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FRAUDULENT CORPORATE SIGNALS: CONDUCT AS SECURITIES FRAUD

MANUEL A. UTSET*

Abstract: Paying a dividend, repurchasing shares, underpricing an initial public offering, pledging collateral, and borrowing using short-term, instead of long-term debt, are all forms of corporate communications. They are “corporate signals” that tell investors certain things about a company’s operations and current financial position, and about the managers’ confidence in its future performance. This Article provides the first comprehensive analysis of the relationship between corporate signals and securities fraud. The incentive to communicate using corporate signals has increased in recent years, a phenomenon that, I argue, is due to the growing complexity of public corporations, and, importantly, to a number of changes in federal securities laws aimed at better deterring fraud and making companies more transparent. The Article makes three major contributions. First, it identifies this deep connection between the use of corporate signals (both truthful and deceptive) and recent changes in securities laws. Second, it identifies significant social costs associated with corporate signaling, which commentators and policymakers have overlooked: signals can encourage stock bubbles, create costly “signaling races,” and lead to the loss of information about companies and industries. Third, it provides a normative account of how a lawmaker could design antifraud provisions under the securities laws in order to reduce total fraud, instead of simply rechanneling deceptive practices from the realm of written and oral statements to that of deceptive corporate signals.

INTRODUCTION

The managers of public corporations have great, although not complete, control over corporate communications. They control when, and how, company-specific, nonpublic information is released to investors. When managers file disclosure documents with the Securities and Exchange Commission (SEC) and make certain oral statements, they subject themselves and their companies to the requirements and penalties of the Securities Exchange Act of 1934 (“the 1934 Act”),¹ and, in

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¹ Securities Exchange Act of 1934, 48 Stat. 881 (codified at 15 U.S.C.A. §§ 78a–78pp (West, Westlaw through P.L. 112-158)).

the case of a public offering, the Securities Act of 1933 (“the 1933 Act”).² Oral and written statements are the most common, and best understood, type of corporate communication, but they are not the only type. Investors also learn by watching: by observing and interpreting the things that companies and their managers do. Knowing this, managers will not only choose their actions carefully, but will also highlight those that they want investors to notice. Paying a dividend, repurchasing shares, underpricing an initial public offering (IPO), pledging collateral, and borrowing using short-term instead of long-term debt, are all forms of corporate communications. These communications are “corporate signals” that tell investors certain things about a company’s operations and current financial position, and about the manager’s confidence in the company’s prospects. During the 1970s and 1980s, each of these corporate signals was carefully analyzed by economists and legal commentators,³ who theorized that “good” managers and companies will often resort to corporate signals to try to distinguish (or “separate” themselves) from “bad” managers and companies.⁴ If taken seriously as a positive account of the way that signals are used within corporate contexts, this standard signaling theory is, at best, incomplete, and, at worst, inaccurate.⁵

In this Article, I argue that managers do use corporate signals as a form of communication, but they do so, in many instances, for different reasons from the ones set forth in the signaling literature. Rational managers will craft corporate communications strategically; they will settle on the message that they want investors to hear and will combine words and actions, and truths and deceptions, to get that message across. In short, managers can commit fraud using deceptive signals,

² Securities Act of 1933, 48 Stat. 74 (codified at 15 U.S.C.A. §§ 77a–77aa (West, Westlaw through P.L. 112-142)).

³ See *infra* notes 25–78 and accompanying text (summarizing the economic and legal literature on signaling, in the context of corporate and securities laws).

⁴ See *infra* notes 35–91 and accompanying text.

⁵ See *infra* notes 79–87 and accompanying text (discussing the limitations of standard signaling theories given evidence from empirical studies). This standard signaling theory has also overlooked some important corporate signals, such as executive compensation decisions. This Article is part of a larger project examining the role of corporate signals in various areas of corporate governance, including executive compensation and state corporate law. See Manuel A. Utset, *Deceptive Signals, Executive Compensation, and Real-Time Corporate Governance* (June 2012) (unpublished manuscript) (on file with author). The larger project develops a theory of executive compensation in which compensation decisions are analyzed as corporate signals, and analyzes the use of compensation packages to send deceptive signals, both of which help explain why managers in poorly performing companies get pay increases (including more options) and why increased disclosure requirements on executive compensation has made matters worse). *Id.*

and not just through their oral and written statements.⁶ The incentive to communicate using corporate signals has increased in recent years, a phenomenon that is due to the growing complexity of public corporations.⁷ Counterintuitively, this trend is also due to a number of changes in federal securities laws aimed at making companies more transparent and deterring fraud. In order to reduce the total amount of fraud, Congress and the SEC need to take a holistic approach, adopting legal rules that simultaneously deal with deceptive verbal statements and deceptive signals. But there is an additional reason why a comprehensive analysis of corporate signaling, like the one offered in this Article, is needed: the growing use of deceptive *and* truthful corporate signals has created a number of social costs, including fueling stock bubbles, which have been overlooked by commentators and policymakers.⁸

Part I summarizes the standard account of corporate signals and examines some of its empirical and theoretical limitations.⁹ Part II describes the incentives and techniques available to managers to compose corporate communications strategically.¹⁰ It analyzes the practices of message arbitrage (combining signals and verbal statements to reduce their impact) and message magnification (combining different types of statements to magnify their effect or salience).¹¹ Part II ends by arguing that modern Chief Executive Officers (CEOs), who are hired (in part) for their ability to craft corporate messages to manage the beliefs of

⁶ Although some commentators have mentioned the possibility of fraudulent or false signals, they have either concluded that it is unlikely that companies will resort to using them extensively, or have examined them only briefly. See Paul Asquith & David W. Mullins, Jr., *Signalling with Dividends, Stock Repurchases, and Equity Issues*, 15 FIN. MGMT. 27, 35 (1986) (stating that although “false signaling” is a possibility and may “mislead the market for a short time,” managers are deterred from doing so extensively by the market, whose “vengeance”—even if delayed—“should be unavoidable”); Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 VA. L. REV. 945, 991 n.173 (1991) (mentioning the possibility of low-value companies using false signals); Victor Brudney, *Dividends, Discretion, and Disclosure*, 66 VA. L. REV. 85, 112–14 (1980) (arguing that dividends can be vague, confusing, and potentially harmful to shareholders); Daniel R. Fischel, *The Law and Economics of Dividend Policy*, 67 VA. L. REV. 699, 722–25 (1981) (arguing that the efficiency of capital markets and other market constraints, such as the markets for managers and takeovers, prevent corporations from using deceptive or vague dividends systematically); Paul G. Mahoney, *Precaution Costs and the Law of Fraud in Impersonal Markets*, 78 VA. L. REV. 623, 655 (1992) (referring to “fraudulent signals,” but stating that they are poor substitutes for more direct forms of communication, such as press releases).

⁷ See *infra* notes 130–141 and accompanying text.

⁸ See *infra* notes 197–228 and accompanying text.

⁹ See *infra* notes 25–91 and accompanying text.

¹⁰ See *infra* notes 92–142 and accompanying text.

¹¹ See *infra* notes 101–141 and accompanying text.

consumers, competitors, and regulators, will have an incentive to use this same skill to mold the beliefs of investors.¹²

Part III shows that a number of changes in securities laws over the last twenty years have had an unintended effect of leading managers and investors increasingly to rely on corporate signals, managers to communicate with investors, and investors to monitor managers.¹³ When deceptive signals are underenforced, as has been the case historically, a manager set on committing fraud will deceive with signals first, and with written and oral statements only as a last resort.¹⁴ This distortion has been further reinforced by Congress's repeated ratcheting up of sanctions for managers who make false or incomplete written and oral disclosures, and by the growing complexity of disclosure documents.¹⁵ The latter will lead honest managers to turn increasingly to corporate signals. Investors face real-time constraints when deciphering corporate communications, and thus will value signals, which are easier to interpret quickly.¹⁶

Finally, current disclosure rules require SEC filings to describe, often in great detail, the conduct of companies and their managers.¹⁷ Each of these disclosures will produce a corporate signal, which will be salient, if for no other reason than that it is required by law under the threat of civil and criminal sanctions. Commentators and policymakers have overlooked this deep connection between the recent evolution of securities regulation and the increased use of corporate signaling.¹⁸ Identifying and analyzing the existence of this connection helps further our understanding of corporate communications. But, it also has im-

¹² See *infra* note 142 and accompanying text.

¹³ See *infra* notes 143–232 and accompanying text.

¹⁴ See *infra* notes 155–196 and accompanying text.

¹⁵ See Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28, and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)).

¹⁶ In order to make an arbitrage profit, an investor needs to interpret corporate communications and execute trades before others do.

¹⁷ See, e.g., Sarbanes-Oxley Act § 404(a), 15 U.S.C. § 7262(a) (2006) (requiring companies and managers to file annually reports concerning the scope and adequacy of their internal control structures and procedures for financial reporting).

¹⁸ There are a few exceptions, but only regarding the first issue—the relationship between underenforcement and the incentive to use deceptive signals. See Mahoney, *supra* note 6, at 653–55 (arguing that overenforcement of securities laws may lead, in theory, to companies communicating more often through signals, which is a problem because corporate signals are an expensive, coarse form of communication); Asquith & Mullins, *supra* note 6, at 36 (arguing that signals are better tools than verbal disclosures because they allow companies to communicate with investors without disclosing sensitive information to competitors).

portant normative implications. The growing use of corporate signals is not benign—even when the signals are truthful. Part III concludes by showing that corporate signals can increase the likelihood of stock bubbles, wasteful “signaling races,” and the loss of information about companies and whole industries.¹⁹

The arguments developed in Parts II and III underwrite my principal normative claim: that a lawmaker whose goal is to minimize the amount of total securities fraud at the lowest cost possible needs to treat corporate communications holistically, taking into account that managers can commit fraud using both words and signals. Part IV develops this claim.²⁰ It first describes how a lawmaker would go about designing legal rules holistically, including how she would address the shortcomings with current securities regulation identified in Part III.²¹ It then argues that a manager or a company that uses deceptive signals can violate SEC Rule 10b-5.²² Finally, Part IV provides a new interpretation of the most controversial corporate governance provisions of the Sarbanes-Oxley Act of 2002 (“SOX”), using the signaling analysis developed in the Article.²³ Part IV concludes by raising and addressing some possible objections to regulating corporate signals using federal securities laws.²⁴

I. SIGNALING AND CORPORATE FINANCE

When an investor decides to purchase or sell a company’s security, it will not have access to two types of information that would help it to better value that security: (1) inside information, which resides within the company and is under the control of its managers, and (2) market information, which resides in the hands of the company’s competitors and the investor’s own competitors—other traders. This Article focuses on inside information—particularly, how and when it gets revealed to investors, and what investors do with it.²⁵ A corporation communicates

¹⁹ See *infra* notes 197–232 and accompanying text.

²⁰ See *infra* notes 233–357 and accompanying text.

²¹ See *infra* notes 243–284 and accompanying text.

²² 17 C.F.R. § 240.10b-5 (2012); see *infra* notes 285–320 and accompanying text.

²³ Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28, and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)); see *infra* notes 321–351 and accompanying text.

²⁴ See *infra* notes 352–357 and accompanying text.

²⁵ See FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 297–98 (1991) (arguing that sophisticated investors will analyze and properly incorporate information into market price, freeing unsophisticated investors from having to analyze information); Susanna Kim Ripken, *Predictions, Projections, and Pre-*

with third parties by transmitting information through the words and conduct of its authorized agents,²⁶ such as the board of directors,²⁷ executives,²⁸ corporate counsel,²⁹ and accountants.³⁰ These corporate “statements” are distinct from those made by agents acting on their own behalf.³¹ But distinguishing between the two types of statements is

cautions: Conveying Cautionary Warnings in Corporate Forward-Looking Statements, 2005 U. ILL. L. REV. 929, 972–73 (discussing the role of professional traders in analyzing and properly discounting corporate disclosures). *But see* John C. Coffee, Jr., *Understanding Enron: “It’s About the Gatekeepers, Stupid,”* 57 BUS. LAW. 1403, 1404–05 (2002) (arguing that professional gatekeepers, such as securities analysts and auditors, failed to properly “filter, verify and assess [Enron’s] complicated financial information”); Paula J. Dalley, *The Use and Misuse of Disclosure as a Regulatory System*, 34 FLA. ST. U. L. REV. 1089, 1106 (2007) (arguing that advances in technology have encouraged investors to analyze disclosures on their own and rely less on the expertise of professional analysts, which in turn has undermined the overall effectiveness of corporate disclosures).

²⁶ Messages communicated by words are themselves actions, and thus can be used as signals; their structure, context, and timing can all provide a second-order gloss on the underlying verbal message. *See* J.L. AUSTIN, HOW TO DO THINGS WITH WORDS 94–109 (J. O. Urmson & Marina Sbisa eds., 2d ed. 1975) (developing the distinction between utterances that transfer meaning in a usual manner, and performatives: utterances that are themselves a type of action, such as saying “I do” in a marriage ceremony). Legal scholars concerned with the distinction between words and conduct, as applied in areas such as the First Amendment, criminal law, and contracts, have been influenced by British philosopher J.L. Austin’s performatives analysis. *See, e.g.*, KENT GREENAWALT, SPEECH, CRIME, AND THE USES OF LANGUAGE 57–63 (1989) (discussing speech as conduct and developing the concept of situation-altering speech); B. Jessie Hill, *Of Christmas Trees and Corpus Christi: Ceremonial Deism and Change in Meaning Over Time*, 59 DUKE L.J. 705, 733–36 (2010) (discussing Austin’s performatives in the context of the Establishment Clause); Jonathan Yovel, *What Is Contract Law “About”? Speech Act Theory and a Critique of “Skeletal Promises,”* 94 NW. U. L. REV. 937, 939–44 (2000) (discussing promises and other contract law issues while taking into account Austin’s theory of performative language).

²⁷ *See* DEL. CODE ANN. tit. 8, § 141(a) (2009) (stating that corporations “shall be managed by or under the direction of a board of directors”).

²⁸ *See id.* § 142(a) (stating that corporations “shall have such officers with such titles and duties as shall be stated in the bylaws or in a resolution of the board of directors . . . and as may be necessary to enable it to sign instruments and stock certificates”).

²⁹ Because of attorney-client privilege, corporate counsel is more likely to “speak” with actions (signals), such as withdrawing from representing a client, than with words. *See* MODEL RULES OF PROF’L CONDUCT R. 1.16(a) (1983) (requiring a lawyer to withdraw from representing a client to the extent that representation will lead to a violation of the law or of the rules of professional conduct).

³⁰ *See* Securities Exchange Act of 1934 § 13(a), 15 U.S.C.A. § 78m(a) (West, Westlaw through P.L. 112-158) (setting forth periodic reporting requirements, which necessarily involve statements by internal accountants regarding the financial state of the company, for any company issuing securities).

³¹ For example, an executive may sell company shares in her portfolio, which may send a signal about her confidence in the company’s future performance. If the sales trigger application of section 16(a) of the 1934 Act, the executive will have to make those sales public by filing a report with the SEC. It is the publicity of the executive’s action that turns

difficult;³² managers will often have interests that diverge from those of shareholders, and thus the corporation.³³ If the conduct is within a context in which self-dealing is a true possibility, an investor will have to determine the extent to which a manager is engaged in deceptive signaling on her own behalf, and interpret the signal accordingly.³⁴ But, conduct by a manager on the company's behalf will, at a minimum, reveal information about the company. It may also reveal the manager's beliefs about the company's future prospects, but only, of course, to the extent that investors can observe those actions or learn about them, either indirectly through a third party (such as a stock analyst) or directly from the company's disclosure documents. Corporate conduct, therefore, will be the basis of signaling theories.

Section A examines the standard signaling theory and discusses the signals associated with the underpricing of IPOs, dividends, stock repurchases, short-term debt, the pledging of collateral, and the use of third-party certifiers such as underwriters, auditors, and rating agencies. Section B discusses some of the limitations of the standard signaling account.

A. *The Standard Signaling Account*

Signals, according to standard economic theory, are most valuable when words are cheap and conduct is costly.³⁵ Words are cheap when a corporation or manager can lie with impunity, without having to bear

her conduct into a signal on which investors may act. *See* Securities Exchange Act of 1934 § 16(a), 15 U.S.C. § 78p (2006 & Supp. IV 2011).

³² A company and its managers can be seen as part of a "team." When teams engage in joint behavior, third parties will often find it difficult to determine the relative contribution of each team member. *See* Margaret M. Blair & Lynn A. Stout, *A Team Production Theory of Corporate Law*, 85 VA. L. REV. 247, 265–69 (1999) (discussing the problem of providing incentives within teams, given the difficulty of determining the relative contribution of each participant).

³³ *See* ADOLF A. BERLE & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 5–6 (Transaction Publishers 1991) (1932) (describing the separation of ownership and control in a public corporation, in which managers exercise effective control even though the shareholders are the firm's true owners); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 308–10 (1976) (setting forth a general theory that agency costs in firms are due to the informational asymmetry problems between managers and shareholders).

³⁴ *See infra* notes 148–149 and accompanying text (developing the context of deceptive signaling). A manager may also engage in deceptive signaling on behalf of the company.

³⁵ *See* JEAN TIROLE, *THE THEORY OF CORPORATE FINANCE* 249 (2006).

the costs of legal sanctions or loss of reputation.³⁶ In such a world, investors would not be able to tell who is telling the truth and who is lying.³⁷ Signals are cheap when actors can send them at little or no cost. Investors expect that managers of “bad” companies will lie to keep negative information from them, and those of “good” companies will tell the truth and reveal positive information.³⁸ The problem is that investors do not know which type of company they are dealing with.³⁹ When an investor is unsure, it will discount to account for this risk.⁴⁰ If it is willing to pay \$100 for a good company and \$50 for a bad one, it will average it out and offer to pay \$75.⁴¹

Good companies may refuse to sell their securities at this lower price, and if they do sell, they will cross-subsidize the bad companies.⁴²

³⁶ See Bernard S. Black, *The Legal and Institutional Preconditions for Strong Securities Markets*, 48 UCLA L. REV. 781, 786 (2001) (arguing that it is difficult to deliver credible information to investors, particularly for companies that have not yet developed a valuable reputation that they want to preserve); Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253, 281 (2003) (arguing that when companies lie to consumers, the costs of lying, if they materialize at all, are often delayed). Sometimes, increasing the sanctions for a particular offense can have the unintended side effect of encouraging lying and destruction of evidence. See Chris William Sanchirico, *Detection Avoidance*, 81 N.Y.U. L. REV. 1331, 1368–69 (2006).

³⁷ See Janet Cooper Alexander, *Rethinking Damages in Securities Class Actions*, 48 STAN. L. REV. 1487, 1497 (1996) (arguing that misrepresentation and fraud create social costs because they increase the cost of raising capital for honest companies).

³⁸ Even when public companies are subject to mandatory disclosure requirements, managers will have an incentive to lie whenever the expected benefits from lying exceed the expected sanctions, which depend on the level of enforcement by private actors and the SEC. See Samuel W. Buell, *What Is Securities Fraud?*, 61 DUKE L.J. 511, 518 (2011) (stating that securities fraud is likely underenforced); A. Mitchell Polinsky & Steven Shavell, *The Economic Theory of Public Enforcement of Law*, 38 J. ECON. LITERATURE 45, 47 (2000) (arguing that a person will violate the law if and only if the expected utility from doing so, taking into account the expected benefits and possibility of sanctions, exceeds the utility from obeying the law).

³⁹ See TIROLE, *supra* note 35, at 249–50.

⁴⁰ See *id.*

⁴¹ This problem assumes that the investor believes that it is equally likely to draw a good or a bad company. This sort of informational asymmetry problem, arising at the time when parties are thinking about entering into a transaction, is referred to as the adverse selection or “market for lemons” problem. See George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 489–90 (1970) (setting forth the standard treatment of adverse selection problems in the context of used car dealers, which have an informational advantage over potential purchasers of “lemons”).

⁴² See TIROLE, *supra* note 35, at 242–44 (discussing the circumstances under which a good firm will agree to cross-subsidize and those in which it will abandon trying to raise external funds to finance a project). Given the adverse selection problem, when deciding how to finance a project, companies will often resort to a pecking order—first relying on internal financing, then on debt, and finally on equity. Debt is preferred to equity since it has priority. See Stewart C. Myers, *The Capital Structure Puzzle*, 39 J. FIN. 575, 581–82 (1984)

Good companies will, therefore, try to identify expensive signals—courses of action that are too costly for bad companies to undertake.⁴³ If one exists, they will incur the cost of sending the signal, with the expectation that the bad companies will not follow suit; thus, an investor who observes the companies' behavior will be able to tell the good from the bad.⁴⁴ Conversely, if a good company cannot find a suitably expensive signal, it will be pooled with the bad ones and suffer a discount at the hands of investors.

Investors often react positively or negatively to a number of corporate actions that, under standard finance theory, should not lead to any change in the company's market price. One way to explain these investor reactions is to posit that the observed conduct reveals nonpublic information, or equivalently, it is being used by good companies to signal to the market. This is the basic idea behind the signaling theories to which we now turn.

1. Underpricing of Initial Public Offerings

One long-standing puzzle in corporate finance is why IPOs are often underpriced. A company's stock price will often increase significantly on the first day of trading.⁴⁵ Why would a company leave money on the table in this fashion? One explanation is that underpricing acts as a signal of quality.⁴⁶ At the time of an IPO, potential investors know very little about the company, particularly compared to insiders such as founders, employees who own shares, and venture capitalists.⁴⁷ By un-

(laying out the pecking order theory). Thus, all other things being equal, a debt holder who invests in an overvalued firm is harmed less than an equity holder. *See id.*

⁴³ *See* TIROLE, *supra* note 35, at 249.

⁴⁴ *See id.* at 249–50 (arguing that to separate itself effectively from bad companies, a good company must offer investors contractual terms that bad companies would find unappealing); Michael Spence, *Job Market Signaling*, 87 Q.J. ECON. 355, 356–61 (1973) (developing a signaling theory in which separation between good and bad actors requires that the former have a course of action available that is too expensive for the latter to mimic).

