much discretion—giving independent directors full sway so long as they act in good faith, for example, or within some far-ranging zone of reasonableness—probably leaves too much room for bias.

Here again, the arguments both for and against abstention of the business judgment rule are complicated, and courts may well choose to look the other way rather than to engage in deep inquiries into subjective motivation, even when they recognize the psychological risk.

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[46] Baker et al., *Behavioral Corporate Finance*, *supra* note 13, at 46.

[47] *See* Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946, 958 (Del. 1985); Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc., 506 A.2d 173, 185 (Del. 1986).

[48] *See* Weinberger v. UOP, Inc., 457 A.2d 701, 711 (Del. 1983).

[49] *See, e.g.*, Ronald Gilson, *Unocal Fifteen Years Later (and What We Can Do About It),* 26 DEL. J. CORP. L. 491, 495 (2001). Many have commented on the tensions and uncertainties in the law. *Id.* William T. Allen et al., *Function Over Form: A Reassessment of Standards of Review in Delaware Corporation Law,* 56 BUS. LAW. 1287, 1293 (2001).

[50] This is occasionally remarked upon by the courts. *E.g.*, Paramount Comm. Inc. v. QVC Network Inc., 637 A.2d 34, 50 (Del. 1994) (noting the board's obsessive focus on completing the original deal: "they remained prisoners of their own misconceptions").

[51] *E.g.*, Max Bazerman et al., *Why Good Accountants Do Bad Audits*, HARV. BUS. REV., Nov. 2002, at 96.

Thus the most important message derived from this research applies to those individuals trying to manage the deal process in the shareholders' best interest. Those individuals, including the lawyers, bankers, and accountants, should recognize the pressures driving members of the deal team and be demanding and critical, even when they genuinely believe in doing the deal.

The same can be said with respect to disclosure of conflicts of interest, which may occur in many different contexts, often because legally required. In a well-known psychology article, Daylian Cain, George Loewenstein, and Don Moore offered striking experimental evidence that disclosure of conflicts actually makes opportunism by the discloser *more* likely, because disclosure creates greater moral freedom to so behave because the subject has been warned, and at the same time makes the subject *more* willing to trust, because the act of disclosing is disarming, at least when it appears to be voluntary.[52] Subsequent research questions the strength of these effects, at least where the subject can hold the discloser accountable later on.[53] Nevertheless, the effects of disclosure remain of interest in the transactional setting, because of the pervasiveness of disclosure and the variability in the level of accountability.

Consider, for example, *Minzer v. Keegan*,[54] a Second Circuit case wherein a controlling entity engineered a freeze out merger at a price unpopular with many shareholders. The shareholders nonetheless voted to approve the transaction because the offered price was better than the prevailing distressed market price for their minority stock. The conflicting interest was fully disclosed, but the controlling party neglected to reveal a potentially serious inquiry by a third party who was prepared to pay more. The court held that there was no liability even if the omission was material because the shareholders had no power to compel the majority to consider the alternative bid. Thus, the freeze out price was their only real choice. In other words, there was no causal injury. Regardless of whether the court's decision was correct, one at least has to wonder whether the disclosure of the conflict let the controlling person feel freer to cast fiduciary obligations aside, or whether shareholders were lulled into thinking that the transaction was being handled responsibly, in part, because the adverse interest disclosure was so clear.

V. CONCLUSION

Research in psychology and behavioral economics sheds interesting, sometimes disturbing, light on the processes by which M&A transactions occur. Of course, the findings are not limited to M&A. The same research has identified other corporate finance contexts in which similar effects are observed. With respect to the recent financial crisis, for example, one can easily see how hubris and excessive optimism can lead down the slippery slopes to both excessive risk-taking and concealment of those risks from investors, such that the

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[52] Daylian Cain et al., *The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest*, 34 J. LEGAL STUD. 1 (2005).

[53] *See* Brian Church & Xi Kuang, *Conflicts of Interest, Disclosure, and (Costly) Sanctions: Experimental Evidence*, 38 J. LEGAL STUD. 505 (2009); *see also* Christopher Koch & Carsten Schmidt, *Disclosing Conflicts of Interest—Do Experience and Reputation Matter?*, 35 ACCT. ORG. & SOC'Y 95 (Jan. 2010).

[54] *See* Minzer v. Keegan, 218 F.3d 144, 150 (2d Cir. 2000).

insiders themselves may, at least for a time, be blinded to reality.[55] Categories such as bad faith and scienter may be very poor fits for these kinds of situations, too.

As I emphasized, there are limits on courts' and regulators' ability or willingness to confront the highly contingent, situational nature of officer or director inference and decision-making. But we can at least hope that they will accept the main insight from the behavioral literature, that rationality in corporate judgment cannot be presumed, and often fails. Beyond that, the greatest use for this research is mainly for participants in the transactional process itself, who very much need to better understand not only that human nature poses a risk to the deal, but how, why, and under what circumstances there is reason to worry.[56]

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[55] *See* Donald C. Langevoort, *Chasing the Greased Pig: A Gatekeeper's Guide to the Psychology, Culture and Ethics of Risk-taking in Financial Services*, CORNELL L. REV. (forthcoming, 2011) (manuscript at 2-3, *available at* http://sssrn.com/abstract=1639138); *see also* Malcolm Gladwell, *Cocksure: Banks, Battles, and the Psychology of Overconfidence*, NEW YORKER, July 27, 2009, at 24.

[56] An excellent resource is PAUL BREST & LINDA HAMILTON KRIEGER, PROBLEM SOLVING, DECISION MAKING, AND PROFESSIONAL JUDGMENT: A GUIDE FOR LAWYERS AND POLICYMAKERS (2010).