

# Insider Trading, Price Signals, and Noisy Information

DENNIS S. CORGILL\*

INTRODUCTION .....	356
I. DISCLOSURE AND INSIDE INFORMATION .....	362
A. <i>The Goal of Disclosure and the Standard of Materiality</i> .....	362
B. <i>Remedial Provisions and Insider Trading</i> .....	369
II. INFORMATION AND PRICE SIGNALS .....	375
A. <i>Expected Value and Investor Preferences</i> .....	376
B. <i>Rate of Return and the Value of Assets</i> .....	378
C. <i>Risk and Risk Premiums</i> .....	381
D. <i>Patterns of Price Signals</i> .....	384
III. A CAUSATIVE THEORY OF PRICE SIGNALS .....	388
A. <i>The Positive Theory Distinguished</i> .....	389
B. <i>First Movers and Free Riders</i> .....	393
C. <i>Accurate Signals and Noise</i> .....	398
IV. MARKET FAILURES AND INSIDERS .....	405
A. <i>Dual Sets of Incentives</i> .....	406
1. <i>Systematic or Market-Specific Risk</i> .....	407
2. <i>Industry-Specific Risk</i> .....	408
3. <i>Asset Value and Firm-Specific Risk</i> .....	409
B. <i>Addressing Market Failures</i> .....	412
CONCLUSION .....	416

---

\* Associate Professor of Law, Widener University School of Law; J.D., Yale University, 1982; M.A., University of Chicago, 1977; A.B., Stanford University, 1973. The Author would like to thank those who provided valuable assistance. Miriam Albert, Saul Levmore, Robert E. Mense, Juliet M. Moringiello, Michael Murtaugh, Roberta Romans, Lynn A. Stout, Peter van Zante, and participants in the George Mason School of Law Faculty Workshop Series provided helpful comments on early drafts. Mark Kraynak, Leslie Malady, and Eileen Ann Pomento provided research assistance.

## INTRODUCTION

"Insider trading" has become a label for a securities transaction gone awry.<sup>1</sup> The insider unfairly gains, and individual investors unfairly lose. The insider who unfairly gains has nonpublic material information and reaps rewards by being the first to trade on that information. The individuals who unfairly lose did not know of that information and would have traded differently had they known. This approach to defining the problem of insider trading is inherent in the two examples typically presented as paradigms of insider trading.<sup>2</sup> In both, an insider exploits informational advantages by engaging in arbitrage at the expense of individual investors.<sup>3</sup>

The reason most consider insider trading unfair derives from a theory of corrective justice that underlies much of insider trading litigation today. The theory starts from the premise that individual investors own material information. An insider does not own material information and, consequently, should not trade on nonpublic information without first disclosing it and allowing individual investors to react. Of course, insider trading occurs when the insider trades without first disclosing the information and allowing the market to adjust. When this wrongful conduct causes injury to individual investors, corrective justice principles dictate that the insider should rectify those injuries.<sup>4</sup>

---

1. The remedial provisions commonly used to attack insider trading are discussed *infra* part I.B. Of course, "insider trading" requires that one of the parties to the securities transaction be an insider. The definition of an "insider" for purposes of determining liability varies according to the remedial provision sought to be applied. For purposes of the Securities Exchange Act of 1934 § 10(b), 15 U.S.C. § 78j(b) (1994) ("§ 10(b)"), and 17 C.F.R. § 240.10b-5 (1995) ("Rule 10b-5"), the definition includes "anyone who . . . has 'access, directly or indirectly, to information intended to be available only for a corporate purpose and not for the personal benefit of anyone.'" SEC v. Texas Gulf Sulphur Co., 401 F.2d 833, 848 (2d Cir. 1968) (quoting *In re Cady, Roberts & Co.*, 40 S.E.C. 907, 912 (1961)), *cert. denied sub nom.* Coates v. SEC, 394 U.S. 976 (1969), *and cert. denied sub nom.* Kline v. SEC, 394 U.S. 976 (1969). This status extends to tippees and tippees when the inside information is intended to benefit the disclosing insider. Dirks v. SEC, 463 U.S. 646, 661 (1983). Additionally, at least three circuit courts have adopted the misappropriation of information theory attributed to the dissent of Chief Justice Burger in *Chiarella v. United States*, 445 U.S. 222. See *United States v. Bryan*, 58 F.3d 933 (4th Cir. 1995); SEC v. Clark, 915 F.2d 439 (9th Cir. 1990); *United States v. Carpenter*, 791 F.2d 1024 (2d Cir. 1986). This theory extends insider status for purposes of § 10(b) and Rule 10b-5 to those who acquire nonpublic material information by a breach of fiduciary duty or other wrongful behavior. *Chiarella*, 445 U.S. 239-45 (1980). For purposes of § 10(b) liability under the Securities Exchange Act of 1934, an "insider" is defined as a 10% beneficial owner, a director, or an officer. 15 U.S.C. § 78p(a). For purposes of common law liability, an "insider" is one who owes a fiduciary duty to the issuer. See *Hotchkiss v. Fisher*, 16 P.2d 531 (Kan. 1932).

2. See, e.g., ROBERT C. CLARK, CORPORATE LAW 264-65 (1986); LEWIS D. SOLOMON & ALAN R. PALMITER, CORPORATIONS: EXAMPLES AND EXPLANATIONS § 28.1.1 (1990).

3. In one example, the insider acquires nonpublic information which indicates that the value of a security will increase. The insider then purchases the security before potential sellers learn of the information. After the insider purchases the security and the information is disclosed, demand for the security increases, thereby driving up the price. By purchasing when the price was low and the information not yet disclosed, the insider gains in the amount by which the price of the security appreciated. Those who sold to the insider, had they known of the information, would not have sold before the price of the security adjusted to the information. These sellers lose in the amount by which the price of the security appreciated. See CLARK, *supra* note 2.

The second example involves the use of nonpublic information which indicates that the value of a security will decrease. Here, however, the insider already owns the security and sells before potential purchasers learn of the information. After the insider sells his or her security and the information is disclosed, the supply of the security increases, thereby driving the price down. By selling when the price was high and the information was not yet disclosed, the insider gains by avoiding a loss in the amount by which the price of the security depreciated. Those who purchased from the insider, had they known of the information, would not have purchased before the price of the security adjusted to the information. Those purchasers lose in the amount by which the price of the security depreciated. *Id.*

4. Richard A. Posner, *The Concept of Corrective Justice in Recent Theories of Tort Law*, 10 J. LEGAL STUD. 187, 190 (1981) ("The duty to rectify is based not on the fact of injury but on the conjunction of injury and wrongdoing."). In fact, the current debate over insider trading largely views the problem, either explicitly or implicitly, in terms of the ownership of nonpublic material information. For example, two of the more well-known proposals to reform insider trading

Using corrective justice principles to address insider trading does not always reach results that are consistent with the traditional disclosure goals of the securities laws. Consider the insider who possesses nonpublic material information but decides not to trade on that information. Here, the insider does not engage in wrongful conduct because the insider does not exploit informational advantages that belong to others. Nor does the insider cause injury because the insider does not engage in transactions with individual investors. While corrective justice principles may deter insiders from trading on material information without first disclosing, those principles do not provide a mechanism for individual investors to obtain information that an insider merely fails to disclose.<sup>5</sup>

An approach that focuses more upon disclosure would address the failures of market forces to provide insiders with economic incentives to develop or to discover and then to disclose material information. The shift in orientation has significant implications. One is that, under a market failures approach, the problem of insider trading is defined in terms of the success or failure of market mechanisms to prompt disclosure of nonpublic material information. Insider trading is not a problem if the insider trades on particular kinds of information that market mechanisms already convey, quickly and accurately, to individual investors. This differs from the corrective justice approach because the success or failure of individuals' investments has little, if any, relevance.

A shift in orientation to a market failures approach would lead to different remedial provisions to address the problem of insider trading. Remedial provisions would supplement inadequate economic incentives with legal incentives. For example, if insiders do not already have adequate economic incentives to develop or to discover particular kinds of material information, remedial provisions should provide additional incentives for insiders to develop or to discover that information. If, by contrast, insiders already have adequate economic incentives to develop or to discover and then to disclose particular kinds of material information, there is no need for supplemental legal incentives.

---

regulation can be seen as different interpretations of who should own the entitlement to nonpublic material information. Dean Henry G. Manne has urged that insider trading should not be prohibited because issuers should be allowed to use insider trading as a form of executive compensation. HENRY G. MANNE, *INSIDER TRADING AND THE STOCK MARKET* 138-41 (1966). This proposal begins with the accepted proposition that an employer owns the work product of an employee, including valuable information that is developed or discovered within the scope of employment. As owner of the information, the issuer should be allowed to transfer ownership to insiders by way of contract. As Dean Manne argues, such a contract provides, in effect, a method of compensation that may be advantageous to the issuer. *Id.*

Another proposal would expand the concept of insider trading to all investors with entitlements to all nonpublic material information. This proposal, which was made by the Securities and Exchange Commission ("SEC"), would extend insider trading prohibitions to market professionals and other sophisticated investors who have no connection with an issuer. This proposal would prevent anyone with nonpublic material information from trading on that information without first disclosing the information and waiting until the market adjusts. See CLARK, *supra* note 2, at 348. ("[T]he SEC tried to extend the antifraud provisions beyond corporate-generated information by the use of the phrase *material nonpublic information* . . ." (emphasis in original)). Although the SEC's proposal did not become law, the general approach survives in what is known as the misappropriation theory, which extends insider trading prohibitions beyond insiders to reach "noninsiders who trade on nonpublic information obtained through breach of a fiduciary duty, theft, or other wrongful behavior." Lynn A. Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613, 625-26 (1988). In one sense, misappropriation theory grants all investors with entitlements to information held, not only by insiders and the issuers for whom they work, but also by others who came into possession of inside information.

5. In *SEC v. Texas Gulf Sulphur Co.*, the court stated that an insider must either disclose inside information to the investing public or abstain from trading on the information. 401 F.2d 833, 848 (2d Cir. 1968), *cert. denied sub nom.* Coates v. SEC, 394 U.S. 976 (1969), and *cert. denied sub nom.* Kline v. SEC, 394 U.S. 976 (1969). This duty to "disclose or abstain" was found to apply for purposes of private actions under § 10(b) and Rule 10b-5 in *Shapiro v. Merrill Lynch, Pierce, Fenner & Smith, Inc.*, 353 F. Supp. 264 (S.D.N.Y. 1972), *aff'd*, 495 F.2d 228 (2d Cir. 1974).

Many legal scholars who have examined regulatory policy in light of the disclosure goals of the securities laws have drawn upon the extensive work of financial analysts who have studied the Efficient Capital Market Hypothesis ("ECMH").<sup>6</sup> Like all positive theories, the ECMH is a statistical prediction. The prediction is the hypothesis that securities' prices efficiently convey material information.<sup>7</sup> Efficiency here does not refer to price levels or even whether a transaction results in a gain or loss. Rather, efficiency refers to the ability of current prices to provide signals that quickly and accurately convey all available material information.<sup>8</sup> If capital markets are efficient, as the ECMH predicts, one implication is that prices adjust so quickly and so accurately that there are no systematic opportunities to exploit informational advantages by engaging in arbitrage.<sup>9</sup>

6. See, e.g., Lawrence A. Cunningham, *From Random Walks to Chaotic Crashes: The Linear Genealogy of the Efficient Capital Market Hypothesis*, 62 GEO. WASH. L. REV. 546 (1994); Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549 (1984); Donald C. Langevoort, *Theories, Assumptions, and Securities Regulation: Market Efficiency Revisited*, 140 U. PA. L. REV. 851 (1992). The influence goes beyond academic debate:

For example, the Securities and Exchange Commission has relied expressly on the ECMH in numerous contexts, including in promulgating its rules establishing the integrated-disclosure system and its rules authorizing shelf registration of securities. In addition, the United States Supreme Court has recognized the ECMH as a basis for satisfying the reliance requirement in certain securities-fraud cases.