⁴⁵ The stock price is often materially underpriced. *See* Alexander Ljungqvist, *IPO Underpricing: A Survey*, in 1 HANDBOOK OF CORPORATE FINANCE: EMPIRICAL CORPORATE FINANCE 375, 378 (B. Espen Eckbo ed., 2007) (stating that since the 1960s, the amount of underpricing—the underpricing discount—has averaged approximately 19%, and reached approximately 40% during the Internet bubble that burst in 2001).

⁴⁶ *See* Mark Grinblatt & Chuan Yang Hwang, *Signalling and the Pricing of New Issues*, 44 J. FIN. 393, 394 (1989) (describing the underpricing signaling model, in which insiders retain some of the shares in their portfolio, and noting that the greater the number of shares retained, the stronger the signal); Ljungqvist, *supra* note 45, at 400–02 (summarizing underpricing signaling theories and empirical studies testing these theories).

⁴⁷ Venture capitalists have access to nonpublic information, and they structure their infusions of capital so that they occur in stages, which allows them to reduce their informa-

derpricing the IPO, a company increases the likelihood that it will need to raise additional funds in the future by issuing debt securities or more equity, which would expose them to further scrutiny.⁴⁸ A good company is not worried about this future scrutiny, but a bad one will want to price its IPO as high as possible and avoid having to tap the capital markets again.⁴⁹ As a result, underpricing can be explained in part as an attempt by good companies to send a credible signal to investors.⁵⁰

Insiders will usually sell some of their shares during the IPO. Insiders of good companies can further reinforce the underpricing signal by selling few of their own shares during the initial offering; this will reveal that they know the offering is underpriced and that they believe the company will continue to perform well, allowing them to cash in later when its value has increased further.⁵¹ Insiders of bad firms, on the other hand, will not underprice the offering because they want to cash in their investment before the market discovers the company's poor financial state.⁵²

2. Dividend Payments

Studies of corporate dividend policies have consistently found two things: stock prices go up when companies increase their dividends, and go down when companies decrease their dividends.⁵³ This is puzzling from a purely corporate finance perspective: under Merton H. Miller and Franco Modigliani's dividend irrelevance hypothesis, paying a dividend or changing an existing dividend should have no effect on the company's value, and thus should not affect the price at which its

tional risk. See Anat R. Admati & Paul Pfleiderer, *Robust Financial Contracting and the Role of Venture Capitalists*, 49 J. FIN. 371, 372 (1994) (discussing the role of staged financing in allowing venture capitalists to update information over time); Henry Hansmann & Reinier Kraakman, *Hands-Tying Contracts: Book Publishing, Venture Capital Financing, and Secured Debt*, 8 J.L. ECON. & ORG. 628, 646-47 (1992) (discussing information updating after venture capital investments).

⁴⁸ See Ljungqvist, *supra* note 45, at 400.

⁴⁹ See *id.*

⁵⁰ See *id.*

⁵¹ More generally, one way that entrepreneurs signal to outsiders that they are confident the company will perform well in the future is to continue to hold a large number of shares. See Hayne E. Leland & David H. Pyle, *Informational Asymmetries, Financial Structure, and Financial Intermediation*, 32 J. FIN. 371, 372-77 (1977) (developing a signaling model in which the costs to an entrepreneur from not diversifying holdings can signal his or her level of confidence in the future cash flows of the project being financed).

⁵² See *id.*

⁵³ See Avner Kalay & Michael Lemmon, *Payout Policy*, in 2 HANDBOOK OF CORPORATE FINANCE: EMPIRICAL CORPORATE FINANCE, *supra* note 45, at 3, 36 (summarizing the evidence for market reactions to companies' dividend policies).

shares are traded.⁵⁴ One way to resolve this puzzle is to posit that dividends reveal nonpublic information about the company's current financial condition and its manager's beliefs about its future cash flows. A company's earnings can be paid out as dividends or reinvested in the business.⁵⁵ Paying dividends reduces the amount of free cash flows available to managers to deal with liquidity shocks or to finance new projects; this, in turn, increases the risk that a company will have to forego valuable projects or issue more equity or debt.⁵⁶ A good company (and a good manager) is not worried about the added scrutiny if it is forced to raise additional capital.⁵⁷ There is a second way in which dividends can act as a signal of a company's quality. A good company is more likely to have a steady stream of good projects to finance than a bad one;⁵⁸ if a bad company does not have the funds to finance a valu-

⁵⁴ See Merton H. Miller & Franco Modigliani, *Dividend Policy, Growth and the Valuation of Shares*, 34 J. BUS. 411, 414 (1961); see also Fischel, *supra* note 6, at 701 (explaining the Miller and Modigliani hypothesis).

⁵⁵ Under state corporate law, the board of directors is authorized to declare dividends, but it is not required to do so. See DEL. CODE ANN. tit. 8, §§ 170(a), 173 (2009) (stating that the board of directors is vested with the authority both to declare and to pay dividends); *United States v. Byrum*, 408 U.S. 125, 140–41 (1972) (stating that the board of directors is vested with power to declare dividends at its discretion, and that the board “must balance the expectation of stockholders to reasonable dividends when earned against corporate needs for retention of earnings”); cf. *Dodge v. Ford Motor Co.*, 170 N.W. 668, 685 (Mich. 1919) (holding that the defendant, Ford Motor Company, which had refused to distribute funds to stockholders after accumulating a large surplus, had a “duty to distribute . . . a very large sum of money to stockholders,” and consequently forcing the defendant to pay a dividend). If reinvested, the earnings will produce returns in the future that may be positive or negative. When managers determine whether to reinvest earnings, they will compare the cost of the project in which they are investing with its discounted expected returns. The predicted returns are doubly discounted—to account for the risk that they will not materialize and for the time value of money. Even if these expected returns are positive, shareholders will still prefer a dividend over reinvestment whenever other uses are available for those distributions that will yield a higher expected return, either from other investments or from consumption.

⁵⁶ To avoid negative information from becoming public, a bad company may try to raise funds by selling some of its assets. But this too will bring increased scrutiny from existing investors, as well as those purchasing the assets. Someone purchasing assets from a company in financial distress may worry that the assets are overvalued because the company has underinvested in taking care of them.

⁵⁷ See Sudipto Bhattacharya, *Imperfect Information, Dividend Policy, and “The Bird in the Hand” Fallacy*, 10 BELL J. ECON. 259, 260–63 (1979) (developing a dividend signaling theory in which firms precommit to paying dividends, and in which companies with bad projects are more likely to have negative returns on those projects and incur the costs of raising new capital).

⁵⁸ See Merton H. Miller & Kevin Rock, *Dividend Policy Under Asymmetric Information*, 40 J. FIN. 1031, 1033–37 (1985) (developing a dividend signaling theory in which the relative cost to bad companies of paying dividends is greater because they will have to pass up valuable projects).

able project, when it does materialize, its loss is more momentous than that borne by a good company, which can forego some valuable projects knowing that more are in the pipeline.⁵⁹

3. Stock Repurchases

Companies will sometimes buy back some of their outstanding stock in the open market or by doing a self-tender offer.⁶⁰ From a purely financial perspective, a stock buy-back is equivalent to a dividend: they are both ways of distributing retained earnings to shareholders,⁶¹ and as with dividends, the company's fundamental value does not change.⁶² Nonetheless, when stock repurchases are announced, investors tend to react positively, bidding up the stock price.⁶³ One explanation is that, as with a dividend, stock repurchases act as a signal of quality.⁶⁴ A dividend, however, is a more robust, longer-lived signaling mechanism; once a company starts paying a dividend, reducing or eliminating it will send a strong negative signal to the market.⁶⁵ Stock repurchases, alternatively, are episodic—a company may offer a

⁵⁹ See *id.*

⁶⁰ See Jesse M. Fried, *Insider Signaling and Insider Trading with Repurchase Tender Offers*, 67 U. CHI. L. REV. 421, 427–34 (2000) (describing various ways in which stock repurchases can be carried out and signaling explanations can be attached to each); Kalay & Lemmon, *supra* note 53, at 44 (describing the principal ways of carrying out a stock repurchase: a fixed-price self-tender, a Dutch auction, a negotiated transaction, and a transaction on the open market).

⁶¹ See Lynn A. Stout, *How Efficient Markets Undervalue Stocks: CAPM and ECMH Under Conditions of Uncertainty and Disagreement*, 19 CARDOZO L. REV. 475, 489–90 (1997) (describing dividends as functionally equivalent to stock repurchases, at least from the perspective of distribution of retained earnings to shareholders).

⁶² See *id.*

⁶³ See Robert Comment & Gregg A. Jarrell, *The Relative Signalling Power of Dutch-Auction and Fixed-Price Self-Tender Offers and Open-Market Share Repurchases*, 46 J. FIN. 1243, 1262–63 (1991) (finding abnormal returns of 2.3% around the time of announcement); Theo Vermaelen, *Common Stock Repurchases and Market Signalling: An Empirical Study*, 9 J. FIN. ECON. 139, 150 (1981) (finding that stock repurchases led to abnormal returns of about 3% around the time of announcement).

⁶⁴ See F.H. Buckley, *When the Medium Is the Message: Corporate Buybacks as Signals*, 65 IND. L.J. 493, 516, 537–40 (1990); Larry Y. Dann, *Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders*, 9 J. FIN. ECON. 113, 114 (1981); William J. McNally, *Open Market Stock Repurchase Signaling*, 28 FIN. MGMT. 55, 57–58 (1999).

⁶⁵ See Kalay & Lemmon, *supra* note 53, at 45 (arguing that because of the negative reaction to dividend cuts, dividends commit managers to continue making payouts, thus increasing the robustness of the signal).

buyback one year and never do another one without necessarily sending a negative signal.⁶⁶

4. Borrowing Decisions as Signals

When a company finances its operations using short-term debt, it will have to renew its debt agreements with greater regularity than a company that relies on long-term debt. If a company's debt has a six-month maturity, and, at the end of that period, the company still needs the funds, it will need either to get the lender to rollover the loan or to renegotiate with a new lender.⁶⁷ Managers who want to avoid this periodic scrutiny or are afraid that, due to intervening events, they will not be able to renew the loan, will prefer debt with a longer maturity. Because of this, a good manager can signal her confidence in her own abilities and the company's future prospects by borrowing using short-term debt.⁶⁸

At the time it borrows funds, a company may agree to secure the loan by pledging some of its property as collateral. A lender with a security interest over a company's property can, in the case of a default, foreclose on that interest, take possession of it, and sell it to satisfy all or part of the company's obligations.⁶⁹ A company may pledge equipment, inventory, accounts receivable, securities in its portfolio, and any other property that can be sold if the lender has to exercise its foreclosure rights.⁷⁰ Upon default, the debtor incurs two losses: (1) the actual value of the collateral, and (2) the interruption in its operations from not having use of equipment, inventory, and, in the case of a financial

⁶⁶ See Katherine Pratt, *Deficits and the Dividend Tax Cut: Tax Policy as the Handmaiden of Budget Policy*, 41 GA. L. REV. 503, 524–26 (2007) (distinguishing between dividends that tend to be “sticky” and costly to eliminate from stock repurchases that are episodic or non-recurring).

⁶⁷ If a company's original lender fails to rollover the loan, this will send a negative signal to potential new lenders, who will be afraid that the original lender refused to continue lending because it had private, negative information.

⁶⁸ See George G. Triantis, *Financial Contract Design in the World of Venture Capital*, 68 U. CHI. L. REV. 305, 317 (2001) (describing short-term debt as a signal that insiders are optimistic of the company's future). According to a general economic model, short-term debt signals a manager's confidence that she will be able to renew the debt when it becomes due. See Douglas W. Diamond, *Debt Maturity Structure and Liquidity Risk*, 106 Q.J. ECON. 709, 712–16 (1991); see also TIROLE, *supra* note 35, at 254–57 (describing signaling theory using short-term debt).

⁶⁹ See U.C.C. §§ 9-609, 9-610 (2000) (setting forth a secured party's right to take possession and dispose of collateral after default).

⁷⁰ See *id.* § 9-109 (setting forth the scope of the items that can be included in a security interest).

institution, securities that it can lend to third parties. It is this second-order loss that underwrites the collateral signal; the greater the potential interruption to a debtor's business, the more powerful the signal.⁷¹

5. Certification as a Signal

One way of reducing the informational risk faced by investors is for the company to hire a third party to analyze the company's nonpublic, inside information. This third party can certify, for example, that the company is not overvalued or that its managers are not engaged in fraud or other illegal activities.⁷² Common certifiers include underwriters in public offerings,⁷³ auditors,⁷⁴ outside counsel,⁷⁵ rating agencies,⁷⁶ and venture capitalists.⁷⁷ In order for a certification signal to be

⁷¹ See David Besanko & Anjan V. Thakor, *Competitive Equilibrium in the Credit Market Under Asymmetric Information*, 42 J. ECON. THEORY 167, 169–73, 179 (1987) (developing a theory in which good borrowers use collateral to signal that they are confident in their ability to repay their debt).

⁷² See Stephen Choi, *Market Lessons for Gatekeepers*, 92 Nw. U. L. REV. 916, 924–33 (1998) (setting forth a general theory of “certification intermediaries” who screen for fraud or low-quality investment products for the benefit of third-party investors).

⁷³ See James R. Booth & Richard L. Smith II, *Capital Raising, Underwriting, and the Certification Hypothesis*, 15 J. FIN. ECON. 261, 271–80 (1986) (finding that underwriters serve a certification role regarding the value of securities); Wendy Gerwick Couture, *Price Fraud*, 63 BAYLOR L. REV. 1, 40–41 (2011) (discussing the role of underwriters in certifying the quality of an offering).

⁷⁴ See Randolph P. Beatty & Ivo Welch, *Issuer Expenses and Legal Liability in Initial Public Offerings*, 39 J.L. & ECON. 545, 553 (1996) (discussing the role of an auditor's reputation as a signal to investors during an IPO); Krishnagopal Menon & David D. Williams, *Auditor Credibility and Initial Public Offerings*, 66 ACCT. REV. 313, 314 (1991) (finding that companies doing IPOs choose more prestigious auditors as a way of signaling quality and gaining credibility from investors); Randall S. Thomas et al., *Megafirms*, 80 N.C. L. REV. 115, 157–58 (2001) (discussing large accounting firms' roles in providing a signal of quality for companies doing IPOs, in part due to their deep financial pockets).

⁷⁵ See Geoffrey Miller, *From Club to Market: The Evolving Role of Business Lawyers*, 74 FORDHAM L. REV. 1105, 1132–34 (2005) (discussing the diminishing value of the signal sent by the withdrawal of outside counsel, given industry changes in the way that companies hire and retain outside counsel).

⁷⁶ See Jeffrey Manns, *Rating Risk After the Subprime Mortgage Crisis: A User Fee Approach for Rating Agency Accountability*, 87 N.C. L. REV. 1011, 1036–47 (2009) (discussing rating agencies' role in providing signals of quality and their responsibility for the overvaluation of mortgage-backed securities during the subprime mortgage crisis); Steven L. Schwarcz, *Conflicts and Financial Collapse: The Problem of Secondary-Management Agency Costs*, 26 YALE J. ON REG. 457, 461–62 (2009) (discussing the role of rating agencies in certifying the quality of offerings, and explaining the overreliance on this signal in the context of the recession of 2007).

⁷⁷ See Paul A. Gompers, *Grandstanding in the Venture Capital Industry*, 42 J. FIN. ECON. 133, 134–35 (1996) (discussing the role of certification by venture capitalists); Peggy M. Lee & Sunil Wahal, *Grandstanding, Certification and the Underpricing of Venture Capital Backed*

credible, the certifying party must suffer a loss of reputation or incur legal sanctions if it is negligent, colludes, or engages in other types of self-dealing.⁷⁸

B. *Some Limitations of Standard Signaling Explanations*

The signaling theories discussed in Section A were developed to explain why investors react positively or negatively to corporate conduct that, under standard finance theory, should not reveal any new information, and thus should have no effect on a company's market price. Accordingly, these signals are a way in which managers of good companies reveal nonpublic information to investors. If this is true, then one would expect that companies that routinely send positive signals will produce long-term returns that, on average, exceed those of companies that do not use signals, or send weaker ones. Nevertheless, empirical studies have failed to find strong support for the predictions of signaling theories, particularly with regard to dividends⁷⁹ and the underpricing of IPOs.⁸⁰

A second limitation to the predictions of signaling theories is that the behavior in question can often be explained in multiple ways. For example, IPO underpricing has also been explained as a reaction to other problems: the ability of informed investors to take advantage of

IPOs, 73 J. FIN. ECON. 375, 375–80 (2004) (describing the relationship between venture capital certification and the underpricing of IPOs); William L. Megginson & Kathleen A. Weiss, *Venture Capital Certification in Initial Public Offerings*, 46 J. FIN. 879, 880–83 (1991) (arguing that venture capitalists help certify the quality of a firm at the time of an IPO).

⁷⁸ See TIROLE, *supra* note 35, at 249–51 (developing a general certification model in which good companies hire certifiers to separate themselves from bad companies, and in which certifiers keep a stake in the outcome of projects or put their reputations at stake, as a form of bonding).

⁷⁹ See Shlomo Benartzi et al., *Do Changes in Dividends Signal the Future or the Past?*, 52 J. FIN. 1007, 1028–32 (1997) (finding no long-term relationship between dividends and increases in future earnings that one would expect if good companies were using dividends as signals); Harry DeAngelo et al., *Reversal of Fortune: Dividend Policy and the Disappearance of Sustained Earnings Growth*, 40 J. FIN. ECON. 341, 369–70 (1996) (finding no relationship between dividends and future earnings growth).

⁸⁰ See Narasimhan Jegadeesh et al., *An Empirical Investigation of IPO Returns and Subsequent Equity Offerings*, 34 J. FIN. ECON. 153, 174 (1993) (finding that IPO underpricing does not reveal information that allows good firms to separate themselves from bad ones vis-à-vis the ability to issue additional shares in future offerings); D. Katherine Spiess & Richard H. Pettway, *The IPO and First Seasoned Equity Sale: Issue Proceeds, Owner/Managers' Wealth, and the Underpricing Signal*, 21 J. BANKING & FIN. 967, 979–81 (1997) (finding that insiders typically sell large proportions of their shares at an IPO, which is contrary to the predictions of underpricing signaling theory).

uninformed ones,⁸¹ agency costs involving underwriters,⁸² the need to get potential investors to reveal information to underwriters,⁸³ and the need to attract long-term investors.⁸⁴ Stock repurchases have been explained as a way for managers to manipulate market price so that they can sell their own shares at a higher price.⁸⁵ Dividends have been explained as a way for managers to take advantage of unsophisticated investors,⁸⁶ or, alternatively, as a way to cater to them.⁸⁷

C. Issues Requiring Further Explanation

Even if one were to conclude that corporate signals should not be interpreted in the standard fashion, they still matter for our understanding of corporate communications and securities fraud. Four char-

⁸¹ This can create a “winner’s curse” in which informed investors purchase only when they know that the company is good, whereas uninformed investors purchase in all offerings. See Ljungqvist, *supra* note 45, at 389. The uninformed investors lose out when they buy bad companies, and are partially crowded out by the informed ones when they buy good companies. See Kevin Rock, *Why New Issues Are Underpriced*, 15 J. FIN. ECON. 187, 205–07 (1986) (arguing that underpricing is needed to provide an incentive for uninformed investors to participate in IPOs). In part because of this winner’s curse problem, lead underwriters now allocate shares through a process in which they build a “book” of potential buyers by eliciting information from the buyers about the price that they are willing to pay and the number of shares that they may be willing to buy. See Ljungqvist, *supra* note 45, at 389.

⁸² See David P. Baron & Bengt Holmstrom, *The Investment Banking Contract for New Issues Under Asymmetric Information: Delegation and the Incentive Problem*, 35 J. FIN. 1115, 1115–18 (1980) (discussing the agency problem in the underwriting industry, including underwriters’ incentive to underprice, and various factors that can dull that incentive); Sean J. Griffith, *Spinning and Underpricing: A Legal and Economic Analysis of the Preferential Allocation of Shares in Initial Public Offerings*, 69 BROOK. L. REV. 583, 618–23 (2004) (discussing the agency costs imposed by underwriters in pricing IPOs and allocating shares).

⁸³ See Lawrence M. Benveniste & Paul Spindt, *How Investment Bankers Determine the Offer Price and Allocation of New Issues*, 24 J. FIN. ECON. 343, 343–46 (1989) (setting forth a theory in which underwriters underprice offerings to get sophisticated purchasers, such as institutional investors, to reveal information about how many shares they are willing to purchase at different prices).

⁸⁴ See Edward B. Rock, *Shareholder Eugenics in the Public Corporation*, 97 CORNELL L. REV. 849, 860–63 (2012) (describing the process by which underwriters allocate shares among repeat customers who implicitly promise to hold shares and not flip them, and the need to compensate long-term investors by underpricing stock).

⁸⁵ See Fried, *supra* note 60, at 448 (arguing that, contrary to the predictions of traditional signaling theory, managers will often sell their shares during stock repurchases, which undermines the value of the signal and suggests that managers are engaged in self-dealing).

⁸⁶ See Brudney, *supra* note 6, at 112.

