# SECURITIES REGULATION IN AN ELECTRONIC AGE: THE IMPACT OF COGNITIVE PSYCHOLOGY

ROBERT B. THOMPSON*

The *Book of Common Prayer* has been in use since 1549 in the Church of England and its offshoot in the United States. The replacement of the 1928 American version at the beginning of the last decade was cause for great consternation in some circles and doubt as to its need: Was the King James version of prayers replaced because no one still speaks the King James English or did the changes reflect a different understanding of reconciliation and forgiveness and other core doctrines of religious faith? Similar questions could be raised about the effect of electronic technology on securities regulation: Are the changes from paper to electronic data display only a change in our method of communication? Or do these changes reflect a different understanding of core doctrine as to the protection of investors in securities transactions?

There is no doubt that we are experiencing a change in the delivery of information about securities more dramatic than anything seen since the enactment of the federal securities laws or even since securities were first widely traded in the 17th century.[1] Yet, it is hard to find in the papers of this conference any call that these technological changes are going to radically upset the traditional ways of doing things or create a different paradigm.[2] But I think the case can be made that we are moving to a different and richer understanding of what should motivate securities regulation, a change that parallels the emergence of the influence of economics on securities regulation over the last twenty years. In 1984, for example, on the fiftieth anniversary of the enactment of the federal securities law, papers published in the *Virginia Law Review* illustrated the impact of economic theory on securities

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* George Alexander Madill Professor of Law, Washington University. I thank Paul Mahoney for his comments.

1. See STUART BANNER, ANGLO-AMERICAN SECURITIES REGULATION: CULTURAL AND POLITICAL ROOTS, 1690-1860 (forthcoming 1998) for a discussion of early securities regulation.

2. Consider Paul Mahoney's acknowledgment that technology will have very little effect on the things that matter most for securities regulation in *Technology, Property Rights in Information and Securities Regulation*, 75 WASH. U. L.Q. 815 (1997), or Lynn Stout's concern that the changes of technology will have a negative effect on investor welfare in *Technology, Transaction Costs and Investor Welfare: Is a Motley Fool Born Every Minute?* 75 WASH. U. L.Q. 791 (1997).

regulation.[3] There the question of mandatory disclosure was discussed by both proponents and skeptics using the language of traditional economics to explain the incentives for actions and the need, if any, for regulation.[4] While that paradigm continues to frame the securities debate,[5] there are also elements of a newer paradigm—how cognitive psychology will shape the economics that affects securities regulation (and corporate law as well). At the most recent meeting of the Association of American Law Schools, Cass Sunstein described this new paradigm in suggesting that Kahneman, Tversky, and Thaler and their work on behavioral heuristics[6] will be as well known to law students of the next generation as the transaction cost economists have become known to the most recent generation of law students.[7]

## I. THE IMPACT OF FRAMING AND RELATED CONCEPTS ON SECURITIES LAW

Neo-classical economics and the simplifying assumptions that it employs produce a model with one equilibrium, as in the capital assets pricing model, which suggests one price will result from the operation of efficient markets.[8]

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3. *See Fifty Years of Federal Securities Regulation: Symposium on Contemporary Problems in Securities Regulation*, 70 VA. L. REV. 545 (1984).

4. See generally Easterbrook and Fischel's use of interest group theory to explain much of the continued support for securities regulation. Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669 (1984). Also note Coffee's justification of mandatory disclosure on the basis of information as a public good and minimizing waste. John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717, 723-37, 751-53 (1984).

5. *See, e.g.*, Donald C. Langevoort, *Toward More Effective Risk Disclosure for Technology-Enhanced Investing*, 75 WASH. U. L.Q. 753, 760 (1997) (discussing management's incentives to conceal bad news).

6. *See, e.g.*, JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (Daniel Kahneman et al. eds., 1982); RICHARD H. THALER, QUASI RATIONAL ECONOMICS (1991); Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263 (1979). *But see* Gerd Gigerenzer, *How to Make Cognitive Illusions Disappear: Beyond "Heuristics and Biases,"* 2 EUR. REV. OF SOC. PSYCHOLOGY 84 (1991) (reviewing serious "shortcoming" of the "heuristics and biases" program).