Cunningham, *supra*, at 548 (footnotes omitted).

7. By describing the ECMH as making a prediction about *material* information, this Article refers to fundamental efficiency but not to informational efficiency. This conceptual distinction is attributed to economist James Tobin and it recognizes that not all information pertains to the intrinsic or fundamental value of the investment. James Tobin, *On the Efficiency of the Financial System*, LLOYDS BANK REV., July 1984, at 1. As Professor Cunningham has summarized:

In this context, informational efficiency describes a market in which all public information about a security is reflected in the price of that security, without regard to the quality of that information. Thus, information that concerns the fundamental value of a security is reflected, but so is information wholly unrelated to that fundamental value, such as who won the Super Bowl. *Fundamental or allocative* efficiency, then, is the more narrow proposition that security prices are accurate indicators of intrinsic value because they reflect strictly information concerning fundamental asset values.

Cunningham, *supra* note 6, at 564 (emphasis in original) (footnotes omitted). This Article does not ignore the distinction but treats informational efficiency as one potential source of noise.

8. One difficulty of providing any one definitive statement of the positive theory of the ECMH is that the ECMH "began as a statistical property, followed later by attempts to explain through some coherent theory why this property holds." Langevoort, *supra* note 6, at 856. As Professor Cunningham notes:

Many have suggested that the ECMH developed in a peculiar manner uncommon in scientific development: The proof of the hypothesis came first, beginning with Bachelier in 1900 and proceeding through the wealth of studies reporting randomness in the early 1960s. Only then was a theory proposed to explain the randomness, beginning with the first explication of the ECMH by Paul Samuelson in 1965. Economists welcomed this proof: the conditions necessary to produce it seemed tantalizingly near to those necessary to sustain a perfect market.

Cunningham, *supra* note 6, at 558-59 (footnotes omitted). Consequently, not every statement of the ECMH will mirror the one in the text, which explicitly emphasizes both the speed and accuracy of price signals. Compare Cunningham, *supra* note 6, at 559 ("[P]rices of goods (securities) in the public capital markets should adjust instantaneously and accurately to new information concerning them.") with Gilson & Kraakman, *supra* note 6, at 552 ("[The ECMH] predict[s] that, even though information is *not* immediately and costlessly available to all participants, the market will act as if it were." (emphasis in original)) and Stout, *supra* note 4, at 641 (arguing that efficiency "addresses only the market's speed in adjusting prices to new information").

9. Not long after its initial development, the ECMH significantly influenced securities law and policy, and the ECMH continues to be a focal point of scholarship today. See, e.g., Cunningham, *supra* note 6, at 548 ("[F]or nearly two decades [the ECMH] has been the context for debating corporate and securities law and policy." (emphasis in original)); Gilson & Kraakman, *supra* note 6, at 550 ("In short, the ECMH is now *the* context in which serious discussion of the regulation of financial markets takes place." (emphasis in original)); Langevoort, *supra* note 6, at 851 ("[The ECMH] diffused into law as both the SEC and the courts began to cite to it as authority for a variety of concepts and initiatives.").

Of course, not everyone agrees with the ECMH or, for that matter, with its influence upon securities law and policy. See, e.g., *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988) (White, J., concurring in part and dissenting in part) (arguing that the ECMH is an untested theory which has not been in existence long enough to justify its acceptance by the judicial system); LOUIS LOWENSTEIN, *EFFICIENT MARKET THEORY: LET THE PUNISHMENT FIT THE CRIME* (Columbia University School of Law, The Center for Law and Economic Studies Working Paper No. 100, 1993); Cunningham, *supra* note 6, at 549-50 nn.8-9 (citing studies criticizing or questioning ECMH). Justice White's misgivings in *Basic* about the lack of judicial understanding of the application of the ECMH appear to have been realized in *Feit v. Leasco Data Processing*

If the positive theory of the ECMH is accepted, the implications of the ECMH suggest that insider trading needs no regulation.<sup>10</sup> From a market failures perspective, regulation is warranted only if the capital markets fail to provide economic incentives for insiders to develop, to discover, and to disclose material information to individual investors. The ECMH predicts, however, that price signals in the capital markets already provide investors with all of the information that they need.<sup>11</sup> If the efficiency hypothesis holds true, there is no market failure to provide investors with the information that they need, and insider trading needs no regulation.<sup>12</sup>

Another economic theory, noise theory, suggests that some instances of insider trading may constitute market failures that justify regulation.<sup>13</sup> Noise theorists challenge the assumption that prices accurately signal material information. Not all investors trade on accurate financial information,<sup>14</sup> and some investors trade for nonfinancial reasons.<sup>15</sup> Those investors send inaccurate signals that produce what economists call "noise."<sup>16</sup> To the extent that insiders send noisy price signals, insider trading is a market failure that warrants regulation.

An approach to determining whether insider trading constitutes a market failure can be derived from the contributions of legal scholars, who have developed a causative theory that provides an understanding of how the price mechanisms of the capital markets

Equipment Corp., 332 F. Supp. 544 (E.D.N.Y. 1971), where the court dismissed arguments that sophisticated investors were aware of the attractiveness of the Reliance Insurance Company based on publicly available information and found that the offeror failed "to disclose the size and nature of the available surplus surplus." Roger J. Dennis, *Materiality and the Efficient Capital Market Model: A Recipe for the Total Mix*, 25 WM. & MARY L. REV. 373, 393 (1984).

10. Indeed, this is the principal argument upon which Dean Manne relies when advocating against any insider trading regulation. MANNE, *supra* note 4, at 77-91.

11. One might think that, as the ECMH has increasingly influenced securities regulation, prohibitions on insider trading and other securities regulations would fall. See Langevoort, *supra* note 6, at 887 ("[T]he ECMH's implications are very strong for nonintervention or deregulation in a host of corporate and securities law settings . . .").

The ECMH has not led to this result, however. One reason might be that the ECMH is known not so much for the underlying economic theory of the efficiency of price signals, but rather for the ways that financial analysts have tested the theory. See *infra* text accompanying notes 164-74. Another might be that the current approach to insider trading seems to allocate rights of ownership in nonpublic material information to achieve distributive justice objectives but not to address market failures. Yet another reason, and the one urged by this Article, is that, where markets fail and securities transactions send noisy price signals, disclosure requirements provide the information necessary for investors to interpret those price signals.

12. The Supreme Court seemed to tilt in this direction in *Dirks v. SEC*, 463 U.S. 646, 657-58 (1963), when "the Court claimed market efficiency as a justification for adopting a narrow definition of insider trading." Stout, *supra* note 4, at 625.

13. Like the ECMH, noise theory is itself having an influence on securities regulation. Cunningham, *supra* note 6, at 551 ("[T]he ECMH and noise theory [are] the two prominent capital market theories involved in corporate and securities law discourse . . .").

14. Indeed, one observation about the ECMH is that, if prices signal all information, prices will also signal nonmaterial information. This possibility exists, of course, if investors trade on information that does not accurately describe the intrinsic or fundamental value of the investment.

15. While the evidence of insider trading for nonfinancial reasons may only be anecdotal, the evidence is compelling that some insiders trade for personal reasons that ignore financial information. For example, the *Wall Street Journal* announced in September, 1994, that O.J. Simpson had liquidated over a half-million dollars in investment holdings for purposes of financing his legal defense. Warren Getler, *O.J. Simpson Cashes in Stock Holdings*, WALL ST. J., Sept. 14, 1994, at C1. Because Mr. Simpson served on the Board of Directors of several of the companies whose stock he sold, he was required to file with the SEC regarding those sales. *Id.* Obviously, Mr. Simpson's sales of stock were in no way related to public or nonpublic material information regarding these companies.

In fact, the very opportunity to engage in insider trading for nonfinancial reasons is an advantage of going public. Before going public, the personal investments of management typically are not liquid. After going public, however, management can more easily sell their holdings to realize a gain on their investments and efforts. See Stout, *supra* note 4, at 663 (observing that "advantages to going public include . . . the creation of a public market for insiders' shares," which may explain why management does not object if underwriters underprice an initial public offering).

16. Recent contributions that bring the insights of noise theory to the discussion of issues in securities laws include Cunningham, *supra* note 6, at 563-66, and Langevoort, *supra* note 6, at 857-69.

disclose material information quickly and accurately through price signals.<sup>17</sup> A causative theory is different than a positive theory in significant ways. A positive theory is provisionally accepted if its statistical prediction is not refuted by data which shows that contrary results are more likely.<sup>18</sup> A causative theory helps to explain the prediction of a positive theory, but not by examining data that might refute the prediction. Rather, a causative theory constructs an ideal type or paradigmatic example that describes how market forces operate to produce the predicted result. From the perspective of a market failures approach, a causative theory also helps to identify fact situations in which market forces are likely to fail to produce efficient price signals.

This Article builds upon prior contributions to develop a causative theory that examines how market forces provide incentives for insiders to disclose particular kinds of material information quickly and accurately through price signals.<sup>19</sup> Part I reexamines the original legislative approaches to regulating insider trading and argues that the disclosure goals and remedial provisions of the securities laws do not require any one approach to insider trading. If there is a common ground to the variety of available approaches, it is a definition of insider trading that is linked to trading on material information that issuers have not disclosed and that individual investors cannot otherwise obtain. This definition suggests that a market failures approach is an appropriate one.

Part II explores how individual investors can obtain material information through the price mechanisms of the capital markets. Investors, including insiders, signal material information in the capital markets by trading on that information. Investors may, for example, trade on material information about the market's valuation of the issuer's assets or about different kinds of risk associated with the investment. Consequently, the prices of securities and, in particular, changes in those prices signal more than a general indication of whether an investment has more or less value. The discussion in Part II postulates that much of the seemingly random or chaotic fluctuations in price changes can be explained in terms of the kind of material information on which an investor trades.<sup>20</sup>

---

17. An important and oft-cited contribution is Gilson & Kraakman, *supra* note 6. Professors Gilson and Kraakman noted that "legal users of the ECMH literature have been, by and large, confronted with a body of empirical evidence in search of causative theory," and provided examples of financial analysts who recognized the lack of a causative theory that explains market efficiency. *Id.* at 551-52 & n.13.

18. The burden of proof needed provisionally to accept a positive theory is not insignificant; put another way, refutation is not difficult. *See generally* INGRAM OLKIN ET AL., *PROBABILITY MODELS AND APPLICATIONS* 623-32 (1994) (describing hypotheses testing in statistics).

19. Of course, this is not the first time that insider trading has been examined in the context of the ECMH. As the then-chairman of the SEC summarized in 1984:

Leading scholars have proclaimed and refined the efficient market theory, which has brought a searching reexamination of some of the traditional rationales for mandating disclosure of information and for prohibiting trading on inside information. At the same time, the courts have required a rethinking of the differences between the efficient market analyst and the unlawful inside trader.

John S.R. Shad, *Symposium on Contemporary Problems in Securities Regulation: Introduction*, 70 VA. L. REV. 545, 545 (1984) (footnote omitted); *see also* Gilson & Kraakman, *supra* note 6, at 629-34 (urging that "perspective gained from . . . analysis of the mechanisms of market efficiency sheds substantial light on the appropriate approach to the problem [of insider trading]").

20. The implicit reference to Chaos Theory is not unintended. In a recent article that examines both Chaos Theory and the ECMH, Professor Cunningham describes Chaos Theory as "a branch of modern physics holding that there is pattern to the seeming randomness of physical events occurring in the universe." Cunningham, *supra* note 6, at 547. As noted below, the postulated explanation in this Article is consistent with some of the advances that are evident in recent developments in Chaos Theory.