⁸⁷ See Malcolm Baker & Jeffrey Wurgler, *A Catering Theory of Dividends*, 59 J. FIN. 1125, 1127 (2004) [hereinafter *Catering Theory*]; Malcolm Baker & Jeffrey Wurgler, *Appearing and Disappearing Dividends: The Link to Catering Incentives*, 73 J. FIN. ECON. 271, 272–73 (2004).

acteristics of corporate signals require further explanation. First, in determining how to act, managers take seriously the potential that their conduct will reveal some information to investors: they expect investors to decode their behavior and act on it. They expect, for example, that shareholders will most often react positively to an increase in dividends, to stock repurchases, to reducing the maturity of their company's debt, and to subjecting themselves to the ongoing disclosure requirements and penalties of federal securities laws. In the alternative, managers expect that investors will react negatively to a cut in dividends or a revelation that they have violated securities laws.⁸⁸ Second, investors do react to corporate signals, and sophisticated investors know that managers expect them to react. Consequently, managers craft corporate communications to accentuate the positive, play down the negative, and, in bad times, delay as much as possible breaking the bad news to investors.⁸⁹ Third, corporate signals have become a more prominent part of companies' communication arsenals in recent years.⁹⁰ Fourth, companies, at least those in the same industry, compete along a num-

⁸⁸ These negative reactions are themselves signals. In other words, investors use signals to communicate with managers and other investors. A company's stock price, at any one point, is the end result of a series of trades that encapsulates the joint (average) beliefs of the market participants involved in the trades. See F.A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 526 (1945) (arguing that price signals in markets allow parties to transact with each other without having to communicate directly). The market price will thus send a signal to a company's managers about the market's beliefs about the company's value. See *id.* It will also send a signal to other investors, who can now rely on that market price as a good indication of the aggregate beliefs of buyers and sellers in the market. See *Basic Inc. v. Levinson*, 485 U.S. 224, 247 (1988) (concluding that the mechanisms by which information gets incorporated into market price are sufficiently robust such that one may presume that investors have relied on the integrity of the market price). There are other ways in which the actions of one investor can send a signal to another. For example, if an investor sells a large block of stock, other investors will infer from the size of the trade that a large investor is involved—the type of investor that is more likely to have private information about the share's true value. See Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 572–76 (1984) (discussing price decoding in capital markets). The sale therefore sends a signal to the market that the large investor may have acquired negative information about the company, which will lead other investors to sell. See *id.* Of course, market signals can be ambiguous—a seller may have liquidity needs and might be selling the best, most valuable portion of its portfolio to raise funds. See MARKUS K. BRUNNERMEIER, *ASSET PRICING UNDER ASYMMETRIC INFORMATION: BUBBLES, CRASHES, TECHNICAL ANALYSIS, AND HERDING* 28 (2001) (drawing a distinction between traders who sell assets due to private reasons—such as a liquidity need—and those who sell for common reasons, such as private information that the assets are overvalued).

⁸⁹ See *infra* notes 101–141 and accompanying text (explaining how corporations strategically use signals to their advantage).

⁹⁰ See *infra* notes 155–196 and accompanying text (positing that increased disclosure requirements under federal securities laws have caused an increase in the attractiveness and use of signals among corporations in recent years).

ber of dimensions. Managers know this, and know that competitors will monitor and react to their communications with investors (their signals and securities filings).⁹¹ These four characteristics require further explanation, one that fully accounts for the dynamic nature of corporate signals. The rest of this Article begins to develop such an account, placing particular emphasis on the problem of the interaction of securities laws and corporate signals.

II. STRATEGIC USE OF CORPORATE SIGNALS BY MANAGERS

Corporate signals are “statements”: they communicate information about a company’s current operations or financial position, and its managers’ confidence in its future prospects.⁹² A “corporate signal” is created whenever two conditions hold: (1) a manager undertakes one or more actions on behalf of the corporation, or on his own behalf;⁹³ and (2) an interested third party—including investors, competitors, customers, suppliers, and regulators—observes those actions, either directly or indirectly.⁹⁴ All of the signals discussed in Part I fall within

⁹¹ See *supra* notes 35–78 and accompanying text (describing the standard signaling account, including reactions to signals by competitors).

⁹² A raw signal says little; the receiver has to interpret it within a particular context and use a special language and type of semantics that the interpreter will use to attach meanings to the signals it observes. Judges will do the same when interpreting corporate signals. See, e.g., Clark D. Cunningham et al., *Plain Meaning and Hard Cases*, 103 YALE L.J. 1561, 1566–69 (1994) (reviewing LAWRENCE M. SOLAN, *THE LANGUAGE OF JUDGES* (1993)) (arguing that judges utilize linguistics for many difficult cases, particularly those involving ambiguous statutes); Michael S. Moore, *The Need for a Theory of Legal Theories: Assessing Pragmatic Instrumentalism*, 69 CORNELL L. REV. 988, 1006–07 (1984) (reviewing ROBERT SAMUEL SUMMERS, *INSTRUMENTALISM AND AMERICAN LEGAL THEORY* (1982)) (arguing that a theory of law provides a syntax and semantics that needs to be taken into account in interpreting legal texts); Thomas Morawetz, *Law as Experience: Theory and the Internal Aspect of Law*, 52 SMU L. REV. 27, 37–40 (1999) (describing some of the difficulties of characterizing the law as a language).

⁹³ For purposes of this Article, the term “manager” includes executives, such as the CEO, as well as the board of directors. To the extent that a CEO has effective control over the board of directors, this conflation raises little difficulty. In companies in which the board of directors exercises effective control, some corporate signals will be due to the actions of the board and others to the actions of the CEO. The analysis in this Article applies equally to both types of scenarios.

⁹⁴ An investor can observe a corporate or managerial action indirectly when actions are reported by third parties, such as securities analysts, underwriters, or even the SEC. A signal, more generally, is a form of communication between a sender, whose behavior carries an informational message, and a receiver, who observes that behavior and attaches a meaning to it. In his book, *Convention*, the philosopher David Lewis describes a two-sided signaling problem as involving a communicator and an audience, where the communicator uses signals—her actions—to send messages, and the audience is able to decode the signals and extract the messages. See DAVID LEWIS, *CONVENTION: A PHILOSOPHICAL STUDY*

this definition, but they are not the only type of signals; these have been singled out because they are the ones that have received the most attention from commentators. Any observable action can act as a signal, including, for example, building a new plant or shutting one down, purchasing a company or selling a subsidiary, entering or leaving a market, firing the CEO or giving her a pay raise, and expanding or cutting back on research and development. Not all signals are material, in the sense that they elicit a robust reaction from investors.⁹⁵ A manager may send a message to investors that is ignored, overlooked, or misinterpreted.⁹⁶ Similarly, investors may draw inferences from conduct that was not intended to send a message.⁹⁷ Although these two types of communication failures are important, they are the exception. As a result, this Article assumes that managers send signals intentionally and strategically, and that investors extract information from those signals, which they use to make voting and trading decisions, and to interpret, supplement, and verify corporate disclosures.

This Part begins by setting forth a positive account of managers' incentive to compose corporate communications strategically;⁹⁸ they will have an incentive to combine verbal disclosures and corporate signals in a self-serving manner, and to take advantage of the bounded rationality of investors.⁹⁹ This Part then argues that modern CEOs are hired for their ability to compose strategic communications to change the beliefs of customers, competitors, and regulators, and that those same skills are useful in composing strategic communications to change the beliefs of investors.¹⁰⁰

130–41 (1969) (setting forth a signaling model, its use in achieving coordination, and the underlying importance of signals that are considered “conventional”).

⁹⁵ A reaction from investors is evidenced by a movement in the stock price.

⁹⁶ A number of empirical studies have found that investors sometimes delay reacting to news; they are inattentive, or at least not as attentive to corporate communications as the Efficient Capital Market Hypothesis (“ECMH”) predicts. *See, e.g.*, Brad M. Barber & Terrance Odean, *All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors*, 21 REV. FIN. STUD. 785, 787–88 (2008); Stefano DellaVigna & Joshua M. Pollet, *Investor Inattention and Friday Earnings Announcements*, 64 J. FIN. 709, 709–10 (2009). The signaling problems identified in this Article exist whether investors react immediately or in a delayed fashion—both scenarios lead to the same general conclusions.

⁹⁷ *See* Kent D. Daniel et al., *Overconfidence, Arbitrage, and Equilibrium Asset Pricing*, 56 J. FIN. 921, 922–24 (2001) (arguing that overconfidence can lead investors to give too much weight to certain market signals).

⁹⁸ *See infra* notes 101–141 and accompanying text.

⁹⁹ *See infra* notes 101–141 and accompanying text.

¹⁰⁰ *See infra* note 142 and accompanying text.

A. *Composing Corporate Messages Strategically*

Corporate communications carry information that can be used by investors and regulators to hold managers accountable.¹⁰¹ A rational manager, whose aim is to maximize her aggregate utility while employed by the company and afterwards,¹⁰² will want to avoid, or at the very least, delay being held accountable.¹⁰³ To accomplish this, a manager will carefully manage the flow of information to investors,¹⁰⁴ by, among other things, combining verbal and non-verbal statements to produce an “aggregate message” that changes the beliefs of investors¹⁰⁵ in a way calculated to maximize the manager’s inter-temporal utility.¹⁰⁶

¹⁰¹ See Patricia M. Fandt & Gerald R. Ferris, *The Management of Information and Impressions: When Employees Behave Opportunistically*, 45 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 140, 142–45 (1990) (discussing incentives for employees to manipulate and hide information to avoid being held accountable); Robert A. Prentice, *Regulatory Competition in Securities Law: A Dream (That Should Be) Deferred*, 66 OHIO ST. L.J. 1155, 1196–97 (2005) (arguing that one major impediment of foreign companies cross-listing their securities in the United States is that managers would have to disclose more information, and thus be exposed to greater accountability); Joel Seligman, *A Modest Revolution in Corporate Governance*, 80 NOTRE DAME L. REV. 1159, 1160 n.12 (2005) (stating that “[a]ssuring that adequate information is provided to directors remains one of the most critical and difficult problems which boards of directors are facing today”).

¹⁰² A manager cares not only about the returns that they receive while employed by a company, but also about those they will receive when they are employed with another company or after they have retired. See Stephen J. Choi & Eric L. Talley, *Playing Favorites with Shareholders*, 75 S. CAL. L. REV. 271, 273 n.5 (2002) (discussing the role of reputational constraints in limiting a manager’s ability to engage in excessive self-dealing); Robert Gibbons & Kevin J. Murphy, *Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence*, 100 J. POL. ECON. 468, 468–71 (1992) (developing and testing a theory in which managers take into account their career concerns by trying to maximize returns while employed by the firm and afterward).

¹⁰³ Suppose that a company is performing poorly but there is a chance that the manager will be able to turn things around, and thus avoid being held accountable. As long as the potential costs from delay, such as incurring a higher penalty if he cannot turn things around, are less than the expected benefits from delay, which will depend on the likelihood of a turnaround, then the manager will find it valuable to delay. Waiting provides him with a “real option.” See AVINASH DIXIT & ROBERT PINDYCK, INVESTMENT UNDER UNCERTAINTY 10, 39–40 (1994) (describing examples of real option analysis in the context of corporate decisions, such as whether, and when, to build a new plant or close an existing one).

¹⁰⁴ See S.P. Kothari et al., *Do Managers Withhold Bad News?*, 47 J. ACCT. RES. 241, 241–46 (2009) (discussing managers’ incentives to delay disclosing bad news); Benjamin E. Hermalin & Michael S. Weisbach, *Transparency and Corporate Governance* 2–3 (Univ. of Cal. & Nat’l Bureau of Econ. Research, Working Paper No. 12875, 2007), available at <http://www.nber.org/papers/w12875.pdf> (arguing that increasing disclosure requirements exposes managers to more career risk, for which they have to be compensated, and which gives them an incentive to distort information).

¹⁰⁵ Each time nonpublic information gets released to the market, investors will use that information to update their beliefs about the company’s value. See Jonathan R. Macey et al., *Lessons from Financial Economics: Materiality, Reliance, and Extending the Reach of Basic v.*

1. Message Arbitrage and Message Magnification

A manager will often have more than one way of composing a corporate message—combining written disclosures, oral statements, and corporate signals—to change the beliefs of investors in the desired way. In choosing between these equally effective aggregate messages, a manager will take into account the expected costs associated with each: the transaction costs of preparing and sending a message, the expected sanctions under federal securities laws, and the costs from revealing information to competitors.¹⁰⁷ As a general matter, managers will have an incentive to combine verbal disclosures and corporate signals in a way that dulls the impact of negative news (“message arbitrage”),¹⁰⁸ and magnifies the impact of positive news (“message magnification”).¹⁰⁹

One way to engage in message arbitrage is to use a positive corporate signal to dilute the impact of a negative disclosure.¹¹⁰ Suppose that a manager is required by the 1934 Act to disclose information in the annual report that will increase the likelihood of a market correction: the information provides some support for the view that the company is overvalued. To dilute the impact of that message, the manager may de-

Levinson, 77 VA. L. REV. 1017, 1023–24 (1991) (describing the adjustment process that investors go through after receiving new information).

¹⁰⁶ Managers are concerned with both immediate and delayed returns, even though there is some evidence that they tend to give greater weight to smaller immediate returns than to larger future returns that they could have obtained with greater patience. See David I. Walker, *The Challenge of Improving the Long-Term Focus of Executive Pay*, 51 B.C. L. REV. 435, 441–43 (2010) (providing an overview of the literature on managerial myopia). Managers also sometimes cater too much to the current beliefs of investors, which can reinforce their own beliefs and lead to other distortions. See Sendhil Mullainathan & Andrei Shleifer, *Persuasion in Finance* 2–5 (Oct. 2005) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=864686 (finding evidence that financial advertisements take into account current investor sentiment, and cater to it, which can lead to self-reinforcing beliefs and bubbles).

¹⁰⁷ See William K. Sjostrom, Jr., *Carving a New Path to Equity Capital and Share Liquidity*, 50 B.C. L. REV. 639, 645 (2009) (stating that mandatory disclosure rules can provide valuable information to a company’s competitors).

¹⁰⁸ See Sendhil Mullainathan et al., *Coarse Thinking and Persuasion*, 123 Q.J. ECON. 577, 578 (2008) (describing the “transference” technique, in which advertisers lead consumers, who have an existing analogous product or quality in mind, to make a connection or analogy with the product being sold).

¹⁰⁹ See Christopher S. Elmendorf, *Advisory Counterparts to Constitutional Courts*, 56 DUKE L.J. 953, 986 (2007) (describing, in the context of transparency and political accountability for government officials, the importance of paying “close attention to incentives and opportunities for obfuscation, [and] to the packaging and timing of information disclosures”).

¹¹⁰ See Daniel Read et al., *Choice Bracketing*, 19 J. RISK & UNCERTAINTY 171, 172 (1999) (describing “choice bracketing,” a phenomenon in which a decisionmaker may reach different conclusions depending on whether he or she considers pieces of information separately or together).

cide to increase the company's dividend or announce a stock buy-back,¹¹¹ which, as demonstrated in Part I, are actions generally interpreted positively by the market.¹¹² If the manager has to send a negative signal to the market—such as cutting the dividend—it may be able to dilute its impact by disclosing positive information in the annual report. A manager can do so, for example, by disclosing more elaborate financial projections than in the past, or by disclosing good news that he had been withholding lawfully.¹¹³ A manager can also engage in two other forms of message arbitrage: using a positive corporate signal to dull the impact of a negative signal,¹¹⁴ and using a positive disclosure to dilute the impact of a negative disclosure.¹¹⁵

A strategic manager will also make use of message magnification: intensifying the impact of signals or disclosures by sending two or more positive signals, making two or more positive disclosures, or combining positive signals and positive disclosures.¹¹⁶ A company may, for example, combine signals by taking on short-term debt secured with collat-

¹¹¹ A company can be overvalued and still have the necessary cash flows to pay a dividend. This would be the case when the overvaluation is due to anticipated changes in the industry that could negatively affect a company's profitability in a year or two. See Efraim Benmelech et al., *Stock-Based Compensation and CEO (Dis)Incentives*, 125 Q.J. ECON. 1769, 1774–82 (2010) (setting forth a model in which managers hide overvaluation by paying dividends as long as they can—until they run out of cash).

¹¹² See *supra* notes 45–59 and accompanying text.

¹¹³ A manager could have been withholding information lawfully if the information had not yet become material or if it was not otherwise required to be disclosed under the 1934 Act.

¹¹⁴ An example of this would be combining long-term debt with collateral, or combining pre-IPO dividends with pre-IPO underpricing. A recent empirical study found that insiders routinely pay dividends right before an IPO. See Jens Martin & Richard Zeckhauser, *Pre-IPO Dividend Puzzle 8* (Jan. 2010) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1484703. The authors explained this as an attempt by insiders to get some money out of the company instead of selling more of their shares during the IPO, which would have sent an even more negative signal. See *id.*

¹¹⁵ From a static perspective, it would not make sense to dilute good news with bad, except in very rare situations. For example, the manager is disclosing three pieces of information: one is very bad news, another is intermediate bad news, and the third is very good news. A manager may combine the very bad news with the good news, so that the composite message is closer to the intermediate bad news. In other words, by packaging them together, the manager may be able to reduce the variance—the distance between the very bad and very good news. The manager may do this if he believes that investors will not carry out this averaging on their own.

¹¹⁶ See Read et al., *supra* note 110, at 176 (describing the adding-up effect, when the same choices are made repeatedly, whereby even trivial or non-noticeable factors are eventually magnified and made more salient); see also Warren S. Quinn, *The Puzzle of the Self-Torturer*, in *MORALITY AND ACTION* 198, 199 (1993) (describing a similar magnification effect).

eral, or by announcing a stock split at the same time that it declares a dividend that is higher than what the market was expecting.¹¹⁷

A manager who is sufficiently forward-looking will take into account the uncertainty surrounding a company's operations, financial performance, and access to capital, as well as the possibility that she will want to engage in message arbitrage or message magnification when unforeseen contingencies arise.¹¹⁸ Such a manager will have to take into account when the mandatory disclosures and signals will occur, so that they coincide with, or are sufficiently close to, each other.¹¹⁹ A manager may also save some good news for later, instead of disclosing all of it at once. For example, instead of increasing dividends every time the company's cash flows increase, a manager may decide to save some of the cash flows to deal with future contingencies.¹²⁰

2. The Salience of Signals

In order to have its desired effect, a signal needs to be observed by investors.¹²¹ But observation alone is not sufficient. Subtle signals, hidden signals,¹²² and vague signals are all weak signals; effective commu-

¹¹⁷ See H. Kent Baker & Patricia L. Gallagher, *Management's View of Stock Splits*, 9 FIN. MGMT. 73, 73 (1980) (stating that stock splits and increases in dividends often occur in tandem, which helps explain the corresponding price increase from these signals).

¹¹⁸ In other words, a manager will make an intertemporal choice, choosing the best course of action in each period, and taking into account that this will happen again in the following period. See Jon Hanson & David Yosifon, *The Situational Character: A Critical Realist Perspective on the Human Animal*, 93 GEO. L.J. 1, 77–82 (2004) (discussing the utility maximizing approach to intertemporal decision making).

¹¹⁹ If they cannot coincide, a manager will want the signals and disclosures to occur in the right order. See George F. Loewenstein & Drazen Prelec, *Preferences for Sequences of Outcomes*, 100 PSYCHOL. REV. 91, 94–95 (1993) (finding that people have preferences about the order of outcomes, and sometimes prefer to get all bad outcomes out of the way before getting good outcomes, even though this contradicts the standard discounting prediction).

¹²⁰ This is a process known as “smoothing,” which is common in many areas where there are uncertain cash flows. See Brian Galle & Manuel Utset, *Is Cap-and-Trade Fair to the Poor? Short-sighted Households and the Timing of Consumption Taxes*, 79 GEO. WASH. L. REV. 33, 47–52 (2010) (discussing the process of “smoothing” using debt, in the context of intertemporal saving and consumption decisions).

¹²¹ See *Stoneridge Inv. Partners, LLC v. Scientific-Atlanta, Inc.*, 552 U.S. 148, 159 (2008) (stating that, under the fraud-on-the-market doctrine, a plaintiff's reliance on the defendant's deceptive acts is not present when “deceptive acts were not communicated to the public” and “[n]o member of the investing public had knowledge, either actual or presumed, of respondents' deceptive acts during the relevant times”).

¹²² When sellers hide particular attributes of a company or make them less salient, consumers make different buying choices. See Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 506–11 (2006) (discussing the various ways in which businesses hide information from consumers, particularly in the market for goods that require add-ons, such as printer car-

nication requires salience,¹²³ publicity, and precision.¹²⁴ Message magnification is one way to increase the salience of messages.¹²⁵ The more salient a signal, the more likely that investors will incorporate it into their decision making.¹²⁶ The more often a manager uses the same signal, the more entrenched that signal will become in the collective memory of investors, and the more likely that an expectation of continuity will take hold.¹²⁷ In deciding whether to continue sending a positive signal, managers will take such an expectation into account, given that disrupting it will send a salient, negative signal.¹²⁸ This has two implications: first, corporate signals will be most impactful early on, as the expectations of shareholders are being built, and when they are changed or terminated; and second, once a corporation establishes its use of a certain signal, that signal can become path-dependent and sticky.¹²⁹

triges); Brian Galle, *Hidden Taxes*, 87 WASH. U. L. REV. 59, 70–77 (2009) (discussing the different effects of hidden and salient taxes).

¹²³ See Shelley E. Taylor & Suzanne C. Thompson, *Stalking the Elusive “Vividness” Effect*, 89 PSYCHOL. REV. 155, 175 (1982) (defining “salience” as “the phenomenon that when one’s attention is differentially directed to one portion of the environment rather than to others, the information contained in that portion will receive disproportionate weighting in subsequent judgments”).

¹²⁴ See Cass R. Sunstein, Essay, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349, 1354–55, 1411 (2011) (explaining that the most useful disclosure “informs people of what, precisely, they might do in order to avoid significant risks or obtain significant benefits,” and discussing the importance of salience and vividness in making choices).

¹²⁵ See *supra* notes 116–117 and accompanying text.

¹²⁶ See Asquith & Mullins, *supra* note 6, at 35–36 (arguing that signals involving numbers, such as dividends, are easier to use to draw comparisons with other companies).