7. *See* Transcript of Section of Law and Economics, Ass'n of American Law Schools Annual Meeting (Jan. 1997) (transcript on file with author). Donald Langevoort has been in the vanguard in considering the effect of psychology on corporate and securities law. In addition to the symposium article discussed in this commentary, Langevoort, *supra* note 5, see Donald C. Langevoort, *Ego, Human Behavior, and Law*, 81 VA. L. REV. 853 (1995) [hereinafter Langevoort, *Ego*]; Donald C. Langevoort, *Theories, Assumptions, and Securities Regulation: Market Efficiency Revisited*, 140 U. PA. L. REV. 851 (1992).

8. *See* RONALD J. GILSON & BERNARD S. BLACK, THE LAW AND FINANCE OF CORPORATE ACQUISITIONS ch. 4 (2d ed. 1995).

Those who are uncomfortable with the descriptive power of the model to explain enough real world situations have challenged it from more than one direction. Path dependency suggests multiple equilibria are possible with the eventual outcome depending in part on chance as well as fundamental economic factors underlying the decision.[9] More broadly, such challenges may come from chaos theory or complexity theory.[10] Cognitive psychology does not necessarily require choosing between these models, either one equilibrium resting mostly on the market or a rejection of all this and chaos. Rather, it suggests there are predictable ways in which real world outcomes depart from what would be predicted by the traditional economic models, that behavioral heuristics can help us understand the direction these departures take.

The endowment effect is one of the most discussed of these heuristics. A person must be paid more to give up something than that person would pay to purchase the same object; even if two projects will leave the person at the same financial position at the conclusion of the projects, the one with opportunity costs (foregone gains) will be valued more highly than if the same costs were out of pocket. Another example which I think has application to corporate law is the ultimatum game where one player is asked to propose a division of money between the first player and another player. The recipient may either accept or reject. If rejected, both players receive nothing. The game's theoretic solution is that the first player should offer the second a token payment and the recipient should accept it. Actual results are different than this model would suggest, with most players offering more than a token and many offering an equal split.[11] This resistance to unfair allocations and a willingness to pay to avoid them has implications for rules

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9. Examples include different methods of cooling nuclear reactors, Beta vs. VHS Systems for VCR technology, and the arrangement of a typewriter keyboard. *See* W. Brian Arthur, *Positive Feedback in the Economy*, SCI. AM., Feb. 1990, at 92. *But see* S.J. Liebowitz & Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, J. ECON. PERSP., Spring 1994, at 133, 146-49 (challenging the Beta/VHS and QWERTY keyboard examples).

10. For information on chaos theory and complexity theory see, e.g., JAMES GLEICK, CHAOS: MAKING A NEW SCIENCE (1987) and SANTA FE INSTITUTE STUDIES IN THE SCIENCES OF COMPLEXITY, THE ECONOMY AS AN EVOLVING COMPLEX SYSTEM (Phillip W. Anderson et al. eds., 1988). *See generally* J.B. Ruhl, *The Fitness of Law: Using Complexity Theory to Describe the Evolution of Law and Society and Its Practical Meaning for Democracy*, 49 VAND. L. REV. 1407 (1996).

11. *See* Richard H. Thaler, *Anomalies: The Ultimatum Game*, J. ECON. PERSP., Fall 1988, at 195, 205 ("[N]otions of fairness can play a significant role in determining the outcomes of negotiations. However, a concern for fairness does not preclude other factors, even greed, from affecting behavior."(footnote omitted)).

of corporate and securities law.[12]

*Framing* is the buzz word of this approach; it is as ubiquitous as *path dependency* was a couple of years ago.[13] Langevoort gives an example of how framing can affect our approach to securities regulation. He observes an extension of the endowment effect: People faced with a choice between two losses react differently than people faced with a choice between a gain and a loss; [14] they use different short cuts when faced with this dual possibility of loss and increase their tolerance for risk.[15] Langevoort suggests that they begin to rationalize the aggressive pursuit of gain.[16]

What would securities regulation look like if framing and other heuristics were more clearly understood? I suppose it would be to require something like the Surgeon General's warnings on cigarette ads: "Securities are often marketed to put you in a loss frame, emphasizing fear of missed opportunity, thereby increasing your tolerance for risk." Or, "Stress and fear of regret can lead to greater willingness to rely on others, such as brokers who may have self-interest in your transaction." The framing concept is not new to securities regulation. Consider these examples:

*Dilution*—The SEC has long been concerned about the extent to which purchasers in a new issue would receive shares with a book value less than the purchase price because of the size of the block of shares retained by the promoters who acquired their shares at a substantially lower price. For many years, the SEC had Guides that required the use of pie charts and bar graphs to illustrate the percentage of equity retained by the promoter and the percentage being sold to the public.[17] These artistic requirements have since been relaxed and folded into Regulation S-K; but the concern remains about the need to use disclosure to emphasize factors investors are more inclined to

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12. For example, valuation rules may be different in a cash-out merger than in an acquisition of a control share.