By examining patterns of price changes, an investor can better interpret price signals in order to obtain more specific information about an investment.<sup>21</sup>

Part III develops a causative theory that explains how market forces in the capital markets provide incentives to develop and to discover accurate financial information and then to trade on that information quickly. The overall efficiency of capital markets depends upon investors who exploit informational advantages. Strong market incentives to capture first-mover advantages encourage investors to develop or to discover material information. Those same market forces also provide incentives to trade on the information quickly. Incentives to capture first-mover advantages appear strongest when information is widely held and many investors compete to exploit informational advantages. The likelihood that price mechanisms will tend to suppress the potential distortions of noise and, if successful, allow the market to send accurate signals also appears to be linked to how widely financial information is held.

Finally, Part IV suggests an approach to insider trading that turns upon the kind of material information upon which the insider relied in a particular securities transaction. Material information can be distinguished in two critical ways. First, material information can be distinguished because the price mechanisms of the capital markets provide different economic incentives, depending upon how widely information is held. Second, material information can be distinguished by whether the information describes the value of the issuer's assets or particular kinds of risk associated with the investment. These two methods of distinguishing material information are not unrelated. How widely information is held by insiders appears linked to how the information describes the value of an investment. Thus, market forces in the capital markets provide different economic incentives for insiders to develop and trade on nonpublic material information, depending upon how the information describes the investment.

The approach suggested in Part IV addresses market failures to provide insiders with incentives to disclose material information, but the approach does not focus solely upon incentives that flow from the capital markets. Unlike some investors, such as market professionals who exploit informational advantages in the capital markets only, insiders might also exploit informational advantages in the market in which the issuer competes for the sale of goods and services. As might be expected, for different kinds of information, the insider likely has different incentives to seek rewards in one market or the other. The suggested approach examines the combined effect of incentives from both markets and suggests remedial provisions tailored to those kinds of transactions in which market forces fail to provide insiders with economic incentives to disclose material information through price signals in the capital markets.

---

21. The idea of examining price change patterns challenges the assumption that efficient prices are inherently random and, thus, properly characterized as stochastic:

It is only logical that price changes will be random in an informationally efficient market. If prices continuously reflect all available information, a necessary corollary is that a change in price must be due to previously unavailable information. Because no one can predict such new information, no one can successfully predict the direction or magnitude of future changes in stock prices. Thus the adage: you can't beat the market.

Stout, *supra* note 4, at 620-21; *see also* Cunningham, *supra* note 6, at 551 ("[M]any [ECMH] economists thought that there is no pattern to the price history of a security and therefore that there can be no accurate prediction of future changes in security prices based on prior prices.").

## I. DISCLOSURE AND INSIDE INFORMATION

A. *The Goal of Disclosure and the Standard of Materiality*

When enacting the securities laws, Congress seems to have defined its legislative challenge in terms of unscrupulous sellers of securities who were left unchecked by capital markets that did not provide economic incentives to disclose material information.<sup>22</sup> The securities laws were enacted largely in response to the stock market crash of 1929<sup>23</sup> and the perception that the problems in the capital markets were linked to a market-wide failure of issuers to disclose material information.<sup>24</sup> Indeed, in both the

22. In his message to Congress requesting enactment of the first federal securities law, President Franklin D. Roosevelt stressed the need for legislation in the following terms: "In spite of many State statutes the public in the past has sustained severe losses through practices neither ethical nor honest on the part of many persons and corporations selling securities." Message from the President, Regulation of Security Issues (Mar. 29, 1933), reprinted in 77 CONG. REC. 937 (1933). This theme was carried forward in committee reports that recommended the legislation. *E.g.*, S. REP. NO. 47, 73d Cong., 1st Sess. 2 (1933) ("The necessity for the bill arises out of the fact that billions of dollars have been invested in practically worthless securities . . . through incomplete, careless, or false representations."); H.R. REP. NO. 85, 73d Cong., 1st Sess. 2 (1933) (noting the "complete abandonment by many underwriters and dealers in securities of those standards of fair, honest, and prudent dealing").

23. In letters to Senator Duncan U. Fletcher, Chair of the Senate Banking and Currency Committee, and Representative Sam Rayburn, Chair of the House Interstate and Foreign Committee, President Franklin D. Roosevelt specifically referred to the stock market crash of 1929 when urging enactment of what became the Securities Exchange Act of 1934. S. REP. NO. 792, 73d Cong., 2d Sess. 2 (1934); H.R. REP. NO. 1383, 73d Cong., 2d Sess. 2 (1934) ("[U]nregulated speculation . . . had so much to do with the terrible conditions of the years following 1929."); *see also* S. REP. NO. 792, *supra*, at 3 ("Feverish speculation accelerated the process of inflation until the bubble burst in October 1929. . . . [U]ncontrolled speculation . . . led to the collapse of 1929 and the subsequent depression."); H.R. REP. NO. 1383, *supra*, at 6 ("Business which was engulfed and nearly destroyed by the speculations of 1929 has its contribution to make in the form of fair and informing reports.").

24. *See* Landreth Timber Co. v. Landreth, 471 U.S. 681, 687 (1985) ("Congress' remedial purpose in enacting the legislation [was] to protect investors by 'compelling full and fair disclosure relative to the issuance of 'the many types of instruments that in our commercial world fall within the ordinary concept of a security.'") (quoting SEC v. W.J. Howey Co., 328 U.S. 293, 299 (1946) (quoting H.R. REP. NO. 85, *supra* note 22, at 11)); *Marine Bank v. Weaver*, 455 U.S. 551, 555 (1982) ("The [1934] Act was adopted to restore investors' confidence in the financial markets."). For reviews of the historical context of the securities laws, see Scott FitzGibbon, *What Is a Security?—A Redefinition Based on Eligibility to Participate in the Financial Markets*, 64 MINN. L. REV. 893, 912-18 (1980); James M. Landis, *The Legislative History of the Securities Act of 1933*, 28 GEO. WASH. L. REV. 29, 30 (1959); Lawrence Page, Note, *Even After Reves, Securities Do Not Have Families: Returning to Economic and Legal Realities Through a Connotative Definition of a Security*, 1992 U. ILL. L. REV. 249, 255-60.

State securities laws, commonly called "blue sky" laws, were enacted long before comparable federal legislation. In fact, by 1923, all but two states regulated the sale of securities in some fashion. LEONARD L. COWAN, *MANUAL OF SECURITIES LAWS OF THE UNITED STATES* introduction (1923); *see also* LOUIS LOSS & EDWARD M. COWETT, *BLUE SKY LAW 3-10* (1958) (providing a concise historical background of blue sky statutes); JAMES S. MOFSKY, *BLUE SKY RESTRICTIONS OF NEW BUSINESS PROMOTIONS 5-14* (1971) (outlining the historical development of the blue sky laws and arguing that they were a legislative overreaction).

Even prior to the stock market crash of 1929, commentators and legislators applauded the enactment of state blue sky laws for similar reasons, though the rhetoric was often more colorful:

The vulturous tribes of securities hawkers . . . had so successfully preyed upon society that the checking of their activities became imperative.

. . . [Prospective investors] were being continually and continuously fleeced out of their savings through the glowing promises of absolutely safe returns on their investments.

....

. . . Many of these investors, in middle life or old age, found themselves destitute not only of worldly goods, but of courage to continue the fight.

3 Op. Ohio Att'y Gen. 2074, 2075-76 (1915), reprinted in JOHN M. ELLIOT, *THE ANNOTATED BLUE SKY LAWS OF THE UNITED STATES 695-97* (1919). For a contemporary assessment of the need for early state securities regulation, see *id.* at 1-4.



Securities Act of 1933<sup>25</sup> and the Securities Exchange Act of 1934,<sup>26</sup> Congress fashioned disclosure requirements aimed principally at issuers of securities.<sup>27</sup> Congress required issuers to disclose material information at the time of the initial offering and on a continuing basis if the security would be traded thereafter.<sup>28</sup>

Potentially, the range of information that issuers must disclose is very broad because the definition of materiality under the securities laws is very broad. Depending upon the disclosure requirement at issue, courts have produced different definitions of materiality. Common to all definitions is an attempt to identify the kinds of information upon which a reasonable investor might rely in the context of a particular decision.<sup>29</sup> In the context of an investment decision, for example, a leading hornbook summarizes the standard of materiality as whether “[t]he reasonable investor would consider it important to know

25. Securities Act of 1933, ch. 38, 48 Stat. 74 (1933) (current version at 15 U.S.C. §§ 77a-77bbb (1995)) (“1933 Act”).

26. Securities Exchange Act of 1934, ch. 404, 48 Stat. 881 (1934) (current version at 15 U.S.C. §§ 78a-78ll (1995)) (“1934 Act”). The legislative history indicates that a principal reason for the 1934 Act was the belief that the stock exchanges had been unsuccessful in requiring listing companies to provide adequate disclosures:

Although the exchanges have endeavored to bring about an improvement in the type of financial reports filed by corporations, they have been hampered by the terms of the listing contracts made with issuers, which they have not considered themselves entitled to modify without the consent of such issuers. Progress in this direction has been further retarded by the unwillingness of issuers to furnish adequate information, supported by the threat of withdrawal of their listings, and by the potential competition of exchanges having more lenient standards. Such impediments could not exist so far as a Federal regulatory body is concerned.

S. REP. NO. 792, *supra* note 23, at 5; *see also* H.R. REP. NO. 1383, *supra* note 23, at 11 (“[Exchange officials’] efforts to bring about more adequate and prompt publicity have been handicapped by the lack of legal power . . .”). Another principal reason was to regulate margin trading or trading on credit. *Id.* 3-4 (attributing the 1929 crash to speculative trading on margin).

27. The fact that the issuer of a security often has nonpublic material information was recognized in the legislative history of both the 1933 Act and the 1934 Act. *See* S. REP. NO. 792, *supra* note 23, at 3 (criticizing “unfair methods of speculation employed by large operators and those possessing inside information regarding corporate affairs, and the failure of corporations to publish full and fair reports of their financial conditions”); H.R. REP. NO. 1383, *supra* note 23, at 5-6 (criticizing “exploitation . . . by self-perpetuating managements in possession of inside information”); S. REP. NO. 47, *supra* note 22, at 5 (“But it is the issuer who is in position to learn the facts, not the public.”).

Moreover, Congress targeted those uniquely in control of information when providing incentives for disclosure:

(4) The directors and officers of the issuers, the accountants, appraisers, and other experts authorizing and furnishing the information included in the “registration statement,” and the underwriters of the offering, are jointly and severally liable to any buyer for rescission of any sale or for damages, if the registration statement or the information given to the buyer in the course of a sale is false or misleading and the defendant cannot prove both that he did not know and by the exercise of due care could not have known of such false or misleading character.

H.R. REP. NO. 85, *supra* note 22, at 6; *see also* H.R. REP. NO. 152, 73d Cong., 1st Sess. 26 (1933) (discussing fiduciary obligations of directors and requirement of reasonable reliance on experts).

28. *See* S. REP. NO. 792, *supra* note 23, at 10 (“The information required to be filed under the [1933 Act] relates only to the situation at the time a security is issued. Reports under this bill [1934 Act] will provide adequate information reasonably up to date as long as the security is traded in on an exchange.”).

Despite clear congressional intent to establish a system of mandatory disclosure of material information, debate continues over the need for mandatory disclosure. *See generally* John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717 (1984) (reviewing debate and concluding that mandatory disclosure is desirable); Joel Seligman, *The Historical Need for a Mandatory Corporate Disclosure System*, 9 J. CORP. L. 1 (1983).