¹²⁷ See Malcolm Baker & Jeffrey Wurgler, *Dividends as Reference Points: A Behavioral Signaling Approach*, 24–25, 29–32 (Nat’l Bureau of Econ. Research, Working Paper No. 18242, 2012), available at <http://www.nber.org/papers/w18242> (developing and testing a dynamic theory of dividend payments in which the salience of dividends—the fact that they are a number, and that round numbers tend to be used—and their repetition make them more memorable to investors and increase the magnitude of investor reactions to changes in dividends). Additionally, a manager will have an incentive to use multiple signals to the extent that they make the overall message more salient.

¹²⁸ See Alan Brav et al., *Payout Policy in the 21st Century*, 77 J. FIN. ECON. 483, 494 (2005) (revealing a survey of 166 dividend-paying companies, and finding that 93.8% of the surveyed companies “tr[ie]d to avoid reducing dividends per share,” 89.6% “tr[ie]d to maintain a smooth dividend stream from year to year,” and 77.8% were “reluctant to make dividend changes that might have to be reversed in the future”).

¹²⁹ See John Lintner, *Distributions of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes*, 46 AM. ECON. REV. 97, 99 (1956) (finding that dividends are sticky and remain relatively stable, because managers do not increase and decrease them regularly to reflect changes in their companies’ earnings). The stickiness of dividends is one reason that companies sometimes make distributions through stock repurchases instead. See Kalay & Lemmon, *supra* note 53, at 45 (describing the general reluctance of managers to cut

3. Complexity and Bounded Rationality

Modern public corporations are highly complex,¹³⁰ as are their disclosure documents. Investors need to make sense of the operations and financial health of corporations—a process that requires time and cognitive effort. As the time and effort needed to pierce through complexity increase, so does the likelihood that investors will make decisions without taking into account all of the information at their disposal.¹³¹ Such investors exhibit bounded rationality.¹³²

In determining how to craft a corporate message, a manager will take complexity into account. To the extent that he wants investors to get a clear picture quickly, a manager will try to reduce the overall complexity of the message. Corporate signals are generally less complex; the information they carry is easier to extract, interpret, and put to use in making trading and voting decisions.¹³³ A signal may be ambiguous, but, at any one time, a corporate signal will have a fairly stable meaning among investors.¹³⁴ That meaning may change over time: in-

dividends as one reason that they will choose to make distributions using stock repurchases instead of dividends).

¹³⁰ As a general matter, a complex system is “one made up of a large number of parts that have many interactions,” where its complexity will increase whenever, given “the properties of the parts and the laws of their interaction, it is not a trivial matter to infer the properties of the whole.” See HERBERT A. SIMON, *THE SCIENCES OF THE ARTIFICIAL* 183–84, (3d ed. 1996). The human body, for example, has more than 50 trillion cells. See C. VAN AMERONGEN, *THE WAY THINGS WORK: AN ILLUSTRATED ENCYCLOPEDIA OF TECHNOLOGY* 13 (1967). And the Library of Congress has approximately 155.3 million items. See *Fascinating Facts*, LIB. CONGRESS, <http://www.loc.gov/about/facts.html> (last visited Feb. 25, 2013). Yet we can make sense of them in a large number of contexts, because we have a good sense of how the parts fit together.

¹³¹ See Baruch Lev & Meiring de Villiers, *Stock Price Crashes and 10b-5 Damages: A Legal, Economic, and Policy Analysis*, 47 *STAN. L. REV.* 7, 19–20 (1994) (arguing that most investors do not read or carefully analyze disclosures).

¹³² See Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 *STAN. L. REV.* 1471, 1477–78 (1998) (describing bounded rationality as a manifestation of the limited computational power of human beings, which leads them to make decisions based on heuristic methods that diverge from the decisions they would make if they were fully rational).

¹³³ See *supra* notes 121–129 and accompanying text (describing the saliency of signals and how this effect makes them easier to comprehend).

¹³⁴ For example, the market price of a stock is a signal that encapsulates information about the preferences of market actors. Over a day of trading the stock price will change many times, but at any one point in time it is a clear signal of the supply and demand of the stock, and a clear signal of the information that has been incorporated into that price. See Lynn A. Stout, *Are Stock Markets Costly Casinos? Disagreement, Market Failure, and Securities Regulation*, 81 *VA. L. REV.* 611, 652–56 (1995) (describing market price adjustments among traders with different expectations, in which at any one point the equilibrium market price is a stable signal of supply and demand, incorporating the information available, although not necessarily in the way predicted by the ECMH); *supra* note 96 (defining ECMH).

vestors, for example, sometimes value dividends more, and sometimes less.¹³⁵ Furthermore, the credibility and impact of the certification signals of gatekeepers—such as auditors, underwriters, and rating agencies—will vary. Their credibility will be lowest after it is revealed that they have systematically failed in their monitoring tasks, such as after the Enron scandal or during the Great Recession of 2007,¹³⁶ and will increase whenever Congress or the SEC impose more stringent standards, such as after the passage of the Sarbanes-Oxley Act of 2002 (“SOX”) and the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank” Act).¹³⁷ Although a signal’s meaning and clarity may vary over time, one can safely assume that, at any one point in time, managers will have a good sense of how the signal is likely to be received by investors.¹³⁸

If a manager’s goal is to send a message that is relatively easy to interpret and use (one that has low complexity), it will have greater reason to use a corporate signal to the extent that a signal is available that will transmit the desired message.¹³⁹ Because of the mandatory disclosure requirements of federal securities laws, a manager who wants investors to understand a message quickly may have to supplement the verbal disclosure with a salient, easy to understand signal.¹⁴⁰ Similarly, if

¹³⁵ See Baker & Wurgler, *Catering Theory*, *supra* note 87, at 1158–60 (finding that the attractiveness of dividends to investors changes over time and that a manager is more likely to start a dividend program when the market’s value of the dividends is high).

¹³⁶ See Erica Beecher-Monas, *Enron, Epistemology, and Accountability: Regulating in a Global Economy*, 37 IND. L. REV. 141, 141–44 (2003) (stating that financial scandals, particularly the Enron scandal, decreased investor confidence and forced the government to pass serious reforms in the area of corporate governance); Eamonn K. Moran, *Wall Street Meets Main Street: Understanding the Financial Crisis*, 13 N.C. BANKING INST. 5, 40, 51–52 (2009) (describing how investors lost confidence in credit ratings agencies and the internal monitoring mechanisms of investment banks after the economic downturn in 2007).

¹³⁷ See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S. Code); Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28 and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)).

¹³⁸ See William W. Bratton & Michael L. Wachter, *The Case Against Shareholder Empowerment*, 158 U. PA. L. REV. 653, 700–03 (2010) (describing investment decisions by managers, anticipating the potential market reaction to those decisions, and describing the distortions that can occur as a result).

¹³⁹ See Asquith & Mullins, *supra* note 6, at 35–36 (describing the advantage of using signals over verbal disclosures in getting messages across with less risk of confusion).

¹⁴⁰ Using a signal to supplement complex verbal disclosures can help reduce the volatility surrounding verbal disclosures. Because, as a general matter, information released by managers of public companies is quickly incorporated into market price, if a disclosure document is difficult to understand, then it may lead traders to incorporate information incorrectly. This may explain the observed delays in the market reaching a new equilibrium price after the release of new information, and the overreaction and underreaction

the manager wants to reduce transparency and cause investors to delay deciphering and using a piece of information, he will communicate the message using disclosure documents, either alone, or in combination with signals that help obfuscate the verbal disclosure.¹⁴¹

B. *Hiring Good Communicators*

Managers of public corporations are hired because they are good strategic thinkers, problem solvers, and communicators—they can craft crisp messages to motivate their employees, attract customers, and keep competitors guessing. They are also skilled at crafting messages to investors and regulators to delay their being held accountable, to further entrench themselves, and to continue to compensate themselves handsomely, even when they are underperforming.¹⁴² A manager who can communicate effectively using all the means at her disposal will have a competitive advantage over one who is not a good strategic communicator. Over time, one would expect that the managers who rise through the ranks and become CEOs are good at using corporate signals to ward off competitors and controlling when and how they will be held accountable. And one would also expect that they will make use of those signaling skills to better communicate with investors, and, when need be, to deceive them.

III. THE GROWING USE OF CORPORATE SIGNALS: THE ROLE PLAYED BY FEDERAL SECURITIES LAWS, AND THE CONSEQUENCES

Part I described the way that companies and managers use corporate signals, and the standard interpretation that economists and legal

problems discussed in the behavioral finance literature. See Michael Kaestner, *Investors' Misreaction to Unexpected Earnings: Evidence of Simultaneous Overreaction and Underreaction*, 3 ICFAI J. BEHAV. FIN. 1, 2–5 (2006) (finding both short-term underreaction and long-term overreaction by investors after companies announce unexpected changes in earnings).

¹⁴¹ See Stacey R. Kole, *The Complexity of Compensation Contracts*, 43 J. FIN. ECON. 79, 101 (1997) (arguing that as a company's size and complexity increase, so does the discretion of the board of directors over compensation issues, whereas the ability of shareholders to influence compensation policy decreases).

¹⁴² This leads to a perverse result: highly skilled managers will provide the greatest possible return to shareholders if things go well; they will also have the skills to provide the greatest possible loss to shareholders once companies start performing poorly. By symmetry, poorly skilled managers give shareholders a lower average return, but with less risk, and less variance in the returns. This can be important for another reason: a shareholder who is risk averse feels added disutility whenever she has to bear more risk, so if two investments have the same expected returns, a risk-averse actor will prefer the one with the lower variance.

scholars have given to these signals.¹⁴³ This set the stage for the principal argument in Part II: that managers will have an incentive to use corporate signals strategically, either to dilute the impact of verbal disclosures or other signals, or to magnify their salience.¹⁴⁴ This Part begins by providing a precise definition of “deceptive signals.”¹⁴⁵ It then describes the underlying characteristics of corporate signals that can lead companies to engage in costly tit-for-tat signaling.¹⁴⁶ The following Sections set out Part III’s principal positive claim: that a number of changes in federal securities laws over the last twenty years have made corporate signals increasingly attractive as a form of communication, and that this, in turn, has had the perverse effect of increasing the likelihood of stock bubbles and “signaling races.”¹⁴⁷

A. *Deceptive Signals*

A manager sends a “deceptive signal” when she makes a false statement about the company that she knows or should know investors are likely to interpret as a truthful statement.¹⁴⁸ In sending a signal, a manager will have certain beliefs about the investors’ expectations and their likely interpretation of the signal, either because the manager has used the signal before or has observed competitors using it. If a company, for example, is in poor financial health and the manager wants to hide that fact from investors, she may increase the company’s dividend. If the manager knows or should know that investors will likely interpret the signal as evidence that the company is doing well, then the manager has sent a deceptive signal; if an investor reaches that incorrect conclusion about the dividend, then it has been deceived.¹⁴⁹ In short,

¹⁴³ See *supra* notes 25–91 and accompanying text.

¹⁴⁴ See *supra* notes 101–141 and accompanying text.

¹⁴⁵ See *infra* notes 148–149 and accompanying text.

¹⁴⁶ See *infra* notes 150–154 and accompanying text.

¹⁴⁷ See *infra* notes 155–232 and accompanying text.

¹⁴⁸ A manager may also use corporate signals to communicate, truthfully or deceptively, with regulators, competitors, and even others within the company. These other uses of corporate signals, although important, are beyond the scope of this Article. For a discussion of the use of observable corporate conduct to communicate with regulators and competitors, see Manuel A. Utset, *Complex Financial Institutions and Systemic Risk*, 45 GA. L. REV. 779, 831–33 (2011) (discussing the use of collateral and short-term debt to change the beliefs of investors, competitors, and regulators); Utset, *supra* note 5 (discussing the use of CEO compensation to send signals to other executives and the board of directors, and the use of compensation of division heads to send signals to other division heads).

¹⁴⁹ A signal may, of course, be “misleading” even if the manager sending it does not intend to deceive investors; the actions may misrepresent the facts and send the wrong mes-

an investor will be “deceived” by a signal if it interprets a false statement about the company as a true one.

B. *Tit-for-Tat Signaling*

One problem with corporate signals is that it is difficult for investors to know whether the conduct in question is costly to the manager or the company. It is also difficult for investors to separate the good managers and companies from the bad.¹⁵⁰ An overvalued company, for example, may be able to continue paying dividends, and increasing them if need be, for a long time.¹⁵¹ Conversely, a properly valued company that fails to follow suit will be penalized by the market, unless it can otherwise communicate that it is not overvalued.¹⁵² The problem can be restated in the following way. Managers have private information that is not available to investors. Some of that private information can be revealed to investors using corporate signals, but managers also have private information about whether the signal they are sending is truthful or deceptive, and about how long they will be able to continue to send a deceptive signal before they have to reveal the truth to investors. A manager, therefore, has control over two levels of nonpublic information. She has control over information about the company’s operations and financial condition, which she can transmit to investors using verbal disclosures and corporate signals.¹⁵³ Additionally, she has second-order information about whether the disclosures and signals are truthful and complete, or deceptive and incomplete.

A manager’s control over this second-order information about corporate signals has three important consequences. First, it increases the likelihood that good and bad companies will engage in tit-for-tat signaling, in which a bad company sends a deceptive signal, and a good company is forced to match it. This is because it is not just investors who are unsure about whether or not a signal is deceptive; a good company that observes a signal from a bad company will often not

sage due to negligence, not intentional deception. Furthermore, a signal may mislead, not due to any fault of the manager, but because investors misinterpret it.

¹⁵⁰ See *supra* notes 32–34 and accompanying text (discussing the dynamics of corporate signaling and the difficulty of using signals to distinguish between good companies and bad companies).

¹⁵¹ See *supra* notes 45–52 and accompanying text (discussing the payment of dividends as a positive signal to investors).

¹⁵² See *supra* notes 45–52 and accompanying text.

¹⁵³ See *supra* notes 45–78 and accompanying text (discussing the various signals available for corporations and managers to send to investors).

know the sender's true type.¹⁵⁴ Second, because of the second-order nonpublic information, these tit-for-tat dynamics can last for a relatively long time. Third, as we will see below, tit-for-tat signaling can lead to stock bubbles and "signaling races," in which companies repeatedly ratchet up the intensity of their signals.

C. *Changes in Securities Regulation and the Growing Use of Corporate Signals*

Congress has mandated companies to make extensive disclosures about their operations and financial results, and about the managers themselves.¹⁵⁵ Over time, companies have been required to disclose more information¹⁵⁶ and to do so quicker,¹⁵⁷ and have been subjected to increasingly higher sanctions if they fail to comply.¹⁵⁸ Corporate communications are like water balloons, at least in one respect: if Congress and the SEC "squeeze" on the verbal portion, managers will increasingly rely on using corporate signals to communicate with investors. This Section examines a number of characteristics of current securities laws—instituted to increase transparency and deter misconduct—which have had the unintended side effect of giving managers an incentive to rely on corporate signals as much as possible when communicating with investors. The principal normative implication, to which I return in Part IV, is straightforward: if the goal is to reduce the *total* amount of fraud, Congress and the SEC should regulate corporate communications holistically, taking into account how changes aimed at regulating verbal disclosures can impact corporate signaling, and vice versa.

¹⁵⁴ See TIROLE, *supra* note 35, at 241.

¹⁵⁵ The government has enforced these disclosure requirements using civil and criminal sanctions. See Sarbanes-Oxley Act of 2002 §§ 401–409, 901–906, Pub. L. No. 107-204, 116 Stat. 745, 785–91, 804–06 (codified as amended in scattered sections of 15, 18, 28, and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)) (setting forth enhanced financial reporting requirements, including timing requirements and potential criminal penalties for violations).

¹⁵⁶ See *id.* §§ 401, 403–404 (amending the 1934 Act, and requiring disclosures in periodic reports, disclosures of transactions involving management and principal stockholders, and management assessments of internal controls).

¹⁵⁷ See *id.* § 409 (amending the 1934 Act, and requiring companies to disclose information regarding material changes in their financial conditions or operations "on a rapid and current basis").

¹⁵⁸ See *id.* §§ 903, 906 (increasing the maximum criminal penalties for mail fraud and wire fraud from five years imprisonment to twenty years, and establishing criminal penalties for the failure of corporate officers to certify financial reports).

1. The Disparity in Potential Securities Laws Liability

Compared to verbal disclosures, deceptive signals are underenforced by federal securities laws—a practice that affects the way in which managers commit fraud.¹⁵⁹ Consequently, a manager will have an incentive to use deceptive signals first, and will only turn to actual verbal misrepresentations and omissions if the signals are insufficient to change the beliefs of investors in the intended manner. As we saw in Part II, a manager can, in many instances, send the same message using different combinations of verbal statements and corporate signals.¹⁶⁰ In choosing from a set of equivalent messages, each of which has the same effect in deceiving investors, a rational manager will choose the one with the lowest expected sanctions.¹⁶¹ As long as the expected sanctions associated with verbal deceptions are greater than those for deceptive signals, managers who are intent on deceiving investors will make relatively greater use of signals.

2. The Effect of Higher Sanctions for Securities Laws Violations

Increasing the gross sanctions for violating disclosure requirements will give managers a greater incentive to communicate with investors using corporate signals. One reason is that a manager who makes verbal disclosures that comply with the securities laws may still be subject to a private cause of action, either by mistake or because a plaintiff brings a strikesuit—one that has no merit, but does have a settlement value.¹⁶² Additionally, to the extent that managers are risk-

¹⁵⁹ See *Flaherty & Crumrine Preferred Income Fund, Inc. v. TXU Corp.*, 565 F.3d 200, 208 (5th Cir. 2009) (focusing on the defendant CEO's statements regarding the timing of future dividend payments, instead of the dividend payments themselves, as evidence of security fraud in a class action suit); *In re Centerline Holdings Co. Sec. Litig.*, 678 F. Supp. 2d 150, 161–62 (S.D.N.Y. 2009) (focusing on the defendant CEO's statements regarding a future plan for dividend payments, instead of the dividend payments themselves, as evidence of security fraud in a class action suit).

¹⁶⁰ See *supra* notes 107–120 and accompanying text (discussing message magnification and message arbitrage).

¹⁶¹ If making a false disclosure causes a \$100,000 harm to investors and society at large, then a manager will be effectively deterred if the expected sanctions are at least \$100,000. Those expected sanctions depend on the gross sanction and the probability that a violation will be detected and prosecuted. This probability will depend on how much investors and the SEC spend on monitoring and bringing causes of action. See STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 503–04 (2004).

¹⁶² See Securities Exchange Act of 1934 § 21C(a), 15 U.S.C. § 78u-3(a) (2006) (granting the SEC the authority to file cease and desist orders for violations of provisions of the 1934 Act); *Cent. Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 166–

averse, which is the standard assumption, the higher the gross sanctions, the greater will be the managers' incentive to rely on corporate signals to deceive investors.¹⁶³ This is important, because in the last twenty years, Congress has repeatedly ratcheted up the civil and criminal fines and prison sentences for violations of federal securities laws, with the biggest recent increase coming from SOX,¹⁶⁴ and to a lesser degree, the Dodd-Frank Act.¹⁶⁵

3. Increasing Complexity of Disclosure Documents

As corporations become more complex, they become less transparent to investors, and it becomes more likely that their managers will engage in fraud. In turn, this fraud can lead to corporate scandals, stock market bubbles, and, in the case of financial institutions, financial crises. The standard reaction of regulators is to increase the amount of disclosure that public companies must make; SOX,¹⁶⁶ the Dodd-Frank Act,¹⁶⁷ and a number of SEC rules¹⁶⁸ that have been adopted since

67 (1994) (stating that the U.S. Supreme Court has interpreted section 10(b) of the 1934 Act to provide civil remedies for private causes of action involving securities fraud).

¹⁶³ Risk-averse managers will be over-deterred by higher gross sanctions. See Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307, 353 (1994) (arguing that when individuals are risk-averse, it may be optimal to increase enforcement, and thus increase the probability of detection, and lower the gross sanctions).

¹⁶⁴ See Sarbanes-Oxley Act of 2002 §§ 802, 1101, 18 U.S.C. §§ 1512–1513, 1519 (2006 & Supp. II 2009) (establishing criminal penalties for altering or destroying documents and record tampering); see also Craig S. Lerner & Moin A. Yahya, “Left Behind” After Sarbanes-Oxley, 44 AM. CRIM. L. REV. 1383, 1384–85 (2007) (describing the extraordinary increases in criminal penalties, including imprisonment, created by SOX).

¹⁶⁵ See Dodd-Frank Wall Street Reform and Consumer Protection Act § 929P(a), 15 U.S.C. § 80a-47 (Supp. V 2011) (adding penalties under the 1933 Act and the 1934 Act for violations of cease and desist orders); *id.* § 202(a)(1)(C), 12 U.S.C. § 5382(a)(1)(C) (Supp. V 2011) (establishing a criminal penalty of no more than a \$250,000 fine and no more than five years in prison for disclosing the appointment of a receiver for a financial institution).

¹⁶⁶ See Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28 and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)).

¹⁶⁷ The preamble of the Dodd-Frank Act reads: “An Act [t]o promote the financial stability of the United States by improving accountability and *transparency* in the financial system, to end ‘too big to fail,’ to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.” Dodd-Frank Act, Pub. L. No. 111-203, 124 Stat. 1734 (2010) (codified in scattered sections of the U.S. Code) (emphasis added); see also Randall Dodd, *Subprime: Tentacles of Crisis*, FIN. & DEV., Dec. 2007, at 15, 18 (stating that mortgage-backed security problems were caused in part by the fact that the “price discovery process is not transparent, and there is no surveillance in the market to identify where there are large or vulnerable positions”).

2001 have taken this approach. But every time that Congress or the SEC adds an additional disclosure requirement in the hopes of making corporations more transparent, they increase the complexity of the disclosure documents themselves.