13. *See generally* Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Rationality of Choice*, 211 SCI. 453 (1981).

14. *See* Langevoort, *supra* note 5, at 759.

15. One such example is "the break-even effect," a gambler's willingness at a race track to take a risk at the end of the day that will get the gambler back to even for the day. *See generally* Kahneman & Tversky, *supra* note 6; Richard H. Thaler & Eric J. Johnson, *Gambling with the House Money and Trying to Break Even: The Effect of Prior Outcomes on Risky Choice*, 36 MGMT. SCI. 643 (1990).

16. *See* Langevoort, *supra* note 5, at 759.

17. *See, e.g.*, No. 6 of the Guides for Preparation and Filing of Registration Statements in Notice of Adoption of Amendments to Registration Guides to Improve Readability of Prospectuses, Sec. Act Release No. 5278 [1972-73 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 78,888 (July 26, 1972). *See generally* Universal Camera Corp., 19 S.E.C. 648 (1945) (criticizing lack of disclosure of the proposed offering price and the book value of the shares to be offered).

overlook.[18]

*"Bounce Back" Damage Limitation to Counter Market Panic*—The limitations of damage provision inserted by the Private Securities Litigation Reform Act of 1995[19] seeks to use a "bounce back" period that assumes behavioral heuristics at work in the market. The new statute seeks to prevent any distortion in a securities damages award arising from a perceived overreaction of the stock market to sudden information changes about a stock at the time a misrepresentation is corrected.[20]

*Materiality*—The influences of these heuristics will not always be in one direction. The SEC or courts may find, for example, that materiality should reflect the tendency to overestimate the foreseeability of events once one is informed that the event has, in fact, occurred; the result may be to raise the bar as to what alleged misrepresentations are material.[21]

*Quiet Period*—One of the longest-running examples in securities law of responses to behavioral heuristics is the quiet period mandated by the 1933 Securities Act prior to the filing date of a registration for new securities.[22] This ban serves to prevent aggressive issuers and their salespersons from conditioning the market by initially putting out only the more favorable information about the issue that the issuers believe purchasers will then use to

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18. The SEC guides were criticized. *See, e.g.*, Harold Marsh, Jr., Remarks During Panel Discussion of A.B.A. Section of Corporation, Banking and Business Law on New Approaches to Disclosure in Registered Securities Offerings, *in* 28 BUS. LAW. 505, 528 (1973) ("It is impossible to believe that the Commission thinks that it will deter a purchaser from buying stock by drawing him a picture, when he has not been dissuaded in the past by a statement to the same effect in plain English, especially since everyone knows that the reason he buys is because the broker has told him that it is going to be a 'hot issue.'")

19. Private Securities Litigation Reform Act of 1995, sec. 101, § 210, 109 Stat. 737, 743-49 (to be codified at 15 U.S.C. 78u-4).

20. *See id.* § 101, 109 Stat. at 748-49 (not allowing damages to exceed the difference between the purchase price and the mean trading price for the 90 days after the correction). The statute is phrased as a limitation on damages and seems to assume that without the limit the damages would be the difference between the purchase price and the trading price immediately after the correction. If markets "overcorrect" because of decision heuristics, the assumed damage award would be too generous. I have elsewhere criticized this section of the 1995 legislation for its inconsistency in implementing the goals set out in the statement of managers of the Conference Committee. *See* Robert B. Thompson, *"Simplicity and Certainty" in the Measure of Recovery Under Rule 10b-5*, 51 BUS. LAW. 1177 (1996). That inconsistency is separate from whether or not the market overcorrects after a market crash. *See generally* THALER, *supra* note 6, at 239-352.

21. Langevoort discusses what may be a parallel observation. He states the "idea that once lawyers take on a case, they will quickly develop a strong belief in its merits." Langevoort, *Ego*, *supra* note 7, at 862.