29. For example, the Second Circuit in *SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833, 849 (2d Cir. 1968), *cert. denied sub nom. Coates v. SEC*, 394 U.S. 976 (1969), and *cert. denied sub nom. Kline v. SEC*, 394 U.S. 976 (1969), defined materiality as a balancing test of the probability that an undisclosed event will occur versus the magnitude of the event if it did occur. The Supreme Court in *TSC Industries v. Northway, Inc.*, 426 U.S. 438, 449 (1976), adopted a definition whereby information is material if there is a “substantial likelihood that a reasonable shareholder would consider it important in deciding how to vote.”

facts that in reasonable and objective contemplation might affect the value of the corporation's securities."<sup>30</sup>

The breadth of the material information that issuers must disclose is indicated by statutory requirements and the SEC's implementing regulations.<sup>31</sup> The 1933 Act is aimed primarily at regulating initial offerings and similar distributions of securities.<sup>32</sup> Unless the security or transaction is exempted, the issuer must comply with registration and prospectus requirements.<sup>33</sup> Schedules A and B to the 1933 Act require that both the registration and prospectus set forth all manner of information about the issuer, including the character of its business, the prior history of the business, its capital structure, and other information contained in particular accounting statements.

This broad approach to defining material information was continued in the 1934 Act, which is aimed primarily at regulating ongoing trading on securities markets.<sup>34</sup> Unless the security or transaction is exempted, the issuer must comply with ongoing disclosure requirements.<sup>35</sup> In general, the issuer must update disclosures provided at the time of the initial offering.<sup>36</sup> The issuer must also provide additional information describing any

30. CLARK, *supra* note 2, at 328; *see also* List v. Fashion Park, Inc., 340 F.2d 457, 462 (2d Cir.), *cert. denied*, 382 U.S. 811 (1965) ("The basic test of 'materiality' . . . is 'whether a reasonable man would attach importance [to the fact misrepresented] in determining his choice of action in the transaction in question.'" (quoting RESTATEMENT OF TORTS § 546 (1938))).

31. The SEC has authority, under § 14(e) of the 1934 Act, to promulgate implementing regulations for both the 1933 Act and the 1934 Act. 15 U.S.C. § 78n(e).

32. *See* H.R. REP. NO. 85, *supra* note 22, at 5 (stating that the "bill affects only new offerings of securities" and "does not affect the ordinary redistribution of securities"); LOUIS LOSS, FUNDAMENTALS OF SECURITIES REGULATION 87 (1988).

33. At the time of the initial offering, information typically is disclosed when the issuer complies with the registration and prospectus requirements of the 1933 Act. Unless the security or transaction is exempted under §§ 3 and 4 (15 U.S.C. §§ 77c-77d), a registration statement is required under § 5(c) (15 U.S.C. § 77e(c)). The method of registration is prescribed in §§ 6 and 8 (15 U.S.C. §§ 77f, 77h) and the content is prescribed by § 7 (15 U.S.C. § 77g) and §§ A and B (15 U.S.C. § 77aa). If a prospectus is circulated, under § 5(b) (15 U.S.C. § 77e(b)), the prospectus must conform with the requirements of the 1933 Act, which are set forth in § 10 (15 U.S.C. § 77j). Under its rulemaking authority, the SEC has expanded the requirements for these sections. *See, e.g.*, Regulation S-K, 17 C.F.R. § 229 (1995) (prescribing content for forms filed under 1933 Act and 1934 Act). Even if a security is exempted and the formal registration requirements do not apply, an initial purchaser may have a private right of action under the remedial provisions of § 10(b) of the 1934 Act (15 U.S.C. § 78j(b)). *See also* Rule 10b-5, 17 C.F.R. § 240.10b-5 (1995). This remedial provision provides strong incentives for issuers of exempted securities to disclose accurate and complete information at the time of the initial offering. For an overview of the registration and content requirements under the 1933 Act, *see* LOUIS LOSS & JOEL SELIGMAN, FUNDAMENTALS OF SECURITIES REGULATION 72-168 (1995).

34. LOSS & SELIGMAN, *supra* note 33, at 72.

35. After the initial offering, information typically is disclosed when the issuer complies with ongoing disclosure requirements. Unless the issuer is exempt from § 12 (15 U.S.C. § 78l), the issuer must comply with four types of ongoing disclosure requirements:

- (1) Periodic reports must be filed under § 13 . . . .
- (2) Under § 14(a) the solicitation of proxies with respect to registered securities must comply with the Commission's rules.
- (3) The Williams Act provisions, §§ 13(d)-(e) and 14(d)-(f), which were added in 1968 and amended in 1970, regulate tender offers and require certain beneficial ownership reports.
- (4) Section 16 imposes controls over . . . trading practices [by certain defined "insiders"].

LOSS & SELIGMAN, *supra* note 33, at 383. As mentioned previously, a purchaser may also have a private right of action for fraud or deceit even when the security is exempted. 15 U.S.C. § 78j(b); *see also* Rule 10b-5, 17 C.F.R. § 240.10b-5 (1995). In this context as well, this remedial provision provides strong incentives for issuers of exempted securities to disclose accurate and complete information. For an overview of the registration and content requirements for disclosures under the 1934 Act, *see* LOSS & SELIGMAN, *supra* note 33, at 383-592.

36. For example, if an issuer voluntarily makes a public statement that is "reasonably calculated to influence the investing public," the statement may not be false or materially misleading in light of subsequent events. SEC v. Texas Gulf Sulphur Co., 401 F.2d 833, 862 (2d Cir. 1968), *cert. denied sub nom.* Coates v. SEC, 394 U.S. 976 (1969), *and cert. denied sub nom.* Kline v. SEC, 394 U.S. 976 (1969). If the statement, although initially accurate, becomes materially misleading due to subsequent events, the issuer must update the statement. Sharp v. Coopers & Lybrand, 83 F.R.D. 343, 346-47 (E.D. Pa. 1979). This principle applies not only to projections, but to other public statements as well. *In re* Kulicke & Soffa Indus., Inc. Sec. Litig., 697 F. Supp. 183, 185 (E.D. Pa. 1988).

changes in its assets and identifying the securities transactions of certain defined insiders.<sup>37</sup>

When exercising its rulemaking authority, the SEC has elaborated upon the scope of materiality by requiring issuers to disclose facts about the different contexts within which the issuer competes. One example is Regulation S-K, which prescribes the content of forms that issuers file under both the 1933 Act and the 1934 Act.<sup>38</sup> Regulation S-K requires more than information that describes how an individual issuer conducts its business.<sup>39</sup> Regulation S-K encourages the issuer to provide reasonable projections of economic performance.<sup>40</sup> Further, Regulation S-K requires information about risks associated with the investment,<sup>41</sup> information about the industries in which the issuer

37. An example of the need for accurate and complete information in an ongoing context can be found in the legislative history of the 1934 Act. One incident brought to the attention of Congress involved an application to list additional shares to be issued in exchange for the shares of a second corporation. The shareholders of the issuing corporation were not informed, however, of the second corporation's precarious financial condition, that the issuance was actually intended to provide capital for the second corporation, or that their preemptive rights were adversely affected. S. REP. NO. 792, *supra* note 23, at 11; *see also* H.R. REP. NO. 1383, *supra* note 23, at 10 (describing how wash sales and matched orders can manipulate information disclosed by trading activity on exchanges).

38. Regulation S-K was promulgated pursuant to the system of integrated disclosure. This system integrates and simplifies the disclosure requirements under the 1933 Act and 1934 Act. The purpose of integrated disclosure was "to revise or eliminate overlapping or unnecessary disclosure and dissemination requirements wherever possible, thereby reducing burdens on registrants while at the same time ensuring that security holders, investors and the marketplace have been provided with meaningful, nonduplicative information upon which to base investment decisions." Adoption of Integrated Disclosure System, Securities Act Release No. 6383, [1937-1982 Accounting Series Releases Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 72,328 (Mar. 3, 1982).

39. Of course, information about the issuer's business is material and must be disclosed. For example, Regulation S-K requires, in Item 101(a), an accurate and complete description of the general development of the business for the preceding five years:

(1) In describing developments, information shall be given as to matters such as the following: the year in which the registrant was organized and its form of organization; the nature and results of any bankruptcy, receivership or similar proceedings with respect to the registrant or any of its significant subsidiaries; the nature and results of any other material reclassification, merger or consolidation of the registrant or any of its significant subsidiaries; the acquisition or disposition of any material amount of assets otherwise than in the ordinary course of business; and any material changes in the mode of conducting the business.

17 C.F.R. § 229.101(a)(1) (1995).

40. Although the SEC encourages issuers to disclose projections, Regulation S-K requires issuers to disclose the factual support for any projections that are disclosed:

(3) *Investor understanding.* (i) When management chooses to include its projections in a Commission filing, the disclosures accompanying the projections should facilitate investor understanding of the basis for and limitations of projections. In this regard investors should be cautioned against attributing undue certainty to management's assessment, and the Commission believes that investors would be aided by a statement indicating management's intention regarding the furnishing of updated projections. The Commission also believes that investor understanding would be enhanced by disclosure of the assumptions which in management's opinion are most significant to the projections or are the key factors upon which the financial results of the enterprise depend and encourages disclosure of assumptions in a manner that will provide a framework for analysis of the projection.

17 C.F.R. § 229.10(b)(3)(i) (1995); *see also* 17 C.F.R. § 230.175 (1995).

41. For example, Regulation S-K requires the following information in Item 503:

(c) *Risk factors.* Registrants, where appropriate, shall set forth . . . a discussion of the principal factors that make the offering speculative or one of high risk; these factors may be due, among other things, to such matters as an absence of an operating history of the registrant, an absence of profitable operations in recent periods, the financial position of the registrant, the nature of the business in which the registrant is engaged or proposes to engage, or, if [convertible securities] are being offered, the absence of a previous market for the registrant's common equity.

17 C.F.R. § 229.503(c) (1995).

competes, and information about the extent to which the issuer operates in the United States or in foreign economies.<sup>42</sup>

SEC regulations also address the timing of an issuer's disclosures, and here the regulations treat different kinds of material information differently. Mandatory annual reports must provide all of the material information prescribed by Regulation S-K.<sup>43</sup> Mandatory quarterly reports must indicate whether there have been any changes in the information contained in the annual report.<sup>44</sup> Current reports are mandatory only if there are any material changes in the value of the issuer's assets or in the way that the issuer conducts its economic affairs.<sup>45</sup> The three reports differ chiefly in the treatment of information about the industry or economy in which the issuer competes, which must be disclosed in annual and quarterly reports, but not in current reports. By contrast, information about the issuer must be disclosed, not only in the annual and quarterly reports, but also in current reports soon after the issuer develops or discovers the information.<sup>46</sup>

While potentially broad and expansive, the definition of materiality and the requirements of disclosure are not without limits.<sup>47</sup> An issuer is not required to disclose trade secrets or other proprietary information that would harm its competitive position in the market in which it competes for the sale of goods and services.<sup>48</sup> Here, disclosure

42. For example, in Item 101(c), Regulation S-K requires an accurate and complete description of the industry in which the registrant operates that includes:

(i) The principal products produced and services rendered by the registrant in the industry segment and the principal markets for, and methods of distribution of, the segment's principal products and services. In addition, state for each of the last three fiscal years the amount or percentage of total revenue contributed by any class of similar products or services which accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years. . . .

(x) Competitive conditions in the business involved including, where material, the identity of the particular markets in which the registrant competes, an estimate of the number of competitors and the registrant's competitive position, if known or reasonably available to the registrant. Separate consideration shall be given to the principal products or services or classes of products or services of the segment, if any.