All other things being equal, as more parts are added to a system, its complexity increases.¹⁶⁹ At an extreme, a corporation may be completely transparent to investors, yet still be completely opaque from the perspective of making trading decisions, due to the investors' bounded rationality.¹⁷⁰ To trade profitably, an investor needs "real-time transparency":¹⁷¹ the ability to acquire and process corporate communications, and identify and exploit arbitrage opportunities before others do.¹⁷² In modern capital markets, a delay of a few minutes,¹⁷³ or even a few sec-

¹⁶⁸ In 2006, for example, the SEC adopted amendments to further enhance the disclosure requirements for executive compensation, director independence, and other matters of corporate governance. See 17 C.F.R. §§ 229.201, 229.306, 229.401 to .404, 229.601, 229.1107, 232.304, 245.100 (2012).

¹⁶⁹ See Steven L. Schwarcz, *Rethinking the Disclosure Paradigm in a World of Complexity*, 2004 U. ILL. L. REV. 1, 19 (discussing the limits of traders' ability to process and use complex information about complex transactions and the entities involved in the transactions); see also Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 505-11 (2006) (discussing the general problems inherent in creating transparency when investment products have multiple attributes).

¹⁷⁰ See Henry T.C. Hu, *Too Complex to Depict? Innovation, "Pure Information," and the SEC Disclosure Paradigm*, 90 TEX. L. REV. 1601, 1650-78 (2012) (arguing that some corporations, such as financial institutions, have become too complex for the traditional investor to understand, even when they liberally disclose internal information).

¹⁷¹ See Utset, *supra* note 148, at 806-09 (developing the concept of "real-time transparency").

¹⁷² See Robert P. Bartlett, III, *Making Banks Transparent*, 65 VAND. L. REV. 293, 294-303, 369-82 (2012) (providing an overview of the interaction between complexity, real-time constraints, and disclosures about financial institutions, and suggesting certain metrics to reduce the complexity of quickly understanding the true financial state of institutions); Daniel Beunza & David Stark, *Tools of the Trade: The Socio-Technology of Arbitrage in a Wall Street Trading Room*, 13 INDUS. & CORP. CHANGE 369, 393-95 (2004); John Aidan Byrne, *Hooked on Speed*, INSTITUTIONAL INVESTOR'S ALPHA, 1 (Jan. 7, 2007), http://www.iinews.com/site/pdfs/Alpha_Jan_07_Hooked_on_Speed.pdf.

¹⁷³ See FIN. ACCOUNTING STANDARDS BD., STATEMENT OF FINANCIAL ACCOUNTING CONCEPTS NO. 2: QUALITATIVE CHARACTERISTICS OF ACCOUNTING INFORMATION, at Con2-17 (2008) (stating that information is timely if it is available to users "before it loses its capacity to influence decisions"). This sort of real-time constraint is common in engineering, especially when designing critical safety systems, such as air-traffic-control computer systems, safety features for hospital equipment, or nuclear power plants. See John A. Stankovic, *Real-Time and Embedded Systems*, in COMPUTER SCIENCE HANDBOOK 83-1, 83-1 (Allen B. Tucker ed., 2d ed. 2004) (defining a real-time system as a system that works properly if it undertakes the correct tasks at either a specific point in time or no later than a set deadline).

onds in some cases, can make information stale.¹⁷⁴ Although this has always been the case, the importance of acting quickly has increased with the proliferation of computerized trading.¹⁷⁵

One would expect that an investor who has access to different types of information will first resort to that which is least costly to acquire and use.¹⁷⁶ Corporate signals are less complex and can be interpreted much quicker than verbal disclosures.¹⁷⁷ Given the increasingly

¹⁷⁴ That is, in some cases, the information will become stale before it can be processed and used, as is sometimes the case with price data in capital markets. See MAUREEN O'HARA, MARKET MICROSTRUCTURE THEORY 252–60 (1995) (discussing various issues in defining market transparency in the context of capital markets); see also Securities Exchange Act of 1934 § 11A(a)(1)(C)(iii), 15 U.S.C. § 78k-1(a)(1)(C)(iii) (2006) (stating that the market requires “the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities”); DIV. OF MKT. REGULATION, U.S. SEC. & EXCH. COMM'N, MARKET 2000: AN EXAMINATION OF CURRENT EQUITY MARKET DEVELOPMENTS, at IV-1 (1994) (explaining that “transparency” in the capital markets refers to “the real-time, public dissemination of trade and quote information”); *Comments at the Meeting of the Advisory Committee on Market Information*, U.S. SEC. & EXCHANGE COMMISSION, (Oct. 10, 2000), <http://www.sec.gov/divisions/marketreg/marketinfo/101000mtg.htm> (reporting that Annette L. Nazareth, director of the SEC's Division of Market Regulation, stated that “real-time public dissemination of trade and quotation information is one of the central components of our national market system”).

¹⁷⁵ See Robert K. Abbott & Hector Garcia-Molina, *Scheduling Real-Time Transactions: A Performance Evaluation*, 17 ACM TRANSACTIONS ON DATABASE SYSTEMS. 513, 513–14 (1992) (describing the design of a program trading system to exploit short-lived arbitrage opportunities in real time, given that “[p]rice discrepancies are normally very short-lived and to exploit them one must trade large volumes on a moments [sic] notice”); M.A.H. Dempster & C.M. Jones, *A Real-Time Adaptive Trading System Using Genetic Programming*, 1 QUANTITATIVE FIN. 397, 401 (2001) (stating that it is necessary that program trading systems “respond quickly to the market, and thus not use rules which are infeasible in terms of real-time execution”); Terrence Hendershott et al., *Does Algorithmic Trading Improve Liquidity?*, 66 J. FIN. 1, 1–4 (2011) (providing an overview of high-speed trading); Jiading Gai et al., *The Externalities of High Frequency Trading*, 2–6 (May 25, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2066839 (describing the evolution in trading technologies and investors' current ability to execute trades in nanoseconds, as well as the competition among trading firms to reduce time even further).

¹⁷⁶ An investor in a complex company—a conglomerate, such as General Motors or General Electric—will need to weigh the costs of deciphering the highly complex corporate information and financial statements in annual and quarterly reports against the benefits of having a better understanding of the company's true financial state. This simply involves a standard cost-benefit analysis, taking into account the real-time transparency constraint.

¹⁷⁷ See Asquith & Mullins, *supra* note 6, at 35–36 (arguing that corporate signals, such as dividends and stock repurchases, have the “advantages of simplicity and visibility,” whereas verbal disclosures are complex and “require time and expertise to decipher”). When compared to mandatory corporate disclosures, corporate signals are coarse but useful “rules of thumb” (heuristics) for evaluating companies and making decisions about whether to buy or sell securities at the prevailing market price. See Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCER-

binding real-time constraints, it follows that, as disclosure documents become more complex, rational investors will make greater use of corporate signals. Additionally, as we have seen, rational managers will have an incentive to compose corporate messages strategically, increasing or decreasing their complexity depending on how quickly they want them deciphered.¹⁷⁸ At an extreme, these messages can become so complex, and the time available to deal with that complexity so short, that an investor may choose to ignore most verbal disclosures, and instead make decisions based on available corporate signals or the signals from other traders.¹⁷⁹

4. The Effect of Coupling Signals and Mandatory Disclosures

The 1933 Act and the 1934 Act require a large amount of disclosure about the behavior of companies and their managers.¹⁸⁰ For example, a public corporation subject to the reporting requirements of the 1934 Act will have ongoing disclosure obligations about its operations and financial condition.¹⁸¹ These requirements include disclosures regarding material corporate actions, such as paying a dividend,¹⁸² repurchasing stock,¹⁸³ changing the way the company does business,¹⁸⁴ building new plants,¹⁸⁵ changing accountants or disagreeing with them,¹⁸⁶

TAINTY: HEURISTICS AND BIASES 3, 3–20 (Daniel Kahneman et al. eds., 1982) (providing an overview of heuristics used by boundedly rational decisionmakers).

¹⁷⁸ See *supra* notes 130–141 and accompanying text (describing the incentives of managers to exploit complexity and the bounded rationality of investors).

¹⁷⁹ Both approaches are, at their core, heuristics to deal with the bounded rationality and real-time constraints of traders. The latter approach, relying on the signals from other traders—mimicking their buying and selling decisions—can lead to a herding effect. See Abhijit V. Banerjee, *A Simple Model of Herd Behavior*, 107 Q.J. ECON. 797, 798 (1992) (developing a herding model in which actors mimic actions of others, notwithstanding the fact that if they relied on their own information, they would have acted differently).

¹⁸⁰ See Securities Act of 1933, 48 Stat. 74 (codified at 15 U.S.C.A. §§ 77a–77aa (West, Westlaw through P.L. 112-142)); Securities Exchange Act of 1934, 48 Stat. 881 (codified at 15 U.S.C.A. §§ 78a–78pp (West, Westlaw through P.L. 112-158)).

¹⁸¹ See Securities Exchange Act of 1934 § 13(a), 15 U.S.C.A. § 78m (setting forth the general ongoing disclosure requirement for issuers who have securities registered pursuant to section 12 or fall under the requirements of section 15(d) of the 1934 Act).

¹⁸² See 17 C.F.R. § 229.201(c) (2012).

¹⁸³ See *id.* § 229.703.

¹⁸⁴ See *id.* § 229.101(a)(1).

¹⁸⁵ See *id.* § 229.101 (requiring the disclosure of an anticipated material acquisition of a plant or equipment); *id.* § 229.701(f)(4)(vii) (requiring the disclosure of the extent to which the issuer used proceeds from a securities offering for the “construction of plant, building and facilities; purchase and installation of machinery and equipment; [or] purchases of real estate”).

¹⁸⁶ See *id.* § 229.304.

issuing equity or debt securities,¹⁸⁷ selling or purchasing assets,¹⁸⁸ acquiring other companies, and disposing of subsidiaries.¹⁸⁹ In regard to the conduct of managers and the board of directors, companies must disclose information about awarding compensation packages,¹⁹⁰ exercising stock options,¹⁹¹ selling stock, and a board member's resignation.¹⁹² These disclosure requirements will make signals public (observable by investors) and increase their salience because the conduct is either material or the SEC has determined that it is important enough to mandate its disclosure. Disclosure, thus, puts corporate signals into play as part of a company's communication package, and highlights them publicly.

It is instructive to look at the relationship between signaling and both mandatory and voluntary disclosures about dividends. A registered company is required to disclose general information about dividends, including their frequency, the amount paid in the last two years, and any contractual restrictions on their payment.¹⁹³ Additionally, companies that have not been paying a dividend "although earnings indicate an ability to do so . . . are encouraged to consider the question of their intention to pay cash dividends in the foreseeable future," and to disclose the result of their deliberations.¹⁹⁴ Companies that have been paying a dividend "also are encouraged to indicate whether they

¹⁸⁷ See *id.* § 229.202.

¹⁸⁸ See 17 C.F.R. § 229.101(a)(1) (2012) (requiring a description of the "acquisition or disposition of any material amount of assets otherwise than in the ordinary course of business"); *id.* § 229.601(b)(10)(ii)(C) (requiring the filing of contracts for the "acquisition or sale of any property, plant or equipment for a consideration exceeding 15 percent of such fixed assets of the registrant on a consolidated basis").

¹⁸⁹ See *id.* § 229.101.

¹⁹⁰ See *id.*

¹⁹¹ See *id.* § 240.16a-3; see also SEC. & EXCH. COMM'N, RELEASE NO. 33-8732A, EXECUTIVE COMPENSATION AND RELATED PERSON DISCLOSURE (2006), available at <http://www.sec.gov/rules/final/2006/33-8732a.pdf> (providing an overview of the disclosure requirements for the exercise of options and restricted stock).

¹⁹² See SEC Form 8-K, Item 5.02, available at <http://www.sec.gov/about/forms/form8-k.pdf> (requiring the disclosure of the resignation of a board member, including the disclosure of whether the departure was due to a corporate governance disagreement).

¹⁹³ See 17 C.F.R. § 229.201(c)(1). Item 202 (Description of Registrants Securities), Item 303 (Selected Financial Data), and Item 402 (Executive Compensation) require companies to make disclosures about dividends. See *id.* § 229.202(a)(1), (a)(3), (b)(4) (requiring a description of dividend rights, particularly in connection with preferred stock, and restrictions, included in debt securities, on the payment of dividends); *id.* § 229.301 (requiring the disclosure of cash dividends); *id.* § 229.402 (requiring the disclosure of dividends or other earnings paid on stock or option awards, and on deferred compensation).

¹⁹⁴ *Id.* § 229.201(c)(2) (instructing companies that "if no such intention exists, to make a statement of that fact in the filing").

currently expect that comparable cash dividends will continue to be paid in the future, and, if not, the nature of the change in the amount or rate of cash dividend payments.”¹⁹⁵

The aim of these disclosure requirements is straightforward: to provide advanced warning to investors about changes in a company’s dividend policy. By highlighting the issue, the SEC increases the salience of an announcement of a future change *or* an immediate change in dividend policy. Suppose that a company that has not made any disclosures about its future intentions announces an immediate reduction of its dividends. Investors will reason that if the company had been able to anticipate the financial changes that have impacted its ability to pay dividends, then it would have disclosed them in advance. No disclosure means that the changes were unexpected. In turn, this will increase the signal’s impact because it is transferring information about material, but unexpected, changes in the company’s financial position.¹⁹⁶

D. Deceptive Signals, Bubbles, and Signaling Races

So far, this Article has argued that managers are more likely to use deceptive signals than deceptive verbal disclosures, and more likely to use truthful signals than to resort to using verbal disclosures, unless mandated by law. This Article has also argued that the incentive to use both deceptive and truthful signals as a form of communication has been exacerbated by changes in securities laws that, ostensibly, were aimed at making corporations more transparent and at deterring securities fraud. This Section provides two additional arguments about why it is important for policymakers to regulate fraudulent communications, including verbal and non-verbal fraudulent statements.

¹⁹⁵ *Id.*

¹⁹⁶ There is evidence of a similar type of reasoning in the context of companies that miss their earnings projections. A study that surveyed over 400 CFOs found that they are generally “willing to make small or moderate sacrifices in economic value to meet the earnings expectations of analysts and investors to avoid the severe market reaction for under-delivering,” based in part on the following reasoning:

[T]he market believes that most firms can “find the money” to hit earnings targets. Not being able to find one or two cents to hit the target might be interpreted as evidence of hidden problems at the firm. Additionally, if the firm had previously guided analysts to the [earnings per share] target, then missing the target can indicate that a firm is managed poorly in the sense that it cannot accurately predict its own future.

John R. Graham et al., *The Economic Implications of Corporate Financial Reporting*, 40 J. ACCT. ECON. 3, 5 (2005); see Brav et al., *supra* note 128, at 491 (discussing the general reluctance of managers to cut dividends out of fear of investors’ reactions).

Companies pay attention to the disclosure documents and corporate signals of their competitors.¹⁹⁷ There is usually a lag time between when a company issues a signal and when it has to bear the full costs from that signal.¹⁹⁸ In order to make it appear that an IPO is underpriced, an insider in a bad company may hold on to its stock, but it will bear the cost only later, if it sells the stock after a market correction.¹⁹⁹ A bad company may be able to continue to pay and increase its dividend until it runs out of cash, which may be for a long time, particularly if it can fool creditors into lending it funds that can then be paid out as a dividend.²⁰⁰ This lag time allows bad companies to pool themselves with good ones, at least for a period of time, and is most likely to be an effective strategy at the beginning of stock bubbles, when the market is not as vigilant about the potential that bad companies are engaged in deceptive signaling.²⁰¹ It can also lead to signaling races during periods in which good and bad companies compete to show the market that they are not overvalued. Finally, it can lead to the overreliance on unstable layered signals, each of which relies on the other for its certification.

¹⁹⁷ There is a large literature in industrial organization and game theory dealing with signaling among competitors, including sending costly signals to deter entry or to coordinate collusions. See, e.g., Paul Milgrom & John Roberts, *Informational Asymmetries, Strategic Behavior, and Industrial Organization*, 77 AM. ECON. REV. 185, 185–87 (1987) (summarizing the literature on signaling among competitors, in the context of predatory pricing, price wars, and advertising using introductory offers to attract competitors); Steven C. Salop, *Strategic Entry Deterrence*, 69 AM. ECON. REV. 335, 337 (1979) (arguing that established firms use limit pricing as a signal to potential entrants about post-entry pricing intentions).

¹⁹⁸ See Asquith & Mullins, *supra* note 6, at 35–36 (arguing that investors typically need “time and expertise” to interpret many corporate signals, other than dividends, and therefore the signals’ impact is not immediate); Ayres, *supra* note 6, at 975 (arguing that inefficiencies in the market create a gap in time between when a signal is sent and when investors will react to it).

¹⁹⁹ A manager can use a similar strategy—not selling its shares—as a signal during a stock buyback.

²⁰⁰ See MOODY’S INVESTOR’S SERV., SPECIAL COMMENT, RATING PRIVATE EQUITY TRANSACTIONS 2–3 (2007), available at http://www.collectif-lbo.org/international/Moodys_on_private_equity_07_2007.pdf (finding that some private equity firms have been issuing debt and immediately using it to pay dividends even though they stated a commitment to reduce leverage).

²⁰¹ See Andrew C.P. Hertzberg, *Essays in Microeconomics, Corporate Finance, and Social Learning* 11–15, 61 (Aug. 15, 2004) (unpublished Ph.D. thesis, Massachusetts Institute of Technology), available at <http://dspace.mit.edu/bitstream/handle/1721.1/28817/60315643.pdf?sequence=1> (developing a model in which monitors engage in less monitoring during the front-end of bubbles).

1. Signaling Dynamics Among Competitors and the Potential for Bubbles

In market bubbles, companies in an industry transition through four phases.²⁰² In the first phase, the whole industry is doing relatively well, and things are getting better.²⁰³ Initially, some good companies may try to separate themselves, but as the entire industry begins to be overvalued, it becomes costlier to send a sufficiently salient signal that cannot be mimicked by bad firms.²⁰⁴ As the boom takes hold in the second phase, good companies will accept the pooling equilibrium because separating themselves is too costly and increasingly risky.²⁰⁵ Hoarding cash can help good companies weather bad times, so one would expect that they will not send the maximal signal—the one that will assure that they can separate themselves from the bad companies. There is a second reason for caution: bubble valuations are fraught with uncertainty, and even managers of companies that are doing well may worry that other companies are doing even better.²⁰⁶ In the third phase—the beginning-of-the-end-of-the-boom—companies know that a market correction is inevitable, although not immediately.²⁰⁷ As some companies begin to fail and the market begins to consider the possibility of a bubble, the surviving bad companies will ratchet up their signals to try to buy themselves some time to turn things around; the good companies will have to match the signals or be singled out as being “bad.”²⁰⁸ This signaling race will cause more of the bad firms to fail, and cause further ratcheting up of costly signals, and eventually will usher in the fourth phase: an industry-wide market correction.²⁰⁹ It is at this point that the good surviving companies will find the greatest value in sending costly signals. This type of signaling race—involving signal-

²⁰² See Paul Povel et al., *Booms, Bust, and Fraud*, 20 REV. FIN. ECON. 1219, 1220–23 (2007) (describing the different phases involved in stock market bubbles and the incentives in different phases to commit fraud).

²⁰³ See *id.* at 1222.

²⁰⁴ See *id.* (arguing that even bad firms can receive financing and keep up with good firms during a boom because of the perceived state of the economy).

²⁰⁵ See *id.*

²⁰⁶ See *id.* (arguing that a boom creates an inflated perception of the state of the economy, and that a surprising number of firms, including good firms, will engage in fraud to improve their market value).

²⁰⁷ See *id.* at 1221–22.

²⁰⁸ See Povel et al., *supra* note 202, at 1221–22. Recall that what is motivating the signaling dynamics is the fact that investors do not have access to the inside, nonpublic information that would allow them to distinguish between good and bad firms. See *supra* notes 35–44 and accompanying text.

²⁰⁹ See Povel et al., *supra* note 202, at 1222.

ing using short-term debt and collateral—was in part responsible for the Great Recession of 2007.²¹⁰

2. Signaling Races: Collateralized Short-Term Debt and “Blind Investors”

Someone lending funds to a complex corporation may choose to engage in due diligence, read disclosure documents, and meet with management—all of which are costly. Alternatively, the lender can design a “blind debt” instrument by making the maturity infinitesimally small and taking collateral.²¹¹ The lender would rollover the debt blindly and stop only if it becomes concerned about the collateral’s value.²¹² As a general matter, the complexity of large public companies is greater than that of a piece of collateral, even when that collateral is a highly complex derivatives product.²¹³ By the onset of the financial crisis in 2007, complex financial institutions were financing a large portion of their working capital—in some cases, up to fifty percent—using overnight repurchase agreements (“overnight repos”).²¹⁴ Agreeing to finance a large part of a company’s operations using overnight repos sends a very strong signal: unless the borrower is able to convince lenders to roll over their debt every day, it will fail.²¹⁵ Suppose that lenders begin to suspect that some financial institutions may be experiencing difficulties, but, given the complexity of these institutions, they are unable to separate the good from the bad. One way for borrowers to continue to use the signal is to ratchet up its intensity by borrowing a larger

²¹⁰ See *infra* notes 211–228 and accompanying text.

²¹¹ A “blind investor” is thus one whose interactions with a corporation are not based on information emerging from the corporation. Although this may appear like a rare occurrence, it is more common than it may first appear. In fact, under the efficient capital market hypothesis, a rational investor would make all decisions about whether to buy or sell a company, not by reading disclosure documents, but by finding out at what price it is trading: if capital markets are perfectly efficient, then that price will incorporate all of the information necessary to value a company. See, e.g., Daniel R. Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS. LAW. 1, 3–5 (1982) (arguing that, given efficient capital markets, investors can rely on market price and do not need to make sense of corporate disclosures in order to make sound investments).

²¹² See Utset, *supra* note 148, at 809–22 (arguing that when faced with increasing complexity, some debt holders will resort to “blind debt,” and showing that if a sufficiently large number of lenders resort to blind debt, the level of systemic risk can increase greatly, as can the potential for a sudden collapse of the short-term collateralized debt market).

²¹³ See *id.*

²¹⁴ See Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo* 4 (Yale Int’l Ctr. Fin., Working Paper No. 09-14, 2010). Institutions were essentially borrowing funds for a day and using securities, such as mortgage-backed securities, as collateral.