22. 15 U.S.C. § 77e(c) (1994) (unlawful to offer to sell any security before a registration statement has been filed). The offer to sell is broadly defined to enforce a quiet period.

frame any less favorable information received subsequently. The policy of the 1933 Act has been to prevent such disclosure prior to the prospective purchasers' receiving the entire story in the legislatively mandated prospectus. More recently, SEC rules have loosened these requirements by permitting "testing the water" for Regulation A offerings.[23] In addition, SEC Chairman Arthur Levitt has proposed shortening the quiet period to a very brief time before the filing of a registration statement and to permit communications during this shortened quiet period if the offering is not mentioned.[24]

*Blocking Scanning of Electronic Data*—A modern variation is Langevoort's suggestion that no scanning be permitted for mandatory securities disclosure available via electronic technology before disclosures about risks have been made to the reader in that format.[25]

The ultimate impact of the learning from cognitive psychology on securities regulation may well turn on how this paradigm fits with traditional economics. More specifically, if efficient markets can correct for such heuristics, or with additional disclosure would correct for such heuristics, the impact of this learning would be small. One example, discussed in the next part, is the federal appellate opinion *Wielgos v. Commonwealth Edison*, holding that certain erroneous predictions of an electric utility were immaterial where the market, in effect, corrected the misleading assumptions.[26] But I think that there are enough examples where framing leads investors to violate simple economic principles that the SEC and the courts would want to recognize it.[27] Certainly there is reason to be cautious

23. 17 C.F.R. § 230.252 (1996).

24. *See* Arthur Levitt, Corporate Finance in the Information Age, Remarks at the Securities Regulation Institute in San Diego, California (Jan. 23, 1997), at 8-9.

25. *See* Langevoort, *supra* note 5, at 765 (arguing that electronic prospectuses should be formatted to make the enhanced risk disclosure as prominent and conspicuous as possible before scanning options are presented).

26. Certainly I run into people regularly who say that their decisions are not affected by rebates (a common example of a sales approach incorporating the endowment effect). Saturn cars, for example, seem to have an effective marketing campaign based on the rejection of the impact of such a heuristic.

27. *See* George Lowenstein et al., *Self-Serving Assessments of Fairness and Pretrial Bargaining*, 22 J. LEGAL STUD. 135, 140 (1993) ("Studies have documented biases in probability judgments that are not eliminated by incentives for accuracy or feedback."(footnote omitted)). *See generally* Thomas Russell & Richard H. Thaler, *The Relevance of Quasi Rationality in Competitive Markets*, *in* THALER, *supra* note 6, at 239, 244 ("In summary, there is a large body of experimental evidence suggesting that humans make judgments and decisions in a way that can be characterized as quasi rational."); JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES, *supra* note 6.

where, as in Regulation A, there typically is no market to correct for these heuristics and where long SEC experience with conditioning the market reinforces the more recent learning from cognitive psychology.

## II. RISK DISCLOSURE AND ANALYSIS

Apart from the theoretical bases that would support additional disclosure of risk, this part examines two more practical aspects of Professor Langevoort's suggestions. First, can the proposal for greater risk disclosure lead to workable guides for such disclosure? Second, how does such an obligation of disclosure fit in with the expectation that truth-telling is the highest good under the federal securities acts?

### *A. Does the Proposal Lead to Workable Guides for Disclosure?*

Professor Langevoort suggests that more disclosure about risk is needed and that technology will support such disclosure. To what extent would it be possible to write a requirement that would produce the desired disclosure? Two widely discussed securities cases illustrate the difficulty in creating workable standards for disclosing risk. The first is the well known case *Beecher v. Able*,[28] which concerned Douglas Aircraft Company's issuance of debentures in 1966.[29] The second is *Wielgos v. Commonwealth Edison Co.*,[30] a more recent case written by Judge Frank Easterbrook.[31] In both cases, the corporations missed badly on predictions.