17 C.F.R. § 229.101(c)(1) (1995).

43. 17 C.F.R. § 240.13a-11 (1995). These reports are filed on SEC Form 10-K.

44. *Id.* § 240.13a-13 (1995). Quarterly reports are filed on SEC Form 10-Q.

45. *Id.* § 240.13a-11 (1995). A current report, filed on SEC Form 8-K, is required if the issuer experiences "a change in control, the acquisition or disposition of a significant amount of assets, bankruptcy or receivership proceedings, a change of auditors, [or] a director's resignation because of a policy dispute." *LOSS & SELIGMAN, supra* note 33, at 418.

46. Companies required to file quarterly reports pursuant to SEC Rule 13a-11(a) (17 C.F.R. § 240.13a-11(a) (1995)) and Rule 15d-11(a) (17 C.F.R. § 240.15d-11(a) (1995)) must file a current report on Form 8-K within 15 calendar days after the occurrence of defined events.

47. Early in the legislative history, Congress recognized the difficulty of conveying every piece of material information to the investing public. When explaining what information should "be brought home to the purchaser through the advertisements of the issuer," for example, one committee report noted that:

Provision is made, however, that where because of limited size of any advertisement it is impracticable to set forth all the information, the Commission may prescribe . . . what parts thereof or other information should be given in the interest of the protection of the public. Such provision affords the flexibility necessary to meet varying conditions in a practical way.

S. REP. NO. 47, *supra* note 22, at 3.

48. For example, the House Report specified that Schedules attached to the bill:

[P]rovide[] against any disclosure of the content of any portion of a material contract when the Commission finds that such disclosure would both impair the value of the contract and would not be necessary for the protection of investors. Ample protection is thereby afforded against the disclosure of secret formulae, trade secrets, or competitive advantages achieved by agreement.

H.R. REP. NO. 152, *supra* note 27, at 27; *see also* S. REP. NO. 792, *supra* note 23, at 22 ("Commission [may require disclosure] for the protection of investors and not in violation of trade secrets"); H.R. REP. NO. 1383, *supra* note 23, at 13 (describing "provisions [that] carefully guard against disclosure of trade secrets or processes"). Courts have also recognized the validity of efforts to protect "a valuable corporate purpose." *SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833, 850 (2d Cir. 1968), *cert. denied sub nom. Coates v. SEC*, 394 U.S. 976 (1969), *and cert. denied sub nom. Kline v. SEC*,

requirements are tempered by the issuer's fiduciary obligation to maximize shareholder wealth.<sup>49</sup> Additionally, an issuer is not required to disclose information that is available or should be obvious to individual investors.<sup>50</sup> Here, disclosure requirements recognize that individual investors can obtain some material information from sources other than the issuer or the insiders who work for the issuer.<sup>51</sup>

This brief discussion of the disclosure requirements of the securities laws has identified broad categories of material information. In one category is material information about the issuer which must be disclosed in annual, quarterly, and current reports. This category includes information that describes the issuer's assets and the way in which the issuer conducts its economic affairs. Other categories include material information about the contexts within which the issuer competes that must be disclosed in annual and quarterly, but not current, reports. These categories include information that describes both the industry and the economy in which the issuer competes.<sup>52</sup>

As these disclosure requirements indicate, the philosophy behind the securities laws is to provide investors with material information,<sup>53</sup> but not to regulate the substantive terms of securities transactions.<sup>54</sup> In fact, Congress intended to avoid any implication that the securities laws were meant to guarantee the fairness or success of any particular

394 U.S. 976 (1969). There, the court cautioned, "We do not suggest that material facts must be disclosed immediately; the timing of disclosure is a matter for the business judgment of the corporate officers entrusted with the management of the corporation within the affirmative disclosure requirements promulgated by the exchanges and by the SEC." *Id.* at 850 n.12.

49. In the context of merger negotiations, for example, Form 8-K does not require corporate disclosure within a mandatory timeframe. Instead, firms must complete "such disclosure upon completion of the transaction." HAROLD S. BLOOMENTAL & HOLMER OWEN, *SECURITIES LAW HANDBOOK* § 16.07, at 16-25 to 16-26 (1994). Rule 14e-2 requires disclosure by a target in a preliminary merger negotiation to disclose to shareholders the negotiations as well as its recommendations, within 10 days of the tender offer publication. 17 C.F.R. § 240.14e-2 (1995). In *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988), the Court approved of a "no comment" statement in the context of merger discussions under New York Stock Exchange rules. See 18 Sec. Reg. & L. Rep. (BNA) No. 8, at 253-54 (Feb. 21, 1986).

50. See *Savage v. Federated Dept. Stores Retirement Income & Thrift Incentive*, No. 88-4444, 1989 WL 146298, at \*9 (D. N.J. May 3, 1989), *aff'd*, 893 F.2d 1331 (3d Cir. 1989) ("[T]he omission of a material fact cannot be misleading if both parties know of it or should be aware of it as reasonable persons."); *Seibert v. Sperry Rand Corp.*, 586 F.2d 949, 952 (2d Cir. 1978) ("[L]ack of discussion must be viewed in the light of the fact that [defendant's] labor difficulties were matters of general public knowledge. . . . [T]hese difficulties were reported countrywide in the press and on radio and television . . . . Clearly, all this was information already in the public domain.").

51. Indeed, in connection with the 1934 Act, Congress recognized that the concept of "inside information" was difficult to define because investors other than insiders may develop or discover the same information. H.R. REP. NO. 1383, *supra* note 23, at 13 (observing that it is "difficult to draw a clear line as a matter of law between truly inside information and information generally known by the better-informed investors").

52. See *supra* notes 38-42 and accompanying text.

53. If there is a constant refrain that echoes throughout the legislative histories of the 1933 Act and the 1934 Act, it is the need to prevent fraud by requiring the accurate and complete disclosure of information material to the sale of a security. See, e.g., S. REP. NO. 792, *supra* note 23, at 10 ("Reports under this bill will provide adequate information reasonably up to date as long as the security is traded in on an exchange."); H.R. REP. NO. 1383, *supra* note 23, at 5 (criticizing "inadequate corporate reporting which keeps in ignorance of necessary factors for intelligent judgment of the values of securities a public continually solicited to buy such securities by the sheer advertising value of listing"); S. REP. NO. 47, *supra* note 22, at 1 (stating that the "basic policy is that of informing the investor of the facts concerning securities"); S. REP. NO. 41, 73d Cong., 1st Sess. 1 (1933) (seeking to "afford the information purchasers of foreign securities should have"); H.R. REP. NO. 152, *supra* note 27, at 1 (stating that the purpose of the bill is "to provide full and fair disclosure of the character of securities sold"); H.R. REP. NO. 85, *supra* note 22, at 1 (stating that the purpose of the bill is "to provide full and fair disclosure of the character of securities sold"); H.R. REP. NO. 1838, 73d Cong., 2d Sess. 2 (1934) ("There cannot be honest markets without honest publicity."); see also *id.* at 32 (arguing that to define fraud as "to include any omission to state a material fact" is surplusage because "a statement obviously may be misleading because of a material omission").

54. Rather, Congress seems to have left judgments as to the worth of a security to the investor. As noted in the legislative history of the 1934 Act, "[n]o investor, no speculator, can safely buy and sell securities upon the exchanges without having an intelligent basis for forming his judgment as to the value of the securities he buys or sells." H.R. REP. NO. 1383, *supra* note 23, at 11.

securities transaction.<sup>55</sup> Congress knew that, by definition, all investments are “at risk” and that even fully informed investors might take a chance that results in a loss.<sup>56</sup> Provided that an investor makes an informed decision, the securities laws do not prevent a security from being overpriced, the business venture of the issuer from being unsound, or subsequent events from adversely affecting the success of the investment.<sup>57</sup> The securities laws promote informed judgments, though not necessarily wise ones.<sup>58</sup>

55. For example, the House Report that accompanied the 1933 Act distinguishes information about the investment, which should be disclosed, from predictions about the success of the investment, which the new legislation could not guarantee.

In brief, the aims set forth by the President are:

(1) An insistence that there should be full disclosure of every essentially important element attending the issue of a new security.

(2) A requirement that whatever action taken by the Federal Government for such disclosure should be limited to that purpose and should be so devised as not to be capable of being construed as an approval or guarantee of a security issue.

H.R. REP. NO. 85, *supra* note 22, at 3; *see also* S. REP. NO. 41, *supra* note 53, at 2 (requiring “detailed information which will show, in every aspect, the solvency of the borrower, the validity and value of the security”); Message from the President, *supra* note 22, *reprinted in* 77 CONG. REC. at 937 (noting that legislation “cannot and should not . . . approv[e] or guarantee[] that . . . securities are sound”). In fact, in the original bill introduced in the Senate, one section made unlawful any statement which represented that federal registration was an approval of the soundness of the investment. S. REP. NO. 47, *supra* note 22, at 2; *see also* H.R. REP. 85, *supra* note 22, at 4 (stating that the bill will prohibit statement that registration is evidence of compliance with act or approval of security). For similar concerns expressed in connection with the 1934 Act, *see* S. REP. NO. 792, *supra* note 23, at 13; H.R. REP. NO. 1383, *supra* note 23, at 27.

56. Congress recognized that investments have different degrees of risk when it referred to some securities as “more speculative” or “volatile” and others as “stable.” *See* S. REP. NO. 792, *supra* note 23, at 6 (“[O]thers [not of a conservative nature] are more speculative in nature and are subject to the abuses of manipulation.”); H.R. REP. NO. 1383, *supra* note 23, at 9 (arguing that “flexible margin standard permits a relatively low margin in the case of stable securities such as bonds, while it requires a higher margin in the case of volatile securities”).

57. As Professors Loss and Seligman observe: “[T]here is the recurrent theme throughout these statutes of disclosure, again disclosure, and still more disclosure. Substantive regulation has its limits. But ‘the truth shall make you free.’” LOSS & SELIGMAN, *supra* note 33, at 8.

In fact, the securities laws were not even meant to guarantee against the disclosure of inaccurate information:

Such functions as are given the Commission, with reference to the initial filing of the registration statement, are limited merely to determining whether the information so filed is complete and accurate on its face. The Commission may inquire to see whether the questions that should have been answered have been answered. But with the truth or falsity of the answers the Commission has no initial concern.

If the statement is incomplete and inaccurate on its face, the Commission may require that these gaps shall be filled in before the statement is to become effective.

H.R. REP. NO. 85, *supra* note 22, at 4; *see also id.* at 20 (stating that the statutory requirements “enable the Commission to make a preliminary check-up of any obvious departures from the standards set by law without imposing upon the Commission any responsibility as to the truth of the registration statement or as to the soundness of the securities to be offered thereunder”).

58. As Professor Loss has opined, “Congress did not take away from the citizen ‘his inalienable right to make a fool of himself.’ It simply attempted to prevent others from making a fool of him.” LOSS, *supra* note 32, at 32-33.

With respect to the regulation of margin trading, Congress similarly recognized that the 1934 Act would not prevent investments that are unwise because investors are too highly leveraged. H.R. REP. NO. 1383, *supra* note 23, at 8 (“Nor is the main purpose even protection of the small speculator by making it impossible for him to spread himself too thinly—although such a result will be achieved as a byproduct of the main purpose.”).