²¹⁵ See *id.* at 13.

portion of their operating capital using overnight repos. Those who cannot keep up with the tit-for-tat dynamics will be exposed as being in financial trouble. But eventually, this sort of signaling race may threaten the survival of companies that were financially stable at the onset of the race.

This helps explain why, in 2007 and 2008, some financial institutions failed overnight.²¹⁶ Moreover, because lenders had been financing financial institutions using blind debt, and institutions had become so large and complex, even financially sound institutions had difficulties convincing lenders and regulators that they could survive.²¹⁷ Ultimately, the government stepped in and forced all institutions to pool themselves by forcing them to participate in the Troubled Asset Relief Program (TARP).²¹⁸ This forced pooling was in part aimed at ending the signaling race. Furthermore, there is an additional cost when investors over-rely on signals and low-information contractual protections: information about companies and whole industries is never generated, and the system as a whole begins to experience an information deficit.

3. Layered Signals: Complex Derivatives, Rating Agencies, and Toxic Assets

Suppose that investors considering purchasing a complex derivative security, if they had to go at it alone, would read the disclosure document with care, but if the security had a AAA rating then they would purchase it “blindly” (without reading the disclosure).²¹⁹ The

²¹⁶ See *id.* (explaining that during the economic downturn in 2007, many financial institutions, most notably Lehman Brothers, funded themselves through short-term repo markets and at the moment that repo counterparties lost confidence in these banks, they were unable to operate).

²¹⁷ See Richard Swedberg, *The Structure of Confidence and the Collapse of Lehman Brothers*, 30A RES. SOC. ORG. 71, 86–90 (2010) (describing in detail the negotiations and informational obstacles during the weekend in which Lehman Brothers collapsed). The time available for investors to pierce through the complexity of these institutions was too short.

²¹⁸ See Thomas Philippon & Vasiliki Skreta, *Optimal Interventions in Markets with Adverse Selection* 4 (Apr. 2009) (unpublished manuscript), available at <http://www.nyfedeconomists.org/research/conference/2009/mp1120/Philippon.pdf> (describing financial institutions’ forced participation in initial equity injections); *Capital Purchase Program*, U.S. DEP’T TREASURY (Dec. 12, 2012, 4:19 PM), <http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/bank-investment-programs/cap/Pages/overview.aspx> (describing the capital purchase program that was part of TARP, in which the government made direct investments in over 707 financial institutions, including the first nonvoluntary infusion in nine major financial institutions).

²¹⁹ For a discussion of the complexity of derivative securities and the problems associated with piercing through that complexity, see Hu, *supra* note 170, at 1633–50; Schwarcz, *supra* note 169, at 7–17.

investors are more likely to rely on the rating agency's certification signal if they know that the agency has the requisite skill to pierce through the security's complexity and the right incentive to do a careful analysis.²²⁰ In this scenario, the rating agency has something at stake—its reputation, or potential legal liability.²²¹ Each investor is also more likely to invest blindly if it sees sophisticated investors purchasing the security, and it believes that those investors have done an independent evaluation without relying on the AAA rating.²²² These sophisticated investors provide the securities with a second certification, and to the extent that other investors know that they have decided to purchase the security, that certification acts as a signal. But a sophisticated investor's signal is credible only to the extent that it has the proper incentive to do an independent investigation and if it has something at stake, such as the loss from purchasing an overvalued security. To summarize and provide a concrete context: the complex financial derivatives that ended up as toxic assets in the portfolios of financial institutions, pension funds, and other institutional investors in 2007 had two certification signals attached to them—one from the rating agency and another from the sophisticated investors purchasing the securities.²²³

Suppose that a financial institution is trying to sell complex derivatives. How would it use these signals to allow a purchaser to determine that they were "good" securities? It would get them rated.²²⁴ It would then sell the AAA-rated portion of the securities to pension plans and other institutional investors who are sophisticated. If pension plan A sees pension plan B purchasing the securities, it may conclude that plan B has done the requisite due diligence; plan A therefore can purchase the securities blindly, without relying solely on the AAA rating and without any further investigation.²²⁵ The financial institution selling the securities will sell lower rated tranches of the same securities to other sophisticated investors and will keep the lowest rated tranche in its own portfolio. A purchaser of the AAA-rated securities now has four levels of certification: (1) the AAA rating; (2) other sophisticated investors purchasing the AAA-rated tranche; (3) the second set of sophisti-

²²⁰ See *supra* notes 72–78 and accompanying text (discussing the issue of rating agency certification as a signal to investors).

²²¹ See *supra* notes 72–78 and accompanying text.

²²² See Banerjee, *supra* note 179, at 798 (discussing the idea of herding, in which investors mimic the actions of others instead of relying on their own information).

²²³ This assumes that others could observe the purchases of sophisticated investors.

²²⁴ See *supra* notes 72–78 and accompanying text.

²²⁵ See Banerjee, *supra* note 179, at 798.

cated investors purchasing an even riskier version of the same securities, who have likely done their own independent investigation; and (4) the fact that the financial institution selling the securities is keeping the riskiest portion of the securities in its own portfolio.²²⁶

What can go wrong? First, the AAA rating is not a credible certification, either because the agency does not understand the complex derivatives, or because it has a conflict of interest.²²⁷ Second, pension plan B does not carry out its own independent assessment, but rather relies on the rating and its own observations of pension plan A purchasing the securities; pension plan A does the same thing. Third, the institutional investors purchasing the middle tranche do not do their own due diligence, but instead rely on the signal from the financial institution selling the securities—that it is keeping the riskiest portion of the securities itself. Fourth, as the securities become more complex or buyers begin to believe that they may be overvalued, the financial institution selling them will need to ramp up its signal by keeping larger and larger portions of the riskiest tranche of each of the securities that it sells.

All of these possibilities turned out to be true with the complex derivatives issued in the period leading to the Great Recession of 2007.²²⁸ The end result: the purchasers of the AAA securities were relying on multiple unreliable certification signals, and the purchasers of the middle tranches also relied on an unreliable signal. Furthermore, the financial institutions selling the securities ended up with large amounts of worthless securities in their portfolios—the toxic assets. Although at first glance, it may appear that having two certification signals is better than one, this is not necessarily true, given the free rider and potential herding problems created by multiple certification signals.

E. *Information Loss from the Overuse of Corporate Signals and the Sudden Collapse of Companies and Industries*

The more that companies and investors rely on corporate signals, the more likely that important information within disclosure docu-

²²⁶ See Gary Gorton, *The Subprime Panic*, 15 EUR. FIN. MGMT. 10, 17–23 (2009) (providing an extensive overview of the way that asset-backed securities are structured in tranches and sold to investors with different risk preferences, and discussing the role played by the retention of equity portion by the security's seller).

²²⁷ For example, if the rating agency fails to give a security a AAA rating, then that financial institution will take its business to one of the other rating agencies.

²²⁸ See Gorton, *supra* note 226, at 30–41 (describing the collapse of the subprime derivatives market in 2007).

ments will not get processed and used; investors, at the very least, will delay trying to decipher and use the information for trading in the face of complex information.²²⁹ Over time, this can lead to information loss within the whole system. This information loss can be costly, particularly if regulators or investors face real-time constraints and have to quickly ascertain the true financial state of a complex company.²³⁰ This leads to an empirical prediction: the more complex a company and its disclosure documents, and thus the more that investors rely on corporate signals,²³¹ the more likely that a company will experience a sudden collapse—a sudden loss of confidence by investors that will lead to a mass exit by creditors and a decline in market price. We saw this phenomenon with Enron, Bear Stearns, Lehman Brothers, and other financial institutions.²³² From a dynamic perspective, the greater the complexity, the greater the likelihood that companies will go through long periods of time in which investors monitor managers relying primarily on corporate signals. This can allow these companies to get even bigger and more complex, which in turn will ramp up the investors' incentives to focus on corporate signals. Suppose that, at some point, investors lose confidence in the truthfulness or information value of a company's signal. Investors are more likely to exit the market than to remain committed to their investments and try to make sense of all the information they ignored during the signal-intensive phase.

IV. USING SECURITIES LAWS TO DETER THE USE OF DECEPTIVE SIGNALS: THE PROMISE AND LIMITATIONS OF THE APPROACH

So far, this Article has argued that managers and companies communicate with investors through their oral and written statements, and

²²⁹ See Stefano DellaVigna, *Psychology and Economics: Evidence from the Field*, 47 J. ECON. LITERATURE 315, 351–52 (2009) (summarizing empirical studies on investor inattention, in the context of complex information, which leads to delays in incorporating newly released information into a company's market price).

²³⁰ See Utset, *supra* note 148, at 806–09 (arguing that the only information that is useful to many investors is information with “real-time transparency”).

²³¹ To measure the amount of reliance on corporate signals, one can look at the market reactions to signals, as opposed to annual or quarterly reports. In particular, one can look at the level of market reactions to unexpected signals, such as a dividend cut.

²³² See Coffee, *supra* note 25, at 1404–05 (discussing the loss of investor confidence after Enron); Susanne Craig et al., *The Weekend That Wall Street Died: Ties That Long United Strongest Firms Unraveled as Lehman Brothers Sank Toward Failure*, WALL ST. J. (Dec. 29, 2008), <http://professional.wsj.com/article/SB123051066413538349.html?mg=reno-wsj> (discussing the collapse of the financial markets, particularly focusing on Lehman Brothers and Bear Stearns).

through their conduct—corporate signals.²³³ A rational manager will have an incentive to use corporate signals strategically: by engaging in message arbitrage, message magnification, and, most importantly, deceptive or fraudulent signaling.²³⁴ Part III identified four characteristics of federal securities laws that encourage managers to use corporate signals, instead of verbal statements, when they communicate with investors.²³⁵ When used extensively, even truthful corporate signals can lead to stock bubbles, costly signaling racers, and the loss of corporate-specific and industry-wide information.²³⁶

Part IV begins by addressing the basic problem of how a lawmaker would design legal rules that avoid, or minimize, the types of communication distortions identified in Parts II and III.²³⁷ It then shows that deceptive signals are actionable under SEC Rule 10b-5.²³⁸ The following Section provides a new interpretation of some of the most controversial provisions of SOX, particularly those dealing with corporate governance.²³⁹ These provisions can be seen as mandatory signaling mechanisms that require a particular type of conduct from managers, make that conduct public, and penalize managers who fail to act in the appropriate manner or make a false disclosure about it.²⁴⁰ Part IV also looks at how the Dodd-Frank Act addressed the short-term debt signaling problem described in Part III.²⁴¹ The last Section raises and answers the three principal objections to using federal securities laws to regulate deceptive signaling.²⁴²

A. Designing Legal Rules That Properly Deter Fraudulent Messages

This Section identifies and analyzes some of the difficulties in creating a legal rule and enforcement regime that will deter both deceptive signals and deceptive verbal statements. It also addresses the four

²³³ See *supra* notes 25–91 and accompanying text.

²³⁴ See *supra* notes 92–142 and accompanying text.

²³⁵ See *supra* notes 143–232 and accompanying text.

²³⁶ See *supra* notes 143–232 and accompanying text.

²³⁷ See *infra* notes 243–284 and accompanying text.

²³⁸ 17 C.F.R. § 240.10b-5 (2012); see *infra* notes 285–320 and accompanying text.

²³⁹ Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204 §§ 103, 302–303, 404, 906, 116 Stat. 745, 755, 777–78, 789, 806 (codified as amended in scattered sections of 15 and 18 U.S.C.A. (West, Westlaw through P.L. 112-196)); see *infra* notes 321–351 and accompanying text.

²⁴⁰ See *infra* notes 321–351 and accompanying text.

²⁴¹ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S. Code); see *infra* notes 277–284 and accompanying text.

²⁴² See *infra* notes 352–357 and accompanying text.

problematic incentives in federal securities laws,²⁴³ as well as the short-term debt signaling problem.²⁴⁴

1. A Holistic Approach to Securities Fraud

Deceptive corporate signals are underenforced, even though deceptive conduct that acts as a communication can violate Rule 10b-5.²⁴⁵ How would a lawmaker address this underenforcement problem? To simplify matters, assume that a manager can compose a fraudulent message (“FM”) using either a deceptive signal (“S”) or a deceptive verbal disclosure (“V”). If Congress prohibits V only, the manager will compose FM using S only, and vice versa. Even if Congress were to prohibit both V and S, it would underdeter the manager if the expected sanctions for either V or S were lower than the expected harm produced by FM.²⁴⁶ For example, if FM produces a loss to investors of \$1 million, then the expected sanctions for V and S have to be at least \$1 million.²⁴⁷ The expected sanction will be diluted if the SEC or private parties do not spend enough resources to detect and punish managers who send fraudulent messages.²⁴⁸ Consequently, in order to deter a

²⁴³ See *supra* notes 155–196 and accompanying text.

²⁴⁴ See *supra* notes 197–228 and accompanying text.

²⁴⁵ 17 C.F.R. § 240.10b-5 (2012); see *infra* note s285–320 and accompanying text. In addition to Rule 10b-5, there are other securities law provisions that can potentially be used to deter deceptive signaling. See, e.g., Securities Exchange Act of 1934 § 9, 15 U.S.C. § 78i (2006 & Supp. IV 2011) (prohibiting behavior aimed at “creating a false or misleading appearance of active trading in any security . . . , or a false or misleading appearance with respect to the market for any such security”); *id.* § 10(b) (prohibiting “any manipulative or deceptive device or contrivance” that is used “in connection with the purchase or sale of any security”); *id.* § 14(a) (regulating the solicitation of proxies); *id.* § 14(e) (prohibiting “fraudulent, deceptive, or manipulative acts or practices, in connection with any tender offer”); *id.* § 15(c)(1)(A) (prohibiting broker-dealers from using “any manipulative, deceptive, or other fraudulent device or contrivance”); *id.* § 16(a)(1) (requiring officers and directors to file statements upon the sale of securities); Securities Act of 1933 § 11(a), 15 U.S.C. § 77k(a) (prohibiting the use of registration statements containing untrue statements of material fact and half-truths).

²⁴⁶ See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 191–95 (1968) (setting forth a general optimal deterrence approach in which expected sanctions are set equal to the expected harm of the activity being prohibited).

²⁴⁷ If the expected sanctions for V or S, or both, fall below \$1 million, the manager will engage in fraud. A manager will also incur transaction costs using V and S. If these transaction costs are sufficiently high, then one would want to incorporate them into the deterrence analysis, by adding that amount to the expected sanctions. If the expected sanctions of V and S are \$900,000 and the transaction costs for D are \$200,000 and for S, only \$50,000, then the manager will be deterred from using V, but not S.

²⁴⁸ See Lucian Arye Bebchuk & Louis Kaplow, *Optimal Sanctions when Individuals Are Imperfectly Informed About the Probability of Apprehension*, 21 J. LEGAL STUD. 365, 366–67 (1992)

manager from using FM that can be composed using S, V, or both, a lawmaker will have to set the expected sanctions for both S and V high enough so that they exceed the expected harm from FM.²⁴⁹ In more realistic scenarios, a manager may be able to use multiple signals to compose a message; she may have the opportunity to use signals to dilute the thrust of a negative verbal statement by engaging in message arbitrage.²⁵⁰ Although this will make a lawmaker's task more difficult, it provides additional support to the main normative claim of the Article: that in order to deter fraudulent messages properly, a lawmaker must pay careful attention to the deceptive signals available to a manager, and to the interactions between signals and verbal statements. In short, a lawmaker must take a holistic approach to regulating securities fraud.

2. The Interaction Between Signals and Disclosure Documents: The Cross-Checking Issue

An investor who is concerned that a corporate signal is deceptive may test its veracity by comparing it to information included in the company's SEC filings.²⁵¹ Suppose that a company's corporate filings are complex and an investor faces significant real-time constraints; this can lead an investor to make trading decisions solely based on corporate signals without reading corporate documents.²⁵² But if an investor is sufficiently concerned about whether a signal is deceptive, it may find it worthwhile to examine the parts of the filing that are related to the

(describing the optimal trade-off between higher sanctions and enforcement costs when offenders are imperfectly informed of the probability of detection).

²⁴⁹ This is just an example of a more general problem that arises whenever a principal is trying to provide the right incentive to an agent who is expected to perform two or more tasks. If the principal provides a higher-powered incentive for one of the tasks, the agent will focus on that one first, and, in certain circumstances, may not perform the other tasks at all. For example, a law that rewards public schools whose students perform well in standardized tests will provide the school with an incentive to require its teachers to spend more time teaching the subjects that can be tested in a standardized test, at the expense of other things, such as how to think creatively, which may be of equal, or possibly greater value. See Bengt Holmstrom & Paul Milgrom, *Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design*, 7 J.L. ECON. & ORG. 24, 24–29 (1991) (developing a theory of the dual-task principal/agent problem).

²⁵⁰ See *supra* notes 107–120 and accompanying text (discussing message arbitrage and message magnification).

²⁵¹ See SEC Regulation S-K, 17 C.F.R. § 229 (2012) (setting forth the instructions for filing forms under the 1933 and 1934 Acts).

²⁵² See *supra* notes 166–179 and accompanying text (discussing the increased complexity of disclosure requirements and regulations).

signal in question.²⁵³ This very act of cross-checking can produce a positive externality, for it may lead the investor to discover that the signal, the verbal disclosure, or both, are false, misleading, or incomplete. This sort of cross-checking can thus expose fraud, to the extent that the investor brings a securities lawsuit or otherwise alerts the SEC, and provide a positive externality to other investors. This means that the activist investor will not capture the full benefits from cross-checking. Because of this externality, each investor may reason that it is better off not doing any cross-checking and waiting until others do it—that is, free riding.²⁵⁴ And, if all investors reason in the same way, no cross-checking will occur.²⁵⁵

An investor will still have an incentive to cross-check corporate signals against disclosure documents to the extent that it is able to get a sufficiently high return.²⁵⁶ Suppose that cross-checking is a relatively simple exercise, as would be the case if investors could quickly discover the relevant information in disclosure documents. In order for an investor to make an arbitrage profit, it will have to act before others do.²⁵⁷ In this sort of scenario, each investor will conclude that it makes sense to invest in cross-checking only if others will not do so.²⁵⁸ If every investor concludes that others will act, they will each remain passive, but if they each remain passive then it is beneficial for at least one to act.²⁵⁹ This last result is just a variant of the Efficient Capital Market Hypothesis (“ECMH”) paradox.²⁶⁰ But if one combines it with the other argu-

²⁵³ See *supra* notes 193–196 and accompanying text (discussing the information that companies are required to disclose to the SEC regarding dividends, and how it would be instructive for investors to analyze these documents in order to properly decode the signal of a dividend payment).

²⁵⁴ See TERRY M. MOE, *THE ORGANIZATION OF INTERESTS: INCENTIVES AND THE INTERNAL DYNAMICS OF POLITICAL INTEREST GROUPS* 103–08 (1980) (discussing the role of “political entrepreneurs” in overcoming collective action problems); MANCUR OLSON JR., *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* 44–47 (1965) (discussing the collective action problem).

²⁵⁵ See OLSON, *supra* note 254, at 44–47. More generally, whenever an action, A, produces a positive externality, those who have the ability to do A will have an incentive to free ride. See *id.* If all parties free ride, then A never gets done, and the whole group becomes worse off. See *id.*

²⁵⁶ If an investor can trade on the information that it discovers, before others have cross-checked and exhausted the potential arbitrage profit, then it will.

²⁵⁷ See Utset, *supra* note 148, at 806–09 (discussing the problem of real-time transparency, and the need for investors to decipher information quickly, before other investors have done so).

²⁵⁸ See OLSON, *supra* note 254, at 44–47 (discussing the collective action problem).

²⁵⁹ See *id.*

²⁶⁰ See Sanford J. Grossman & Joseph E. Stiglitz, *Information and Competitive Price Systems*, 66 AM. ECON. REV. 246, 248, 250–51 (1976) (theorizing that the market is never fully effi-

ments regarding cross-checking corporate signals against disclosure documents, and, by symmetry, disclosure documents against signals, one can reach two conclusions that are relevant to a lawmaker who is designing legal rules to deter securities fraud.

First, cross-checking is valuable for society whenever the expected return from discovering a deceptive signal or deceptive disclosure exceeds the aggregate costs from cross-checking. These costs will increase with the complexity of a disclosure document and with the number of investors who cross-check. All other things being equal, it would be better for society if only one investor cross-checks and reveals the information to everyone else. Increasing the number of monitors is beneficial whenever the expected return to individual investors is negative, but a group of investors can cooperate to share the cross-checking costs. There is a second scenario in which it makes sense to have more investors involved. In order to use the information to make an arbitrage profit, an investor has to convince a sufficient number of other investors that the signal or disclosure is false,²⁶¹ and the investor must do so before it runs out of funds and incurs large losses.²⁶²

Second, to the extent that a lawmaker wants to encourage cross-checking, he has to take into account the collective action and real-time constraint problems discussed above. Furthermore, if an investor knows that a corporate signal is truthful, it will completely ignore disclosure documents, at least to the extent that signals provide it with all the information that it needs to make investment decisions.²⁶³ Suppose, for

cient because if the market was truly efficient then investors would not get a proper return on investment, they would stop acquiring information, and the market would then become inefficient again); see also Gilson & Kraakman, *supra* note 88, at 622–26 (describing the “Efficiency Paradox” identified by economists Sanford Grossman & Joseph Stiglitz).

²⁶¹ Two well-known examples in which the prophetic claims of skeptical analysts were ignored for long periods of time are (1) the Equity Funding of America collapse discovered by Raymond Dirks, who tipped information to his clients after he failed to convince the *Wall Street Journal* to investigate, and whom the SEC eventually prosecuted for insider trading, and (2) the Bernie Madoff affair. See Dirks v. SEC, 463 U.S. 646, 648–50 (1983); OFFICE OF INVESTIGATIONS, U.S. SEC. & EXCH. COMM’N, INVESTIGATION OF FAILURE OF THE SEC TO UNCOVER BERNARD MADOFF’S PONZI SCHEME 1–3 (2009), available at <http://www.sec.gov/news/studies/2009/oig-509.pdf>.