Douglas was adversely affected by the build-up for the Vietnam war as President Johnson struggled to fund the war without abandoning his "Great Society" domestic programs.[32] The company lost skilled workers and suppliers and did not accurately forecast that these trends would not improve.[33] The company was liable for its erroneous prediction of no substantial losses where that statement was based on an assumption that no substantial improvement was necessary in various adverse conditions

28. 374 F. Supp. 341 (S.D.N.Y. 1974).
29. *Id.*
30. 892 F.2d 509 (7th Cir. 1989).
31. *Id.*
32. *Beecher*, 374 F. Supp. at 350 ("The Vietnam War had resulted in acute shortages of manpower and essential parts.").
33. *Id.*

besetting the Aircraft Division.[34] While the company assumed that some of these problems would be resolved (i.e., that the labor force would stabilize and that the engine supplier would meet its schedule), the court found the prospects of making such improvements to avoid substantial losses were far too uncertain given then current conditions.[35]

In *Wielgos*,[36] nuclear power plant construction was just as much a morass for Commonwealth Edison as Vietnam was for Douglas.[37] Like Douglas, Commonwealth Edison was unsuccessful in predicting the future. It failed to forcast that there was no light at the end of the tunnel of rising nuclear power plant construction costs.[38] However, unlike Douglas, Commonwealth Edison got off.[39] The court observed that Commonwealth Edison was estimating its costs as if nothing would go wrong and nothing unexpected would happen.[40] The court said that those were poor assumptions: "Something always goes wrong, and in the nuclear power business the unexpected is the norm."[41] But the erroneous estimates were excused since the court was willing to understand them as only "projecting forward from past experience rather than trying to predict what new things can go wrong."[42] Of course, by that standard, Douglas would have likely gotten off as well.

Efforts to define a standard for disclosure of risk are unlikely to be satisfied by projecting forward from past experience when past experience is not a good predictor of future value. Similar criticism led to the SEC

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34. *Id.* at 351-52. The company's liability was based on its statement: "While it is not possible to determine when these factors will be corrected, it is expected that they will continue to affect the results of operations for the balance of fiscal 1966. Therefore, it is very likely that net income, if any, for fiscal 1966 will be nominal." *Id.* at 346. After concluding that the statement could be read as a forecast that substantial losses were improbable, the court found "that a reasonable investor could have read the [quoted] passage to mean that no improvement, or at least no substantial improvement, in the various adverse conditions besetting the Aircraft Division . . . would be required in order for the company to avoid more than nominal losses." *Id.* at 354.

35. *Id.* at 352.

36. Wielgos v. Commonwealth Edison Co., 892 F.2d 509 (7th Cir. 1989).

37. *Id.*

38. *Id.* at 510-12. The company had sold securities using construction estimates that were nine months old. *Id.* at 512. Shortly after the securities were sold, the company, through its regular internal process, increased the cost estimate by $330 million and after a federal agency panel took the unprecedented step of denying a license (an action which was later reversed) the company added another $100 million to the costs. *Id.* at 510, 512.

39. *Id.* at 515-16.

40. *Id.* at 515.

41. *Id.*

42. *Id.*

abandoning its standing objection to projections in registration statements.[43] To promote disclosure of what new things can go wrong, affirmative disclosure obligations along the lines of Langevoort's risk discussion and analysis will be necessary.[44]

The drafting of such a risk disclosure requirement must not overlook an essential point that is sometimes submerged in discussion of current disclosure policy. The movement of the last thirty years toward integrated disclosure does not mean that disclosure requirements and liabilities will be the same for transactions traditionally covered by the 1933 Act and most transactions in the secondary market. In a typical 1933 Act context, the issuer directly receives the benefit of any misstatement in the form of a better price, which is unlike a typical 1934 Act setting, in which any gain that may accrue from a misleading statement goes to another trader in the market, who will not contribute to any settlement. In a 1933 Act context, the natural economic incentives of a seller to puff coincide with an optimistic bias that, as Langevoort has suggested, might be hard-wired in many humans.[45] There is an arguable basis for tilting disclosure policy toward making sure that the disclosure sufficiently includes negative statements.

In addition, a disclosure policy has to define the range within which the market can substitute for such disclosure. Judge Easterbrook in *Wielgos* relies on the market to see through the rose-colored glasses of Commonwealth Edison, and so would require disclosure of firm-specific risks, not those visible in the broader economy.[46] However, the learning from cognitive psychology would suggest that the ability of the market to replace disclosure may not be as great as the *Wielgos* opinion assumes.[47] And in a 1933 Act setting there is still greater reason to hold issuers to mandatory disclosure.[48]

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43. *See* Homer Kripke, *The SEC, the Accountants, Some Myths and Some Realities*, 45 N.Y.U. L. REV. 1151, 1197-98 (1970) (criticizing as "nonsense" efforts to ban prophesies from registration statements: "It is quite evident that members of the financial community determine the value of a security by the capitalization of projected future income. Thus, these projections are the ultimate purpose of all disclosure, including particularly the financial disclosure.").