Although Congress did not want the Commission “to pass upon the merits of any security,” H.R. REP. NO. 85, *supra* note 22, at 4, many states require their regulatory agencies to do just that. State Blue Sky Laws, conversely, are often designed to evaluate the relative merits of an offering. Thirty-three states have adopted the Uniform Securities Act. *See* UNIF. SECURITIES ACT, *reprinted in* 1 Blue Sky L. Rep. (CCH) ¶ 5501-5573. However, the implementing regulations vary considerably from state to state. *See* F. LEE LIEBOLT, JR., BLUE SKY LAWS 1993 10 (1993). Under Blue Sky Laws, there are normally three types of registration: notification, coordination, or qualification. Notification registration is based upon “an issuer meeting a rather restrictive test.” Notification registration is available under § 302 of the Uniform Act for:

(a)(1) any security whose issuer . . . [has] been in continuous operation for at least five years if (A) there has been no default . . . within the three preceding fiscal years . . . on any security . . . with a fixed maturity or a fixed interest or dividend provision, and (B) the issuer . . . [has] had average net earnings . . . equal [to] at least five percent of the amount of such outstanding securities . . .

(2) any security . . . registered for non-issuer distribution if (A) any security of the same class has ever been registered under this act . . . or (B) the security being registered was originally issued pursuant to an exemption under this act . . .

UNIF. SECURITIES ACT § 302, *reprinted in* 1 Blue Sky L. Rep. (CCH) ¶ 5532. Coordination registration is available for

### B. Remedial Provisions and Insider Trading

The securities laws also contain remedial provisions that address situations in which issuers fail to disclose complete or accurate material information.<sup>59</sup> Today, the remedial provision most commonly used to challenge insider trading is Rule 10b-5, a regulation promulgated by the SEC. Rule 10b-5 litigation has spawned the corrective justice approach mentioned in the Introduction. The premise of Rule 10b-5 is that individual investors own material information. An insider wrongfully injures individual investors when the insider profits by trading on nonpublic information that belongs to others. This approach promotes disclosure insofar as it deters insiders from trading on nonpublic information without first disclosing the information and allowing the market to react.

While debates surrounding the securities laws provide grist for the statutory interpretation mill,<sup>60</sup> it is difficult to conclude that only one approach to the remedial provisions is consistent with the disclosure goals of the securities laws.<sup>61</sup> A corrective justice approach remedies injuries that are caused by wrongful conduct. The remedial provisions drafted by Congress go further. To begin, an injury or investment loss is not necessary to trigger every remedial provision. The predominant focus, instead, is upon the failure to disclose. For example, if there has been a failure to disclose, sections 11<sup>62</sup>

"[a]ny security for which a registration statement has been filed under the Securities Act of 1933 in connection with the same offering . . ." *Id.* § 303, reprinted in 1 Blue Sky L. Rep. (CCH) ¶ 5533. Registration by qualification is the fallback position, which applies to any other security under § 304. Because of the inconsistent protection afforded by state Blue Sky Laws, Congress did not exempt securities "more or less supervised by the respective State blue sky commissions." S. REP. NO. 47, *supra* note 22, at 4.

59. Typically, a disappointed buyer or seller will seek relief under the remedial provisions contained in §§ 11 and 12(2) of the 1933 Act (15 U.S.C. §§ 77k, 77i(2)), or § 10(b) of the 1934 Act (15 U.S.C. § 78j(b)). See Rule 10b-5, 17 C.F.R. § 240.10b-5 (1995) (implementing § 10(b) of the 1934 Act). The securities laws are preferred to common-law fraud because the securities laws provide federal jurisdiction, lower standards of liability, and some types of enhanced relief. See James D. Gordon III, *Common Enterprise and Multiple Investors: A Contractual Theory for Defining Investment Contracts and Notes*, 1988 COLUM. BUS. L. REV. 635, 637-39. State fraud claims commonly are pleaded as ancillary claims because such state claims typically allow recovery of punitive damages and provide longer prescriptive periods. See, e.g., 15 U.S.C. § 77m (1995) (federal statute of limitations).

60. Obviously, the root of interpretive difficulty in the context of Rule 10b-5 is the absence of language that would "delineate the elements necessary for a violation." 5 ARNOLD S. JACOBS, LITIGATION AND PRACTICE UNDER RULE 10B-5 § 36 (2d ed. 1985). The author goes on to note that while a plaintiff in a Rule 10b-5 action "cannot be excused from showing use of jurisdictional means or that the alleged acts were within the coverage of the Rule. . . . [The showing required may be] relaxed [for] scienter, reliance, causation and injury." *Id.* But see *Mitchell v. Texas Gulf Sulphur Co.*, 446 F.2d 90, 96 (10th Cir.) ("Rule 10b-5 is plain, concise, and unambiguous."), *cert. denied*, 404 U.S. 1004 (1971).

61. Of course, those who favor a corrective justice approach can find ample support in the legislative history. See, e.g., S. REP. NO. 47, *supra* note 22, at 1 ("[The] aim is to prevent further exploitation of the public by the sale of unsound, fraudulent, and worthless securities through misrepresentation."); S. REP. NO. 41, *supra* note 53, at 1 (stating that one motivating factor underlying the Securities Exchange Act of 1933 was "[t]he frauds that have been perpetrated upon our people, the enormous sums of money taken from them").

By the same token, there also is support for the proposition that Congress chose disclosure—as opposed to compensation for injuries wrongfully caused—as the paramount remedy for fraud. The House Report stated:

The requirement of comparable information, at the time of the offering, of many of the most fraudulent issues, in which the public has suffered the greatest losses in late years, would have prevented their flotation. A compulsory revelation of the whole truth will give great impetus to honest dealing in securities and help to bring back public confidence.

H.R. REP. NO. 85, *supra* note 22, at 7.

62. 15 U.S.C. § 77k. Under § 11, a plaintiff needs to prove only that "any part of the registration statement, when such part became effective, contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading . . ." *Id.* § 77k(a).

and 12(2)<sup>63</sup> of the 1933 Act allow an individual investor to rescind the transaction, regardless of whether there has been any financial or economic loss.<sup>64</sup>

Even when individual investors may recover investment losses, remedial provisions do not always require individual investors to show wrongful conduct, injury, or a causal connection between the challenged conduct and the investment decision. To be sure, the legislative history speaks of the need to prevent fraud,<sup>65</sup> but the remedial provisions drafted by Congress do not require a showing that the failure to disclose was accompanied by an intent to deceive, recklessness, or other common law indicia of wrongfulness.<sup>66</sup> Nor do remedial provisions always require that the individual investor suffer a loss. Under sections 11 and 12(2), an individual investor can rescind a sale agreement, regardless of whether that sale resulted in a loss. Finally, causation is not a uniform requirement.<sup>67</sup> Under sections 11 and 12(2), a disappointed purchaser need not show reliance on the misstatement or omission.<sup>68</sup>

In fact, when Congress first drafted a remedial provision for insider trading in section 16(b) of the 1934 Act, the approach taken was more akin to a standard of strict liability.<sup>69</sup> Section 16(b) applies whenever a defined insider makes a purchase and sale—or a sale and purchase—within any period of six months. There is no requirement to show that the insider disclosed misleading information or failed to disclose complete or accurate information. In fact, there is no requirement to show that the insider traded on nonpublic material information at all. An insider who traded for purely personal reasons, regardless of known financial information, is liable under section 16(b) for any short-swing profits, whether actively sought or passively received.<sup>70</sup>

Thus, when Congress first prohibited insider trading, Congress did not fashion a remedial provision premised upon the idea that individual investors own material

63. *Id.* § 771(2). Under § 12(2), a plaintiff needs to prove only that one who offers or sells a security . . . by means of a prospectus or oral communication, which includes an untrue statement of a material fact or omits to state a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading (the purchaser not knowing of such untruth or omission) . . . .

*Id.* The defendant may escape liability by "sustain[ing] the burden of proof that he did not know, and in the exercise of reasonable care could not have known, of such untruth or omission." *Id.*

64. The differences between these sections turn on the traceability of the misstatement to the registration statement. Section 11 requires a plaintiff to show that the securities purchased were covered by a registration statement. *Id.* § 77k. Section 12(2) does not require the misstatement to be contained in a registration statement. *Id.* § 771(2).

65. *See, e.g.*, S. REP. NO. 47, *supra* note 22, at 1 ("The basic policy is that of informing the investor of the facts concerning securities to be offered for sale . . . and providing protection against fraud and misrepresentation."); H.R. REP. NO. 85, *supra* note 22, at 2 (describing "flotation of such a mass of essentially fraudulent securities").

66. *See Herman & MacLean v. Huddleston*, 459 U.S. 375, 375 (1983) (holding that the plaintiff in a § 11 cause of action need only show a "material misstatement or omission . . . to establish a prima facie case").

67. Indeed, causation is not a required element that the plaintiff must prove to establish liability under §§ 11 or 12(2). *See supra* notes 62-63. Arguably, some showing of causation is relevant to the issue of damages, which both sections authorize. But, under the measure of damages provided in §§ 11 and 12(2), the focus is upon a link between the purchasing price of a challenged transaction and the selling price for the same security sold in subsequent transaction. Causation on the damages issue need not focus upon a link between the material misstatement or omission and the decision to buy.

68. LOSS & SELIGMAN, *supra* note 33, at 980, 982-1014.

69. A § 16(b) cause of action has been described as having three elements: "1) a 10% beneficial owner, a director, or an officer; 2) a sale and purchase or a purchase and sale within the six-month period; and 3) a profit realized." *Lewis v. Riklis*, 446 F. Supp. 582, 584 (S.D.N.Y.), *aff'd per curiam*, 575 F.2d 416 (2d Cir. 1978).

70. Congress placed the responsibility for observing § 16(b) on the insider based upon the assumption that insiders are aware of the rule and sophisticated enough to structure purchases and sales to avoid liability. *Miting v. Dow Chem. Co.*, 523 F.2d 68 (2d Cir. 1975).



information.<sup>71</sup> The legislative history does speak of betrayals of trust by those who receive confidential information by virtue of their corporate positions or their large holdings of stock.<sup>72</sup> But the betrayal of trust is to the corporation and not to the individual investors who trade with insiders.<sup>73</sup> In fact, under section 16(b), the corporation recovers the insider's gains, not the individual investors who may have lost because they traded with an insider.<sup>74</sup> Moreover, section 16(b) does not cover an insider who engages in a single transaction, even if the insider trades on nonpublic material information.<sup>75</sup> Instead, section 16(b) only covers an insider who makes a short-swing profit on two transactions made within any six-month period.

Broadening the focus to include common law approaches to insider trading also suggests that the corrective justice approach is not the only permissible one. Today, the common law approach most often is associated with the 1969 opinion of the New York Court of Appeals in *Diamond v. Oreamuno*.<sup>76</sup> The reasoning of that case can be traced to the early part of this century when courts firmly established that corporate officers and directors could not profit from confidential information without violating a fiduciary duty to the corporation.<sup>77</sup> In *Diamond*, stockholders suing derivatively on behalf of the corporation were allowed to challenge insider trading as a breach of fiduciary duty to the corporation.<sup>78</sup> The shareholders recovered on behalf of the corporation, but not for the individual investors who lost because they traded with insiders.

The currently popular view that insider trading should be regulated because an insider wrongfully harms individual investors might be traced to Rule 10b-5, which was adopted

---

71. Again, Congress defined the problem in terms of the use of information not disclosed or otherwise available to the general public. *See, e.g.*, S. REP. NO. 792, *supra* note 23, at 9 (“[I]nsiders either personally or through the medium of holding companies participated largely in profits derived from the use of information not procurable by the investing public.”); H.R. REP. NO. 1383, *supra* note 23, at 13 (“[T]he most potent weapon against the abuse of inside information is full and prompt publicity.”).

72. S. REP. NO. 1455, 73d Cong., 2d Sess. 55 (1934).

Among the most vicious practices unearthed at the hearings before the subcommittee was the flagrant betrayal of their fiduciary duties by directors and officers of corporations who used their positions of trust and the confidential information which came to them in such positions, to aid them in their market activities.