²⁶² This problem, known as the limits to arbitrage problem, is one reason that capital markets may fail to be efficient. See Andrei Shleifer & Robert W. Vishny, *The Limits of Arbitrage*, 52 J. FIN. 35, 52–54 (1997) (arguing that the ECMH assumes that markets have a large number of well-diversified traders who take advantage of all arbitrage opportunities, but that, in reality, markets have a small number of non-diversified arbitrageurs with limited resources, who, due to the risks involved, will leave some valuable arbitrage opportunities unexploited).

²⁶³ Or, an investor may ignore disclosure documents if turning to them for additional information will lead it to miss an arbitrage opportunity.

the sake of argument, that the expected sanctions for deceptive signals were so high that corporate signals were guaranteed to be truthful, and that each investor concluded that it could rely solely on corporate signals. At one extreme, this would make disclosure documents irrelevant. At the other, it may be that the information in signals is sufficient to meet the requirements of each investor, but that disclosure documents have additional information that, if known, would make all investors better off. Disclosure documents may, for example, allow someone to discover that managers were engaged in large-scale fraud. This is another example of a collective action problem—one caused by a lawmaker solving the deceptive corporate signal problem without taking into account the unintended side effects on disclosure documents.

3. Complexity

The complexity issue is the most difficult to deal with. As companies become more complex, so will their disclosure documents.²⁶⁴ One potential approach is to prevent companies from increasing in size and from using nontransparent financing arrangements. Although such a solution may seem fanciful, it is the one that, at least in theory, Congress adopted in the Dodd-Frank Act.²⁶⁵ One of the principal policy goals of the Dodd-Frank Act is reducing the risk that the financial sector would experience the type of sudden collapse that it did in 2007.²⁶⁶ The Act does so, in part, by bringing within the regulatory umbrella nonbank financial institutions²⁶⁷—a number of which had to be bailed out because they were “too big to fail”²⁶⁸—and providing that if an in-

²⁶⁴ See *supra* notes 130–141 and accompanying text (discussing how disclosure documents have become more complex as companies themselves have become more complex).

²⁶⁵ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S. Code).

²⁶⁶ See S. REP. NO. 111-176, at 2 (2010).

²⁶⁷ Dodd-Frank Act § 102(a)(1) (defining “bank holding company”); *id.* § 102(a)(4)(A) (defining “foreign nonbank financial company”); *id.* § 102(a)(4)(D) (defining “nonbank financial company supervised by the Board of Governors” a determination to be made by the Financial Stability Oversight Council); *id.* § 102(a)(7) (delegating to the Federal Reserve Board the authority to define the terms “significant nonbank financial company” and “significant bank holding company”). This included subjecting large, complex bank and nonbank financial institutions to “more stringent capital and liquidity standards.” S. REP. NO. 111-176, at 3 (summarizing the testimony of Federal Reserve Board chairman Ben Bernanke to the Senate Banking Committee on July 22, 2009).

²⁶⁸ A financial institution is “too big to fail” or “too interconnected to fail” if, when a regulator is faced with the choice of letting it fail or bailing it out, the regulator is forced to choose the latter because letting it fail could lead to the failure of other institutions or instability within the financial system. See Gerald P. Dwyer, *Too Big to Fail*, NOTES FROM VAULT (Ctr. Fin. Innovation & Stability, Atlanta, Ga.), Feb. 2010, at 2, available at <http://>

stitution is in financial trouble, then its investors and managers have to bear the costs.²⁶⁹ The U.S. government, in short, cannot bail it out²⁷⁰—the institution has to be liquidated.²⁷¹

Nonetheless, because modern corporations and financial arrangements are so complex, a lawmaker faces a dilemma: either it makes the company sufficiently transparent, and the disclosure documents highly opaque, or it makes the documents transparent by reducing their complexity, and leaves the company opaque to investors. A lawmaker is likely to choose the former, meaning that disclosure documents will remain complex and corporate signals will have heightened importance as a means of communication.

4. Mandatory, Salient Disclosures of the Conduct of Companies and Their Managers

One reason that the use of corporate signals has increased is that securities laws require extensive disclosure of the conduct of companies and their managers.²⁷² A corporate signal is created each time an investor observes, directly or indirectly, the conduct of a company or its managers, and attaches a meaning to it.²⁷³ Current mandatory disclosure requirements, therefore, create a large number of signals, al-

www.frbatlanta.org/documents/cenfis/pubscf/nftv_0210.pdf. If financial institutions believe that the government will bail them out whenever they are sufficiently large and important to the financial system, they will have an incentive to take more risks than what is socially optimal, and to become larger and more interconnected to assure that they fall within the group of institutions that cannot be allowed to fail. *See id.* (explaining how the incentives of financial institutions change). To fully avoid this moral hazard problem, regulators have to pre-commit never to bail out financial institutions.

²⁶⁹ Institutions are more likely to become bigger and more complex if they have easy access to financing. To combat this, the Dodd-Frank Act requires the Federal Deposit Insurance Corporation (FDIC), when liquidating a financial institution, to ensure that shareholders “do not receive payment until after all other claims . . . are fully paid.” Dodd-Frank Act § 206(2); *see also id.* § 204(a) (requiring that creditors, shareholders, and managers bear losses, and that these are calibrated so that the losses are borne in a manner consistent with the parties’ relative responsibilities).

²⁷⁰ *See id.* §§ 1101–1109 (limiting the ability of federal agencies to bail out institutions and providing for heightened oversight of agencies’ behavior during financial crises).

²⁷¹ Title II of the Dodd-Frank Act gives the FDIC the same type of prompt resolution authority over large nonbank financial institutions that it already had vis-à-vis insured deposit institutions, and requires the liquidation of failing nonbank institutions. *See id.* § 210.

²⁷² *See supra* notes 133–138 and accompanying text.

²⁷³ *See supra* notes 35–78 and accompanying text (describing a standard signaling theory).

though not all of them are material or deceptive.²⁷⁴ However, in designing legal rules, a lawmaker should pay attention to the interrelationship between required disclosures and signals. Moreover, the coupling of disclosure and signals does not always lead to a negative result. For example, this coupling increases the likelihood that an investor will engage in the type of cross-checking described above.²⁷⁵ And, if used creatively, it can help reduce securities fraud.²⁷⁶

5. Short-Term Debt Signaling Races and Layered Signals

The Dodd-Frank Act includes a number of provisions to regulate short-term financing.²⁷⁷ For example, a nonbank financial institution's "degree of reliance on short-term funding"²⁷⁸ will be taken into account in determining whether it should be subject to enhanced supervision by the Federal Reserve.²⁷⁹ Moreover, the Federal Reserve may adopt short-term debt limits²⁸⁰ and may limit an institution's overall credit exposure.²⁸¹ These provisions, however, do not directly address the problem raised in Part III: the signaling race between borrowers and the incentive of lenders to invest blindly and over-rely on corporate signals. But the Act does move away from relying solely on microprudential regulation and moves closer to macroprudential regulation.²⁸²

²⁷⁴ See Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28, and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)) (requiring a multitude of mandatory disclosures for financial institutions).

²⁷⁵ See *supra* notes 251–263 and accompanying text.

²⁷⁶ See *infra* notes 321–351 and accompanying text.

²⁷⁷ See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S. Code).

²⁷⁸ See *id.* § 113(a)(2)(J).

²⁷⁹ The Financial Stability Oversight Council will make this determination. *Id.* §§ 111–112 (establishing the Financial Stability Oversight Council and setting forth its authority); see *id.* § 113(a)(1) (allowing the Council to vote to require enhanced supervision with the Federal Reserve over U.S. nonbank financial institutions).

²⁸⁰ The goal of these limits would be "to mitigate the risks that an over-accumulation of such debt could pose to bank holding companies . . . , nonbank financial companies supervised by the Board of Governors, or the financial system." *Id.* § 115(g); see also *id.* § 165(g)(1) (setting forth the Federal Reserve's authority to adopt limits to "mitigate the risks that an over-accumulation of short-term debt could pose to financial companies and to the stability of the United States financial system").

²⁸¹ *Id.* § 165(e)(2) (limiting credit exposure to unaffiliated companies that exceeds twenty-five percent of the capital stock, or a lower limit if the Federal Reserve determines it "necessary to mitigate risks to the financial stability of the United States").

²⁸² See S. REP. NO. 111-176, at 2–3 (2010) (summarizing the testimony of Treasury secretary Timothy Geithner, Federal Reserve chairman Ben Bernanke, FDIC chairman Sheila Bair, SEC chairman Mary Schapiro, and Federal Reserve Board governor Daniel Tarullo on the importance of adopting a macroprudential approach to financial regulation that

The authority given to regulators to engage in macroprudential regulation is broad enough to allow them to deal with the signaling race and blind investing problems. It also allows them to identify and deal with certification²⁸³ and other signaling practices used to issue complex securities that can lead to the layered signaling problem.²⁸⁴

B. *Composing Corporate Messages in the Shadow of Rule 10b-5*

Rule 10b-5 is the most important antifraud provision in the 1934 Act, and the one that is most likely to be useful in trying to deter fraudulent corporate signals.²⁸⁵ Suppose that a company's CEO knows that the company's common stock, which is listed on a major stock exchange, is overvalued by the capital markets. The company has complied with all of its disclosure requirements under the 1934 Act, and, notwithstanding its truthful disclosure, the market continues to overvalue the company. This overvaluation can occur either because the company is too complex and the required disclosures under the 1934 Act are not sufficiently detailed to properly value the company, or because the capital markets are not perfectly efficient.²⁸⁶

directly addresses the interconnection of large financial firms that may threaten financial stability). Microprudential regulation focuses on the financial soundness of institutions individually, whereas macroprudential regulation focuses on financial institutions as a group—the way they interact, the types of financing arrangements they enter into, and the extent to which competitive forces can lead them to undertake too much risk. Samuel G. Hanson et al., *A Macroprudential Approach to Financial Regulation*, 1 (Univ. of Chi. Booth Sch. of Bus., Working Paper No. 10-29, 2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1708173.

²⁸³ See, e.g., Dodd-Frank Wall Street Reform and Consumer Protection Act § 939, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (amending a number of legal rules that required companies to use rating agencies).

²⁸⁴ See *id.* §§ 931–939 (instituting comprehensive regulation of rating agencies); §§ 941–946 (adopting new regulations for the securitization process, including disclosure and due diligence requirements); *supra* notes 92–141 and accompanying text (explaining the strategic use of signals).

²⁸⁵ 17 C.F.R. § 240.10b-5 (2012).

²⁸⁶ Traders systematically misinterpret corporate disclosures, and those who have properly interpreted them could face a limit to the arbitrage problem. See *supra* note 262 and accompanying text (discussing the arbitrage problem).

This type of scenario is more common than was once believed.²⁸⁷ Suppose the CEO wants to ensure that the market does not discover that the company is overvalued, at least for the time being. To accomplish this, she decides to increase the dividend paid by the company. This increase in corporate distributions is not due to an increase in the company's profits or cash flows; instead, the CEO (as a manager) has to dip into cash reserves or borrow funds in order to pay the dividend.²⁸⁸ The CEO intends for the dividend to deceive investors and expects that the market will react positively to the announcement, and the market in fact reacts that way.

Do the CEO's actions violate Rule 10b-5 and subject her and the company to a private cause of action?²⁸⁹ In order for a plaintiff to sustain a private cause of action, he has to show that: (1) the CEO's actions were deceptive, and the deception was material; (2) the CEO acted with the requisite intent or scienter; (3) the plaintiff relied on the deceptive conduct; (4) the deceptive conduct proximately caused the loss to the plaintiff; (5) there was an economic loss; and (6) there was the requisite loss causation.²⁹⁰ This Article discusses the first three requirements because they are most likely to raise problems in a deceptive signaling fraud case.

1. Deception

Section 10(b) prohibits manipulative and deceptive behavior in connection with the purchase or sale of a security.²⁹¹ The manipulative

²⁸⁷ In a world in which the ECMH is assumed to be an accurate description of the working of capital markets, a company cannot be systematically overvalued (or undervalued). See Ronald J. Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias*, 28 J. CORP. L. 715, 719 (2003) (setting forth some general predictions of the ECMH); Jonathan R. Macey, *Efficient Capital Markets, Corporate Disclosure, and Enron*, 89 CORNELL L. REV. 394, 417–20 (2004) (discussing limitations to the ECMH that were revealed by the sudden collapse of Enron); Richard A. Posner, *On the Receipt of the Ronald H. Coase Medal: Uncertainty, the Economic Crisis, and the Future of Law and Economics*, 12 AM. L. & ECON. REV. 265, 278 (2010) (arguing that the financial crisis of 2007 provided a challenge to the ECMH).

²⁸⁸ Although it is the board of directors that has the authority under corporate law to declare a dividend, this Article assumes, for the sake of argument, that the CEO and the Board are in collusion. The analysis below would be the same if, in fact, the board had effective power and made a decision to send a deceptive signal.

²⁸⁹ See 17 C.F.R. § 140.10b-5.

²⁹⁰ See *Stoneridge Inv. Partners, LLC v. Scientific-Atlanta, Inc.*, 552 U.S. 148, 157 (2008).

²⁹¹ Specifically, section 10(b) of the 1934 Act prohibits, "in connection with the purchase or sale of any security," the use of "any manipulative or deceptive device or contrivance." 15 U.S.C. § 78j(b) (2006). Rule 10b-5, adopted by the SEC pursuant to section

behavior that Congress sought to outlaw involved a set of well-known and well-worn trading practices that aimed to inflate (or deflate) the price of a company's security artificially.²⁹² The deceptive behavior that it sought to prohibit was communications by corporations, their agents, and other market participants that were untrue, misleading, or otherwise incomplete.²⁹³

By outlawing this sort of deception, Congress's principal aim was to move away from securities markets in which *caveat emptor* was the rule, and toward markets in which full disclosure was, at least in theory, the aspiration.²⁹⁴ It is clear that written and oral statements can be deceptive,²⁹⁵ as can silence when the defendant is under a duty to speak.²⁹⁶ But what is important for our purposes is that conduct, such as a corporate signal, can violate Rule 10b-5. This was reiterated by the U.S. Supreme Court in the 2008 case, *Stoneridge Investment Partners, LLC v. Scientific-Atlanta, Inc.*, in which it stated that “[c]onduct itself can be deceptive,” and rejected the notion that “there must be a specific oral or written statement before there could be liability.”²⁹⁷ But not all fraudulent conduct will violate section 10(b), for in order to deceive, a defendant's conduct has to give “the victim a false impression,”²⁹⁸ which in turn requires a sufficient nexus between the defendant's actions and the

10(b), sets forth the types of manipulative and deceptive practices that are actionable, including making misstatements of material facts and for any statement that is made, omitting a material fact necessary to avoid having a statement be misleading. 17 C.F.R. § 140.10b-5 (2012).

²⁹² See *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 199 (1976) (stating that the term “manipulative” is “virtually a term of art when used in connection with securities markets,” and explaining that it refers to “conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities”). These practices included transactions such as wash sales, matched orders, and rigged prices. See *Santa Fe Indus., Inc. v. Green*, 430 U.S. 462, 476 (1977).

²⁹³ See *Dirks*, 463 U.S. at 655 n.14 (stating that temporary insiders, such as lawyers, accountants, and investment bankers, can inherit a fiduciary duty not to trade on inside corporate information); *Chiarella v. United States*, 445 U.S. 222, 235 (1980) (holding that a market participant who possesses nonpublic information, but who does not owe a fiduciary or similar duty to shareholders, can trade without violating section 10(b)).

²⁹⁴ See *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 151 (1972) (stating that the underlying goal of the 1934 Act was “to substitute a philosophy of full disclosure for the philosophy of *caveat emptor*” (quoting *SEC v. Capital Gains Research Bureau*, 375 U.S. 180, 186 (1963))).

²⁹⁵ See *Santa Fe Indus.*, 430 U.S. at 471–74.

²⁹⁶ See *Affiliated Ute Citizens*, 406 U.S. at 153.

²⁹⁷ *Stoneridge*, 552 U.S. at 158.

²⁹⁸ *United States v. Finnerty*, 533 F.3d 143, 148 (2d Cir. 2008). Written and oral statements (and omissions) also involve “conduct,” but in interpreting them, the communication's receiver will look primarily to the words used, and not to the actions of those making the statements. See *id.* at 148–49.

victim's expectations.²⁹⁹ In most cases, this nexus will be established if the conduct, as observed and interpreted by the victim, can be deemed to send a message: it acts as a form of communication that gives a false impression.³⁰⁰

A corporate signal can deceive, or give a false impression when it is interpreted by investors as a statement about the company, the investors believe that statement to be truthful, and the statement is in fact not truthful or is misleading.³⁰¹ In our example, a reasonable investor will interpret a decision to increase a company's dividend as comprising a set of plausible statements or claims about the company's true state of affairs: (1) that the company's profits are increasing; (2) that the company can afford the dividend; and (3) that the company's growth opportunities have ended, and its management has decided to distribute previously retained earnings to shareholders. The first two interpretations should lead to an increase in the value of the company's stock, whereas the third is more difficult to predict. The third interpretation should lead to a decrease in value if investors interpret it as a pure sign that the company's growth has stalled, or an increase if the managers are tying their own hands to make it more difficult for them to use the excess cash to increase agency costs.³⁰² If the announcement of the dividend increase leads to an increase in the company's market price, then the most plausible interpretation is that the market has inter-

²⁹⁹ Compare *Finnerty*, 533 F.3d at 149 (holding that violating stock exchange rules by itself is insufficient to prove securities fraud, even if those trading on the exchange had some expectation that market makers would follow rules, and that a more direct connection is needed), with *SEC v. Simpson Capital Mgmt., Inc.*, 586 F. Supp. 2d 196, 205 (S.D.N.Y. 2008) (finding conduct to be deceptive where "mutual funds were misled into thinking that the trades were made before 4 p.m." when they were actually submitted after that time), and *In re Mut. Funds Inv. Litig.*, 384 F. Supp. 2d 845, 856 (D. Md. 2005) (holding that market timing by itself is not illegal, but it is deceptive "if it is engaged in by favored market insiders at the expense of long-term mutual fund investors from whom it is concealed and who have a right to rely upon its prevention by fund advisers' and managers' good faith performance of their fiduciary obligations").

³⁰⁰ See *Finnerty*, 533 F.3d at 149 (concluding that the court did not need to reach the question of whether deception under section 10(b) requires "some form of communication . . . (although that is the template of virtually every case)").

³⁰¹ See *Simpson Capital Mgmt.*, 586 F. Supp. 2d at 205; *In re Mut. Funds*, 384 F. Supp. 2d at 856.

³⁰² See William W. Bratton, *The New Dividend Puzzle*, 93 GEO. L.J. 845, 868-69 (2005) (describing the agency theory of dividends); Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AM. ECON. REV. 323, 323-24 (1986) (developing a free cash flow agency explanation, and distinguishing between managers tying hands via debt, which is contractual in nature, and managers issuing dividends, which, unlike interest payments, is a discretionary act).

preted the dividend as a positive statement.³⁰³ But the company is in fact overvalued, so by bidding up the market price in response to the dividend, investors are sending the following return statement to the CEO: we do not believe that the company is overvalued. As a result, the investors have been deceived.³⁰⁴

2. Scienter

Section 10(b) also requires that the defendant acted with scienter—the mental state embracing intent to deceive, manipulate, or defraud.³⁰⁵ Proving scienter often requires “inference from circumstantial evidence.”³⁰⁶ In our example, the CEO used the dividend increase with the intent to deceive investors. A dividend requires approval of the board of directors,³⁰⁷ whose meeting minutes may include evidence about the CEO’s and the board’s intent.³⁰⁸ Moreover, the company, and

³⁰³ If the dividend announcement leads to a decrease in the market price, however, then the most plausible interpretation is that investors have interpreted the signal in a negative fashion. In other words, investors have interpreted it as a statement that the company is overvalued, or equivalently, that its future growth prospects are less than the market had previously thought. This can be because the market interprets the signal correctly as a lie—it sees through the deception. In the latter case, there would be no cause of action under section 10(b) because those relying on the signal were not harmed. *See Stoneridge*, 552 U.S. at 157 (stating that there must be an economic loss to satisfy the requirements of a claim for securities fraud under section 10(b)).

³⁰⁴ More precisely, in order to provide this deception, and show that the increase in price was due to the dividend, a plaintiff will need to hire an expert to do an event study. *See* Frank Torchio, *Proper Event Study Analysis in Securities Litigation*, 35 J. CORP. L. 159, 160–63 (2009) (describing the methodology of an event study). In such a study, the expert will compare the historical movements of the company’s market price in order to get a baseline price. *See id.* at 162. It will then look at the movement in the company’s market prices around the time of the dividend, usually using a three-day window: two days before and one day after. *See id.* Finally, the expert will compare the changes in the price upon the announcement of the dividend with the baseline price to see if it in fact was the dividend that caused the change in price. *See id.* The goal of such studies, which are commonly used in securities litigation, is to try to ensure that the change in price was not due to some other news about the company released around the time of the dividend. *See id.* at 160. Given that, in our example, the manager intends to use the dividend increase to deceive the market, he would want to make sure that the dividend increase is as salient as possible, so he would not release any other information around the same time. *See supra* notes 121–129 and accompanying text (describing a manager’s incentive to make corporate signals salient).

³⁰⁵ *See Hochfelder*, 425 U.S. at 193 n.12, 201.

³⁰⁶ *Herman & MacLean v. Huddleston*, 459 U.S. 375, 390–91 n.30 (1983) (stating that “the difficulty of proving the defendant’s state of mind supports a lower standard of proof”).

³⁰⁷ *See* DEL. CODE ANN. tit. 8, § 170(a) (2010) (authorizing the board of directors to pay dividends).