44. *See generally*, Langevoort, *supra* note 5.

45. *Id.* at 759. *But see* JASON M. SATTERFIELD ET AL., LAW SCHOOL PERFORMANCE PREDICTED BY EXPLANATORY STYLE IN BEHAVIORAL SCIENCES AND THE LAW (forthcoming) (finding that law students who made stable, global, and internal attributions for negative events—and converse attributions for success—outperformed more optimistic students on measures of grade point average and law journal success).

46. *Wielgos*, 892 F.2d at 515-16.

47. *See supra* notes 36-42 and accompanying text.

48. Where there is no market for a corporation's shares, there is, of course, a stronger argument for mandatory disclosure.

### *B. Truth-Telling as the Highest Good*

To the extent that risk disclosure and analysis requires more of issuers than prior practices, it will put additional pressure on another unresolved point of securities law: the extent to which disclosure is cast in absolute terms of providing investors with all material information. As Langevoort notes, many SEC actions permit, if not implicitly endorse, withholding of information for at least some period of time. Yet the Commission (and commentators) are reluctant to acknowledge that truth-telling is not the highest good of disclosure regulation.[49] The case for truth-telling as the touchstone is easy to make and, as many teachers will testify, students are quick to conclude that the securities laws require disclosure of all material information. In *Basic Inc. v. Levinson*,[50] for example, Justice Blackmun's opinion for the Supreme Court boldly states,

> Disclosure, and not paternalistic withholding of accurate information, is the policy chosen and expressed by Congress. We have recognized time and again, a "fundamental purpose" of the various Securities Acts, "was to substitute a philosophy of full disclosure for the philosophy of *caveat emptor* and thus to achieve a high standard of business ethics in the securities industry."[51]

This, in turn, echoes Louis Loss's description of the "recurrent theme" of the federal acts: "disclosure, again disclosure, and still more disclosure."[52] But the reality is less neat. Disclosure is required not in absolute language, but only if certain triggers occur:

—quarterly or other periodic disclosure,[53]
—proxy solicitation,[54]
—distribution of securities,[55]
—tender offers,[56]
—going private,[57]

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49. Langevoort, *supra* note 5, at 770.
50. Basic Inc. v. Levinson, 485 U.S. 224 (1988).
51. *Id.* at 234 (quoting *S.E.C. v. Capital Gains Research Bureau, Inc.*, 375 U.S. 180, 186 (1963)).
52. 1 LOUIS LOSS, SECURITIES REGULATION 21 (1961); *see also* 1 LOUIS LOSS & JOEL SELIGMAN, SECURITIES REGULATION 27 (3d ed. 1989).
53. 15 U.S.C. § 78m(a) (1994).
54. *Id.* § 78n(a).
55. *Id.* § 77e.
56. *Id.* § 78n(d).

—insider trading.[58]

Even this lengthy list leaves significant gaps that are hard to square with truth-telling as the highest good. There are times when an issuer has material information but does not have to disclose it. And the same Supreme Court opinion that suggests a broad duty to disclose recognizes this limitation; that is, if you take time to read the footnotes of the opinion: "Silence, absent a duty to disclose, is not misleading under Rule 10b-5."[59] The duty to update and duty to correct occupy some of this space, but the Supreme Court has not embraced these duties and lower courts differ on how far they will go.[60] Consistent with the arguments made earlier in this commentary, regulation should be more likely, in the form of a duty to update, in the context of a 1933 Act transaction and/or when behavioral heuristics suggest that investors are particularly vulnerable. Thus, when economic incentives coincide with behavioral heuristics, we should expect to see more in the way of duty to update.

Truth-telling sometimes yields to property rights in information and sometimes is excused because of the saving effect of the market. In contrast, the economic incentives of the tellers and the behavioral heuristics of the receivers can increase the severity of the mandate for truth-telling. Cognitive psychology with economics provides a richer texture for defining such mandated disclosure obligations.

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57. *Id.* § 78m(e).
58. *Id.* § 78p.
59. *Levinson*, 485 U.S. at 239 n.17.
60. The case law is discussed in Langevoort, *supra* note 5, at 767-69.