*Id.*

73. Nor is the insider's betrayal of trust to the corporation defined to reach every use of confidential information. Section 16(b) applies only to trades involving securities issued by the corporation for whom the insider works. Section 16(b) does not bar an insider's use of nonpublic material information in trades involving securities issued by other corporations.

74. 15 U.S.C. § 78p(b). It is not correct to assume that individual investors will be indirectly compensated by virtue of the increased value of the shares that they hold in the corporation. To begin, if individual investors were injured when they sold to the insider, the individual investors no longer are shareholders and will not benefit from the corporation's recovery of the insider's gains. Even if individual investors were injured when they purchased from the insider and became shareholders, the benefit from the corporation's recovery of the insider's gains will be spread over all of the shareholders. Thus, shareholders who were injured in transactions with insiders will be, at best, indirectly compensated for only a fraction of their loss. Clearly, the approach under § 16(b) is not based upon corrective justice principles.

75. Further, § 16(b) bars insiders from making short-swing profits on two transactions within any period of six months. If an insider trades on nonpublic information to the disadvantage of individual investors but does not make a later transaction within six months, any harm to individual traders is not addressed. In addition, § 16(b) bars insiders from making short-swing profits on a purchase followed by a sale or on a sale followed by a purchase. If an insider makes two purchases on nonpublic information but does not make a sale within six months, any harm to individual traders is not addressed.

76. 248 N.E.2d 910 (N.Y. 1969).

77. *See generally* CLARK, *supra* note 2, at 144-45.

78. Unlike § 16(b), the logic of the *Diamond* approach does not limit the breach of fiduciary duty to trades involving securities issued by the corporation for whom the insider works. This state law approach could extend to an insider's use of nonpublic material information for any personal gain, including trades involving securities issued by other corporations. *Diamond*, 248 N.E.2d at 912, 913.

by the SEC in 1942.<sup>79</sup> The SEC fashioned this broad, open-ended antifraud provision due to perceived gaps in the securities laws and the difficulty of establishing common law fraud.<sup>80</sup> The SEC can enforce its rules by seeking injunctions or referring matters to the Department of Justice for criminal prosecution.<sup>81</sup> As early as 1946, federal courts allowed private rights of action under Rule 10b-5.<sup>82</sup> Under these private rights of action, disappointed purchasers and sellers of securities have recovered losses from insiders who profited by trading on nonpublic material information.<sup>83</sup> Even when an insider did not gain by engaging in arbitrage, Rule 10b-5 allows individual investors to recover if they relied upon the insider's material misrepresentation.<sup>84</sup>

One implication of the corrective justice approach that underlies much of Rule 10b-5 litigation is that the concept of "inside information" could be stretched beyond any common sense meaning.<sup>85</sup> When an insider trades on information about the issuer's assets and the way that the issuer conducts its economic affairs, it certainly makes sense to refer to this information as "inside information." Presumably, an insider's corporate position gives the insider greater access to the kind of material information in this category.<sup>86</sup> The disclosure requirements and remedial provisions make the most sense here because individual investors arguably have difficulty developing or discovering this kind of material information from other sources.<sup>87</sup>

79. 17 C.F.R. § 240.10b-5 (1995). When first applied, Rule 10b-5 liability was analogous to the theories of liability under § 16(b) and the common law approach because Rule 10b-5 seemed based upon the fiduciary duty owed by the insider to shareholders. *In re Cady, Roberts & Co.*, 40 S.E.C. 907, 911 n.13 (1961). This suggests that a Rule 10b-5 plaintiff must be a shareholder who sells to the insider and, thus, was entitled to the nonpublic information prior to the sale. See THOMAS L. HAZEN, *THE LAW OF SECURITIES REGULATION* 708 (2d ed. 1990) ("[I]nsiders trading in an open market who have misappropriated inside information have breached a duty to the owner of the information but not to investors taking opposite sides of their trades in an open market."). Subsequent applications confirm that nonshareholders may bring actions under Rule 10b-5, but only in situations where the insider has made a material misrepresentation. See *id.* ("In cases involving affirmative misrepresentations, the Supreme Court has accepted the fraud on the market presumption of reliance."). Further, under the misappropriation theory, a disappointed seller or purchaser may bring a Rule 10b-5 action against noninsiders who, almost by definition, owed no fiduciary duties to plaintiff. See *id.* at 733-35 (discussing extent of tippee liability).

80. See LOSS & SELIGMAN, *supra* note 33, at 777-80.

81. The SEC's power to initiate an injunction is derived from several sources, including: § 20(b) of the 1933 Act (15 U.S.C. § 77t(b)); § 2(d) of the 1934 Act (15 U.S.C. § 78u(d)); § 41(e) of the Investment Company Act of 1940 (15 U.S.C. § 80a-41(e) (1995)); and § 9(e) of the Investment Advisors Act (15 U.S.C. § 80b-9(e)).

82. *Kardon v. National Gypsum Co.*, 69 F. Supp. 512 (E.D. Pa. 1946).

83. Perhaps because Rule 10b-5 addresses harms to individual investors, the approach under Rule 10b-5 is not conceptually limited to trades involving securities issued by the corporation for whom the insider works. The logic of Rule 10b-5 reaches the insider's use of nonpublic material information in trades involving securities issued by other corporations. See *Chemical Bank v. Arthur Anderson & Co.*, 726 F.2d 930, 943 (2d Cir. 1984).

The purpose of §10(b) and Rule 10b-5 is to protect persons who are deceived in securities transactions—to make sure that *buyers* of securities get what they think they are getting and that *sellers* of securities are not tricked into parting with something for a price known to the buyer to be inadequate or for a consideration known to the buyer not to be what it purports to be.

*Id.* (emphases added).

84. This result arises principally in the case of insiders—called "tipsters"—who provide "inside information" to noninsiders—called "tippees"—who then trade upon the information. The insider who does not disclose the material information may be liable for assisting the tippee, even if the insider did not engage in a securities transaction. LOSS & SELIGMAN, *supra* note 33, at 821 ("[A] tipper could be held liable even if he or she did not trade.") (footnote omitted).

85. For a discussion of the potential for Rule 10b-5 to reach "noninside information," see CLARK, *supra* note 2, at 347-56.

86. See Gilson & Kraakman, *supra* note 6, at 628 ("Inside information is extremely costly to everyone except the small group of insiders who have access to it.")

87. In connection with the 1934 Act, Congress recognized that the concept of "inside information" was difficult to define because sophisticated investors may discover or develop the same information as insiders: "Because it is difficult to draw a clear line as a matter of law between truly inside information and information generally known by the better-informed investors, the most potent weapon against the abuse of inside information is full and prompt publicity." H.R. REP. NO. 1383, *supra* note 23, at 13.

In Rule 10b-5 litigation, however, the premise that individual investors own nonpublic material information is not conceptually restricted to any one category of material information. There is no necessary reason why an insider cannot develop or discover nonpublic material information that describes the industry and the economy in which the issuer competes. Nor is there any necessary reason why an insider cannot develop or discover nonpublic material information that describes the companies with whom the issuer competes.<sup>88</sup> Although there is nothing in the logic of the corrective justice approach to Rule 10b-5 that limits the kind of nonpublic material information to which individual investors are entitled, it makes little sense to refer to every category of material information as "inside information." There is little reason to presume that an insider's corporate position gives the insider greater access to material information that describes an economy, an industry, or a competitor.<sup>89</sup> Nor is there any compelling reason why individual investors—including market professionals—cannot develop or discover these kinds of material information from sources other than the insider or the issuer for whom the insider works.<sup>90</sup>

The currently available remedial provisions reveal not just one approach to insider trading but an eclectic array, leaving much room to fashion approaches that promote the disclosure goals of the securities laws. If corrective justice principles are the only ones that can be used to define the problem of insider trading, available remedial provisions would share common characteristics. One shared characteristic is that all would start from a premise that an entitlement to material information is granted in favor of investors other than insiders. Each would characterize insider trading as wrongful or unfair because insider trading involves the use of information that belongs to others, but that is not available to them. When such wrongful or unfair conduct causes injury to those who own the information, remedial provisions should rectify the investment loss with a damage award against the insider and in favor of the injured investors.

Several points are worth mentioning to summarize this discussion and to demonstrate that corrective justice principles are not the only ones that can be used to define the problem of insider trading or to fashion remedial approaches. One is that there is no single approach to granting an entitlement to material information. Rule 10b-5 grants the entitlement in favor of individual investors. In contrast, section 16(b) and the common law approach grant the entitlement in favor of the issuer. Moreover, in some situations, the entitlement is granted in favor of the insider. For example, section 16(b) is not offended if an insider trades on nonpublic material information in a single transaction,

---

88. See *Feit v. Leasco Data Processing Equip. Corp.*, 332 F. Supp. 544 (E.D.N.Y. 1971) (finding an acquiring company was liable under Rule 10b-5 due to failure to disclose information regarding the to-be-acquired company).

89. One can, of course, imagine counterexamples where insiders might develop these kinds of information within the scope of their employment. A corporation might, for example, assign insiders the task of monitoring macroeconomic conditions, industry trends, or competitors' strategies. The reason that such insiders have greater access to these kinds of information is that their assigned tasks require them to spend greater time developing or discovering the information. If others, such as market professionals, spent an equivalent amount of time, presumably they could develop or discover the same information.

90. Indeed, in the context of explaining the relative efficiency of prices, Professors Gilson and Kraakman provide an example that similarly distinguishes information about an economy from information about a particular investment:

The paradigmatic examples are the many occasions on which publication of Federal Reserve Board policy decisions, fluctuations in money supply, and similar data of interest to investors have resulted in no discernable effect on prices. Not surprisingly, these examples differ from the case of the novel innovative security in that they concern future events about which all traders are likely to possess well-specified, reasonably exact forecasts.

Gilson & Kraakman, *supra* note 6, at 588 (footnote omitted).

and Rule 10b-5 is not offended if an insider trades on public material information or material information that others can develop or discover.

Also, there is no single approach to whether there should be a showing of wrongful conduct, injury, or a causal connection between the challenged conduct and the investment decision. Rule 10b-5 litigation typically involves individual investors who seek recovery for a wrongful failure to disclose. The common law approach also appears, at first, to contain an element of wrongfulness because it is based upon a breach of fiduciary duty. But, because the conduct of a fiduciary that causes harm to the beneficiary is presumed to be fraudulent or wrongful,<sup>91</sup> the standard may be more akin to a strict liability standard.<sup>92</sup> Section 16(b), however, is analogous to a strict liability standard that does not require the plaintiff to show the conjunction of wrongful conduct and injury.

Indeed, the fact that an individual investor suffers an investment loss possesses no talismanic quality that should trigger remedial provisions.<sup>93</sup> Under sections 11 and 12(2), a disappointed investor can rescind a transaction with an insider, regardless of whether that sale resulted in a loss. The fact of the matter is that all investments are at risk, and provided that issuers disclose material information, an individual's unwise or unfortunate trade is not at odds with the traditional disclosure goals of the securities laws.<sup>94</sup> Indeed, the securities laws do not prevent market professionals from developing or discovering and then exploiting informational advantages. From the perspective of an individual investor who suffers an investment loss, the loss is the same regardless of whether the individual traded with an insider, a market professional, or an unsophisticated investor who just happened to trade at an opportune time.