³⁰⁸ In some cases, it will be easy to show that a CEO intended to use a dividend or other corporate signal to deceive investors, because the executive will leave a paper trail.

other companies in the same industry, will have a history of dividend payments; a plaintiff will look for discontinuities in that history, as well as for tit-for-tat dividends within the industry.³⁰⁹ A company, in addition, is more likely to pay a dividend if it has the requisite cash and expects to have sufficient cash flows in the future to meet its obligations;³¹⁰ a sudden, unexpected cut in dividends after a period of increases can also provide evidence of scienter.³¹¹

3. Reliance

Even if the CEO intended to send a deceptive signal and that signal was material, a plaintiff using a private cause of action under Rule 10b-5 will still have to show that he relied on the signal.³¹² Alternatively, a plaintiff can meet the requirements to trigger the fraud-on-the-markets presumption created by the U.S. Supreme Court in the 1988 case, *Basic v. Levinson*.³¹³ In a class action lawsuit, which is the most common way to bring a private action under Rule 10b-5, a plaintiff will generally be able to rely on the fraud-on-the-markets presumption

Although it is relatively unlikely that a CEO will do so voluntarily, if she is acting in collusion with the board of directors, it is more likely that such a paper trail will exist. The minutes are unlikely to reveal a smoking gun, but they may include other information regarding the company's current financial state that can help the plaintiff prove scienter, if it is evidence that the company would find it difficult to increase the dividend.

³⁰⁹ See *In re Xcel Energy, Inc.*, 286 F. Supp. 2d 1047, 1059 (D. Minn. 2003) (stating that the plaintiffs in a security fraud case looked to the defendant's historic payment of dividends to prove that its actions constituted securities fraud, although the plaintiffs were unsuccessful in this case).

³¹⁰ At first glance, this raises difficulties. If one adopts the standard interpretation of the dividend signal, in which a good company tries to separate itself from bad companies by declaring dividends in cases in which there is a risk that its future cash flows may not materialize, then it is this willingness to take the risk that allows good companies to separate themselves. But we are concerned with deceptive signals used by bad companies—those who do not have the requisite cash flows, or face a substantially high risk that they will not have sufficient cash flows in the future. See *supra* notes 53–59 and accompanying text (describing standard dividend signaling theories).

³¹¹ A company that has been increasing its dividends repeatedly over a period of time and suddenly cuts the dividend without warning is more likely to have been using dividend payments to intentionally deceive shareholders. See Efraim Benmelech et al., *Stock-Based Compensation and CEO (Dis)Incentives*, 125 Q.J. ECON. 1769, 1782–89 (2010) (setting forth a theory of the incentives of managers to conceal information by increasing dividends, up to the point when they run out of funds and must drastically reduce dividends—an event that would increase the likelihood that shareholders will hold managers accountable).

³¹² See *Stoneridge*, 552 U.S. at 157; 17 C.F.R. § 240.10b-5 (2012).

³¹³ 485 U.S. 224, 241–42, 247 (1988) (holding that investors rely on market price, which encapsulates most publicly available information, when purchasing or selling stock, and “an investor’s reliance on any public material misrepresentations, therefore, may be presumed for purposes of a Rule 10b-5 action”).

when, as in our example, the security in question is common stock listed on a major stock exchange.³¹⁴ The fraud-on-the-market analysis for deceptive signals is essentially the same as for standard misrepresentations and omissions.³¹⁵ The information embedded in a corporate signal will be extracted and interpreted by investors, who will use it to revise their valuation of the company's securities. If they determine that the current market price has not yet incorporated this information, they will trade on it until the market price reflects it. This is how, according to the ECMH, capital markets react whenever companies release nonpublic information.³¹⁶ The way that the information is communicated should not matter for purposes of the ECMH.³¹⁷ Finally, to meet the reliance requirement,³¹⁸ a plaintiff has to show that the deceptive signal reached the market.³¹⁹ A manager engaged in deceptive signaling will not only want to make the signal public, but also to make it stand out—make it salient.³²⁰

C. *The Sarbanes-Oxley Act: Mandatory Signals With Penalties Attached*

One way for Congress to take a more holistic approach to regulating corporate communications is to require managers to act in a certain way,³²¹ require disclosure of those actions, and penalize managers if they fail to act, fail to make the requisite disclosures, or both. This approach would consist of a mandatory signaling regime with penalties attached. Until SOX, which contained a number of controversial provisions directly regulating the conduct of managers in the area of corporate governance,³²² federal securities laws dealt primarily with disclo-

³¹⁴ See *id.* at 245.

³¹⁵ See *id.* at 241–42.

³¹⁶ See Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 VA. L. REV. 945, 990–91 (1991) (describing how corporate signals would be interpreted by capital markets and incorporated into market price under ECMH).

³¹⁷ See *id.*

³¹⁸ See *Stoneridge*, 552 U.S. at 158–59 (stating that in order for deceptive conduct to be actionable in a private cause of action, the deceptive conduct must be communicated to the public; if it is kept hidden from the market, then it cannot be incorporated into market price, and the fraud-on-the-market reliance presumption will not be applicable).

³¹⁹ See *id.* In certain instances, the price may not move because of a countervailing signal, disclosure, or other extraneous event.

³²⁰ See *supra* notes 121–129 and accompanying text (arguing that in order for a signal to be effective it has to be made public, and that managers sending it will have an incentive to make it salient).

³²¹ The manager's required action will act as a signal.

³²² Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28, and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)). Commentators have identified a number of problems with SOX. See, e.g., Kate

sure issues.³²³ This Section proposes a new interpretation of some of these SOX governance provisions: that they act as an enforceable, mandatory signaling regime.³²⁴ For such a signaling device to be effective, it needs to meet two requirements: (1) the expected sanctions for sending a deceptive signal are higher than the expected benefits; and (2) the gap between the time an actor sends a deceptive signal and the time a deception is detected and punished is not too large.

1. Mandatory Signals with Recursive Monitoring

SOX imposes a number of new duties on the CEO and Chief Financial Officer (CFO), mandating them to take certain actions and certify that they have done so.³²⁵ Good managers will want to be able to send credible signals that they have instituted robust internal controls.³²⁶ To help them do this, Congress adopted sections 103, 302, 303,

Litvak, *Sarbanes-Oxley and the Cross-Listing Premium*, 105 MICH. L. REV. 1857, 1897–98 (2007) (arguing that SOX had more negative effects than positive effects for investors); Larry E. Ribstein, *Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002*, 28 J. CORP. L. 1, 18–19 (2002) (providing an overview of the problems associated with the regulatory approach used by SOX); Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L.J. 1521, 1585–91 (2005) (arguing that SOX was not effective in terms of improving audit quality or benefiting investors, for SOX was simply political “window dressing”).

³²³ See *Santa Fe Indus.*, 430 U.S. at 478–80 (providing the rationale for an opinion based on the difference between securities fraud, regulated by federal law, and fiduciary duties and other corporate governance matters that Congress has left within the province of individual states).

³²⁴ Mandatory signaling devices will help encourage bad companies to exit and move to jurisdictions with weaker governance and securities regimes, including those with default regimes that allow shareholders to opt out. See Anita Indira Anand, *An Analysis of Enabling vs. Mandatory Corporate Governance: Structures Post-Sarbanes-Oxley*, 31 DEL. J. CORP. L. 229, 235 (2006) (discussing the differences between mandatory and enabling governance regimes in an international context). Shareholders are likely to opt out in public corporations, given collective action problems. See OLSON, *supra* note 254, at 44–47.

³²⁵ See Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15, 18, 28, and 29 U.S.C.A. (West, Westlaw through P.L. 112-196)).

³²⁶ Internal controls help identify existing (and potential) problems, and assure that the information needed to meet disclosure requirements is gathered, verified, and transferred up the ladder to those with the primary responsibility for drafting disclosure documents—top managers, the board of directors, inside and outside counsel, and auditors. See Melvin A. Eisenberg, *The Board of Directors and Internal Controls*, 19 CARDOZO L. REV. 237, 240–44 (1997). Internal controls are the organizational equivalent to an antivirus program that is always running in the background to identify and quarantine viruses and prevent unauthorized intrusions into a computer system. As with such an antivirus program, internal controls need to be monitored and updated to deal with new types of risks. See *id.* at 250–55 (arguing that the board of directors should be required to be more proactive in creating and monitoring a company’s internal controls). In recent years, Delaware courts

404, and 906 of SOX.³²⁷ Section 404 requires companies to prepare an “internal control report” to be included in their annual reports,³²⁸ stating “the responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting.”³²⁹ The report must also “contain an assessment . . . of the effectiveness of the internal control structure and procedures of the issuer for financial reporting,”³³⁰ as well as an assessment of this assessment, performed by the company’s auditors, who must “report on” the managers’ assessment and attest that the managers in fact carried it out.³³¹

This is an example of a monitor—the managers—forced to engage in monitoring and of a second monitor forced to monitor the first monitor. This double-monitoring scenario is more effective than one may at first think. Some may argue that the second monitor—the auditors—must themselves be monitored, and they are because they are subject to liability.³³² But what makes this monitoring scheme effective is its recursive nature: if the auditors fail to meet their duties under section 404(b), and the managers fail to catch the auditors’ failure, the managers would themselves violate section 404(a).³³³ This sort of recursive monitoring has not received any real attention from commentators, but it is a simple solution to the problem of a principal having one agent monitor a second agent.³³⁴

The recursive monitoring features of section 404 run even deeper.³³⁵ Section 302(a)(4) requires a company’s CEO and CFO to

have significantly enhanced the internal control requirements of corporations. *See* Stone v. Ritter, 911 A.2d 362, 371–72 (Del. 2006) (discussing what constitutes a reasonable system of internal controls); *In re* Caremark Int’l Inc. Derivative Litig., 698 A.2d 959, 970 (Del. Ch. 1996) (emphasizing a director’s duty to oversee the company’s internal controls).

³²⁷ Sarbanes-Oxley Act § 103 (auditing, quality control, and independence standards); *id.* § 302 (corporate responsibility for financial reports); *id.* § 303 (improperly influencing audits); *id.* § 404 (management assessment of internal controls); *id.* § 906 (corporate officers failing to certify financial reports); *see* Donald C. Langevoort, *Internal Controls After Sarbanes-Oxley: Revisiting Corporate Law’s “Duty of Care as Responsibility for Systems,”* 31 J. CORP. L. 949, 957–64 (2006) (providing an overview of SOX’s internal control mechanisms).

³²⁸ Sarbanes-Oxley Act of 2002 § 404(a), Pub. L. No. 107-204, 116 Stat. 745.

³²⁹ *Id.* § 404(a)(1).

³³⁰ *Id.* § 404(a)(2).

³³¹ *Id.* § 404(b).

³³² *Id.*

³³³ *Id.* §§ 404(a), 404(b).

³³⁴ *See* Bernard S. Black, *Agents Watching Agents: The Promise of Institutional Investor Voice,* 39 UCLA L. REV. 811, 850–52 (1992) (discussing the problems and potential solutions with having one agent monitoring a second agent, given the inherent conflicts and informational asymmetries within principal agency relationships).

³³⁵ Sarbanes-Oxley Act of 2002 § 404, Pub. L. No. 107-204, 116 Stat. 745.

certify in each annual and quarterly report that they: (1) “are responsible for establishing and maintaining internal controls”;³³⁶ (2) have designed them to “ensure that material information relating to the issuer and its consolidated subsidiaries is made known” to them;³³⁷ (3) have carried out the evaluation needed to comply with section 404(a) and included their conclusions in the annual report;³³⁸ and (4) have disclosed any “significant changes in internal controls”—anything that could significantly affect them in the future—and any “corrective actions” that were necessary.³³⁹

During their evaluation, the CEO and CFO may discover material “deficiencies in the design or operation of internal controls which could adversely affect” the production, recording, and flow of financial information and other “material weaknesses” in the controls. They may discover fraud by those who have “a significant role in the issuer’s internal controls.”³⁴⁰ If they discover either, they have to disclose this to the auditors, the board of directors, and the audit committee.³⁴¹ And they must certify that they have done so.³⁴² A company’s audit committee is also required, under section 301, to “establish procedures for the receipt, retention, and treatment of complaints received by the issuer regarding . . . internal accounting controls.”³⁴³ SOX also requires that the CEO and CFO certify any periodic report that contains financial statements, including quarterly reports and reports filed pursuant to Form 8-K, that the report “fairly presents, in all material respects, the financial condition and results of operations” of the company.³⁴⁴

The recursive structure of the auditor’s obligations under section 404 is further amplified by section 103(a)(2)(A)(iii), which requires auditors to report “the scope of [their] testing of the internal control

³³⁶ *Id.* § 302(a)(4)(A).

³³⁷ *Id.* § 302(a)(4)(B).

³³⁸ *See id.* § 302(a)(4)(C)–(D).

³³⁹ *Id.* § 302(a)(6). Section 302 also applies to quarterly reports and requires the CEO and CFO to evaluate the effectiveness of the internal control no more than ninety days before the filing and to disclose their findings in the filing. *Id.* § 302(a)(4).

³⁴⁰ *See id.* § 302(a)(5).

³⁴¹ Sarbanes-Oxley Act of 2002 § 302(a)(5), 15 U.S.C. § 7241(a)(5) (2006).

³⁴² *Id.*

³⁴³ *Id.* § 301(c)(4). Members of a company’s audit committee must also have “experience with internal accounting controls.” *Id.* § 407(b)(3).

³⁴⁴ *Id.* § 906(b). Violating this certification requirement is punishable with a fine of \$1 million and prison sentence of no more than ten years. *Id.* § 906(c)(1). A willful violation is punishable by a fine of up to \$5 million, and a prison sentence of up to twenty years. *Id.* § 906(c)(2).

structure and procedures of the issuer, required by section 404(b).”³⁴⁵ The structure is also amplified by section 303, which prohibits managers from trying to “fraudulently influence, coerce, manipulate, or mislead” an auditor so as to make financial statements misleading.³⁴⁶ And lawyers, who will be involved in drafting disclosures and helping managers meet the requirements of sections 302 and 404, are themselves subject to heightened standards.³⁴⁷ Section 307 requires that a company’s lawyer report to the chief legal counsel or the CEO any “evidence of a material violation of securities laws or breach of fiduciary duty or similar violation by the company” or any of its agents, and if neither of them takes the required remedial actions, the lawyer must report the evidence to the board or an appropriate committee of the board.³⁴⁸

2. The Limitations of SOX’s Mandatory Signaling Mechanisms

A good manager will want to be able to separate herself from bad managers immediately after she incurs the signaling cost. But in many instances, a bad manager is able and willing to incur the signaling costs for a period of time, hoping that she will be able to turn things around and avoid having anyone ever find out that she was sending misleading signals.³⁴⁹ A signaling mechanism that requires an actor to incur a signaling cost at time t , but does not penalize deceptive signals until sometime in the future— $t + n$ —will allow bad actors to pool themselves with good ones by sending deceptive signals during the n periods in between. Many civil penalties and criminal sanctions have this delay between when a bad act is committed and when it is discovered and punished.³⁵⁰ Because the mandatory signaling mechanisms in SOX are enforced with delayed sanctions, they are susceptible to pooling during the intermediate periods.³⁵¹

³⁴⁵ *Id.* § 103(a)(2)(A)(iii).

³⁴⁶ *Id.* § 303(a).

³⁴⁷ Sarbanes-Oxley Act of 2002 § 307, 15 U.S.C. § 7245 (2006).

³⁴⁸ *Id.*

³⁴⁹ See *supra* notes 35–44 and accompanying text.

³⁵⁰ For example, in the case against Enron’s former CEO Jeffrey Skilling, the defendant engaged in a conspiracy to fraudulently inflate the company’s financial state to investors for over two years until the company declared bankruptcy in 2001, and was then finally indicted by a grand jury three years later in 2004. *United States v. Skilling*, 130 S. Ct. 2896, 2907–08 (2010).

³⁵¹ See 18 U.S.C. § 1350(c) (2006) (establishing that those corporate officers found guilty of failing to certify financial reports “shall be fined not more than \$1,000,000, or imprisoned not more than 10 years, or both” for any violation, or “shall be fined not more than \$5,000,000, or imprisoned not more than 20 years, or both” for any willful violation); *id.* § 1519 (establishing that those found guilty of destroying, altering, or falsifying records

D. Possible Objections

This Section raises and addresses three possible objections against using securities laws to regulate deceptive corporate signals.

1. The Over-Regulation Objection: The Distinction Between Deceptive and Fraudulent Signals

Given the nature of corporate signaling, one would expect that, at any one time, a large number of companies are engaged in deceptive signaling. To the extent that it engages in signaling, a bad company will almost always make use of deceptive signals; its goal, after all, is to get investors to believe, albeit incorrectly, that it is a good company. But suppose that a large number of companies were committing fraud in their oral and written statements; what would Congress and the SEC do? Historically, their reaction to the revelation of widespread fraud has been to adopt more stringent rules.³⁵² The mere fact that deceptive signaling is widespread, by itself, is not a valid objection. The real *positive* issue is the following: to what extent do deceptive verbal and non-verbal communications harm investors? The real *normative* issue is the following: how much should society spend in dealing with the problem of fraudulent communications?

2. The Multiple Interpretation Objection

Corporate signals are often open to multiple interpretations.³⁵³ At first glance it may appear that the open texture, and possible multiple interpretations of corporate signals, will make it excessively difficult for a court to determine whether a signal was truthful or deceptive, and whether there was the requisite intent to deceive. But markets, led by sophisticated investors seeking arbitrage opportunities, attach meaning

in federal investigations and bankruptcy “shall be fined under this title, imprisoned not more than 20 years, or both”).

³⁵² See, e.g., Dodd-Frank Wall Street Reform and Consumer Protection Act §§ 901–991, Pub. L. No. 111-203, 124 Stat. 1376 (codified in scattered sections of the U.S. Code) (providing enhanced incentives to whistleblowers, greatly increasing regulations of rating agencies, providing shareholders greater access to a company’s proxy, further regulating executive compensation, and increasing oversight by the SEC); Securities Exchange Act of 1934, 48 Stat. 881 (codified at 15 U.S.C.A. §§ 78a–78pp (West, Westlaw through P.L. 112-158)) (creating the SEC to regulate financial markets and periodic financial disclosures by corporations in the wake of the Great Depression).

³⁵³ See *supra* notes 80–87 and accompanying text (discussing the multiple interpretation problem as one of the limitations of standard signaling theory).

to corporate signals in the same way that they attach meanings to other corporate statements.³⁵⁴

Additionally, even when a signal is open to multiple interpretations, it is possible to pigeonhole it either as positive or negative. A rational manager, for example, rarely has a reason to send a negative signal, and if the action that resulted in the signal is outside the manager's control, then a positive signal is more likely to be a harbinger of good news, and a negative one a harbinger of bad news. Investors and courts may be able to further refine their interpretation of vague signals by using other available information. They may cross-check against disclosure documents, and take into account the company's history with regard to a signal, as well as the history of its competitors.

3. The "Sticky" Signal Objection

As a general matter, once a signal has created a salient reference point, moving away from it will lead to a larger than usual negative reaction by capital markets.³⁵⁵ For example, once a company starts paying a dividend, it is unlikely to stop paying it, and even when the company experiences changes that call for a change in the dividend, the company will be hesitant to adjust the dividend immediately.³⁵⁶ The company is also more likely to increase its dividend than to reduce it. As a result, a manager will have an incentive to delay cutting back a dividend as long as she can; delaying makes sense because the negative reaction from any cut will be large, and there is some likelihood that during the delay the company's fortune will change, making it unnecessary to cut the dividend.

A similar argument applies to other signals, such as the use of short-term debt and collateral. In order for a manager to benefit from these two signals, these signals have to be made salient to the target audience—the shareholders.³⁵⁷ But this very salience, which is needed to get the message across, helps cement expectations. If these expectations are later undermined by a change in the signal, such as moving

³⁵⁴ Even if markets are not perfectly efficient, they regularly react to corporate signals such as increasing or decreasing dividends and stock repurchases. *See supra* notes 35–78 and accompanying text.

³⁵⁵ *See supra* notes 121–129 and accompanying text (discussing the importance of salience for managers using corporate signals strategically).

³⁵⁶ *See supra* notes 121–129 and accompanying text (describing the importance of salience, as well as the potential stickiness associated with signals like dividends, within the context of strategic corporate signaling).

³⁵⁷ *See supra* notes 121–129 and accompanying text.

from short-term to long-term debt, or no longer pledging collateral, the shareholders' negative reaction will be magnified.

If a signal is sticky, a manager's failure to change the signal creates certain ambiguity about whether, by her inaction, she intended to deceive investors. But it is possible to use other information to determine the manager's state of mind. For example, if the company's financial position had changed significantly, such that continuing to pay a dividend would create a material long-term loss to the company, then a manager likely intended to deceive investors and make them believe that the company's prospects had not changed.

CONCLUSION

This Article provides the first comprehensive analysis of corporate signals as actions of a manager or corporation observed by an investor, who attaches meaning to them, and uses them in deciding how to trade or vote and in testing the veracity of other corporate information. More generally, the Article provides an integrated analysis of corporate communications, broadly construed, as information transferred from managers or corporations to investors using verbal disclosures that are subject to federal securities laws, and corporate signals. This in-depth analysis identifies a deep connection between the use of corporate signals—both truthful and deceptive—and recent changes in securities laws.

The Article also reveals how a lawmaker would go about designing antifraud provisions under the securities laws if his goal is to reduce total fraud, and not simply to rechannel deceptive practices from the realm of written and oral statements to that of deceptive corporate signals. Corporate signaling, in all its guises, creates a number of social costs that commentators and policymakers have failed to take into account. By providing a careful analysis of the practice of deceptive signaling and of its relationship to current securities laws, to stock market bubbles, and to destabilizing signaling races, the Article helps bring the general problem to the foreground. By providing a sketch of a holistic or integrated approach to the regulation of securities fraud, the Article helps set the framework for further analysis, empirical testing, and more concrete policy recommendations.