Nor should the disclosure requirements be read to require an absolute ban that prevents insiders from trading on material information.<sup>95</sup> An insider who trades on nonpublic material information in a single transaction does not offend section 16(b).<sup>96</sup> In addition, an insider who trades on material information that is public or should be obvious to individual investors does not offend Rule 10b-5.<sup>97</sup> Provided that the issuer makes all

91. See RESTATEMENT (SECOND) OF AGENCY § 389 cmt. a (1958) ("The agent's failure to reveal that he has an interest in the transaction is sometimes spoken of as fraudulent."); Mark Pennington, *Punitive Damages for Breach of Contract: A Core Sample from the Decisions of the Last Ten Years*, 42 ARK. L. REV. 31, 57 (1989) ("Breach of a true fiduciary duty . . . has long been a recognized exception to the prohibition against punitive damages in contract cases.").

92. Where an agent trades upon confidential information, the burden is on the agent to show that the agent fully disclosed to the principal and obtained the principal's consent. See RESTATEMENT (SECOND) OF AGENCY § 390 cmt. g (1958) ("The burden of proof is on the agent to show that he has satisfied all the duties required by the rules [to act as adverse party with principal's consent]"); *id.* § 395 cmt. c. ("In obtaining the consent of the principal to use or disclose confidential information, the agent is under the duty of disclosure stated in Section 390."). Because the insider must prove disclosure and consent as a defense, the issuer need show only that the insider traded on confidential information. Thus, if the insider cannot prove disclosure and consent, liability is established without a showing of fraud or wrongfulness. Interestingly, the legislative history analogizes disclosure requirements to fiduciary duties. H.R. REP. NO. 85, *supra* note 22, at 5 ("[The] essential characteristic [of the civil liability imposed by Congress is that] those responsible for statements . . . shall be held to standards like those imposed by law upon a fiduciary."); H.R. REP. NO. 152, *supra* note 27, at 26 ("The standard by which reasonable care was exemplified was expressed in terms of a fiduciary relationship."). This suggests that liability under the securities laws could be found without an affirmative showing of wrongfulness that is integral to a corrective justice approach.

93. In fact, even an informed investor may suffer an investment loss if the investor is prevented from trading on that information. Trading halts or daily price limits may have the effect of forcing an informed investor to sell at too low a price or to purchase at too high a price. This is just as much of an investment loss as when an uninformed investor sells at too low a price or purchases at too high a price.

94. See *supra* notes 53-58 and accompanying text.

95. Even Congress recognized, when enacting the 1934 Act, that the proposed regulations would not prevent insiders from trading. H.R. REP. NO. 1383, *supra* note 23, at 13 ("[T]hese requirements are not air-tight and . . . the unscrupulous insider may still, within the law, use inside information for his own advantage.").

96. See *supra* note 75 and accompanying text.

97. See, e.g., *supra* note 50.

appropriate disclosures, the fact that an insider may make an advantageous trade with an individual is not at odds with the traditional disclosure goals of the securities laws. So too, provided that individual investors can obtain material information on their own, the fact that an insider makes an advantageous trade is not a problem.

If the goal of disclosure is paramount, the problem with insider trading arises when an insider trades on information that issuers have not disclosed and that individual investors cannot otherwise obtain.<sup>98</sup> This definition of the problem of insider trading recognizes that investors receive information in many ways, including the disclosure mechanisms of the securities laws, individual efforts to develop or to discover material information, and market mechanisms. Market mechanisms provide incentives for issuers to disclose information if, for example, they want to attract investors.<sup>99</sup> Market mechanisms also disclose information indirectly by way of the prices of securities and changes in those prices. To understand whether an insider is trading on information that is not available to individual investors, it is necessary to explore the ways that prices and price changes disclose material information.

## II. INFORMATION AND PRICE SIGNALS

Not all investors may find it convenient to monitor the kinds of information that issuers disclose and that directly describe the value of the investment.<sup>100</sup> Much of this information is technical in character and available in obscure sources such as prospectuses, audits, or regulatory filings.<sup>101</sup> Investors who may have difficulty obtaining or understanding technical information<sup>102</sup> can turn to a second source of information:

98. Early in the legislative history of the 1934 Act, which contained the first federal regulation of insider trading, Congress defined the problem of insider trading as one of lack of disclosure. S. REP. NO. 792, *supra* note 23, at 3 ("The unfair methods of speculation employed by . . . those possessing inside information regarding corporate affairs, and the failure of corporations to publish full and fair reports of their financial conditions have also been contributing causes of losses to investors."); *see also id.* at 9 ("The bill further aims to protect the interests of the public by preventing directors, officers, and principal stockholders of a corporation . . . from speculating in the stock on the basis of information not available to others."); *id.* at 21 ("The express purpose of [§ 16(b)] is to prevent the unfair use of inside information."); H.R. REP. NO. 1383, *supra* note 23, at 11 ("Delayed, inaccurate, and misleading reports are the tools of the . . . recant corporate official who speculate[s] on inside information."); *id.* at 13 ("[T]he most potent weapon against the abuse of inside information is full and prompt publicity.").

99. *See Gilson & Kraakman, supra* note 6, at 602 ("The producer [of a new financial product] has an obvious incentive to supply the market with information indicating that the product is worth its asking price."). These same mechanisms may also provide incentives for issuers to provide unduly optimistic projections that might lure investors or, perhaps, to suppress bad news that might repel investors.

100. Early in the legislative history of the 1933 Act, Congress seems to have understood that the average investor might not understand information contained in mandatory disclosures. One committee report explained the need to regulate advertisements in terms which suggest that the committee believed that investors would receive understandable information from advertisements but not necessarily from mandatory disclosures: "The bill also follows the British act to some extent in requiring some of the information filed to be brought home to the purchaser through the advertisements of the issuer or his agents." S. REP. NO. 47, *supra* note 22, at 3; *see also* *Feit v. Leasco Data Processing Equip. Corp.*, 332 F. Supp. 544, 566 (E.D.N.Y. 1971) ("[T]he prospectuses must not slight the less experienced [investor]."). The court in *Feit* also distinguished three classes of investors—amateurs, professional advisors, and securities analysts—all of whom must be provided information in the prospectus.

101. As Professors Gilson and Kraakman observe:

Many traders are too unsophisticated to make full use of the technical accounting information contained in mandated disclosure reports; much disclosure data is accessible in the first instance only through documents on file with government agencies; and much information about a firm's prospects may be announced initially only to small groups of securities analysts and other market professionals.

*Gilson & Kraakman, supra* note 6, at 569.

102. The fact that there is a thriving industry of financial analysts confirms that much of what issuers disclose is difficult to understand. *See Gilson & Kraakman, supra* note 6, at 594 ("Evaluation of information, whether self-produced or acquired from others, requires special skills, such as a facility in accounting, finance or securities analysis, that can ordinarily be obtained only through investment in expensive professional training."); *Stout, supra* note 4, at 680 ("SEC-

price information in the capital markets.<sup>103</sup> Prices and price changes send signals that indirectly describe the value of the investment. Indeed, the ECMH posits that an investor, by monitoring current prices and price changes, receives information that describes the value of an investment as accurately and as quickly as if the investor monitored the underlying information that directly describes the value of an investment.<sup>104</sup> To understand how prices signal material information efficiently, it is first necessary to understand the relation between material information and the price of securities.

### A. Expected Value and Investor Preferences

The reason why the price of a security indirectly describes the value of the investment derives from the relation between the purchase price and the expected value of the investment.<sup>105</sup> Investors purchase securities because the expected value is greater than the purchase price.<sup>106</sup> The expected value is nothing more than the financial reward that the investor expects to recover when the investment terminates.<sup>107</sup> Consider, for example, the most typical of securities, common stock. The investor provides an initial capital

mandated disclosure is supplemented by the work of private analysts and the financial press.”)

103. Given that the current approach to insider trading under Rule 10b-5 views the problem in terms of the ownership of nonpublic information, it is not surprising that few courts or scholars have examined the way that insiders disclose information through price signals. Once insider trading takes place, price signals conveyed by insiders are disclosed for all to see. It is nonsensical to talk of ownership of public information for the simple reason that, absent an entitlement analogous to those granted by intellectual property laws, there is no effective way for the owner of public information to preclude others from using the information.

104. Prices that accurately and quickly signal the value of an investment arguably serve economic goals in addition to the disclosure goals of the securities laws:

A market economy relies on the pricing mechanisms to channel goods and services to their most highly valued use. Economists thus consider correct pricing to be essential to maximizing social welfare in a market system. If economists regard accurate pricing as necessary to the efficient allocation of commodities, it seems natural that efficient pricing is crucial to the securities market as well. As a rule, scholars and policymakers assume that mispriced securities do misallocate resources because stock prices influence the production, distribution, and consumption of goods and services. Thus, informational efficiency in stock prices is thought to improve allocative efficiency in general.

Stout, *supra* note 4, at 641 (footnotes omitted). After summarizing these goals, Professor Stout argues that efficient prices do not promote these goals. *Id.* at 641-68.

Efficient prices arguably serve the related goal of instilling investor confidence in the stock market: “According to the ‘investor-confidence’ theory, inefficient pricing erodes investor trust in the market’s ‘integrity,’ discouraging investor participation in the stock market and reducing capital formation.” *Id.* at 668. Again, after summarizing the goal of instilling investor confidence, Professor Stout argues that efficient prices do not promote it. *Id.* at 671-77.

Efficient prices may also signal whether “incumbent management is running the corporation well” and help “investors calculat[e] their net worth when choosing between savings and consumption.” *Id.* at 678. A related benefit is that those prices signal how “hostile tender offers can direct control of the corporation from unprofitable management to more efficient owners.” *Id.* at 685. Once again, Professor Stout rejects the notion that efficient prices promote these goals. *Id.* at 678-85, 687-92.

105. See Thomas L. Hazen, *The Short-Term/Long-Term Dichotomy and Investment Theory: Implications for Securities Market Regulation and Corporate Law*, 70 N.C. L. REV. 137, 144-45 (1991) (analyzing the price of stock in terms of expected value).

106. See Gilson & Kraakman, *supra* note 6, at 630 (“The price of a security changes as a result of new information that alters investors’ expectations about the security’s risk and return.”). Oftentimes, commentators describe the expected value in terms of a discounted stream of future earnings. See Stout, *supra* note 4, at 697 (“The idea that investors value securities other than by discounted future earnings is difficult to swallow.”). The terminology adopted in this Article is not inconsistent with that terminology, but rather provides a characterization that helps to explain how price changes signal particular kinds of information that describe the ultimate reward to the investor.

107. See ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 56 (1988) (“An ‘expected value’ is defined as the sum of the probabilities of each possible outcome times the value of each of those outcomes.”); MORRIS H. DEGROOT, *PROBABILITY & STATISTICS* 180 (1986) (explaining that expected value is the mean of a continuous distribution).

contribution equal to the purchase price.<sup>108</sup> When the investor sells the common stock, the investor hopes to have received more than this initial contribution. The price of the stock might have appreciated resulting in capital gain, or the company that issued the stock might have declared a dividend. Regardless of whether the reward is received by way of capital appreciation or a dividend, the investor purchased the common stock because the investor expected to recover more than the initial capital contribution or purchase price.

There are two factors that link the purchase price to the expected value of the investment: first, the rate of return generated by the issuer's assets, and second, the risk associated with the issuer's business.<sup>109</sup> To an investor, the value of an issuer's assets is a function of their ability to generate a rate of return that produces the expected value. Assuming other factors are equal, investors prefer an investment that will generate a higher rate of return and produce a greater expected value.<sup>110</sup> By the same token, assuming other factors are equal, investors are indifferent among different kinds of investments that generate the same rate of return and produce the same expected value.<sup>111</sup>

The second factor, risk, is an economic concept that follows from the definition of expected value, a term of art which refers to a statistical average that, by definition, includes instances in which an investor may receive more or less than the expected value.<sup>112</sup> The economic concept of risk refers to decisionmaking under uncertainty and, in the context of investments, to preexisting beliefs about the likelihood that the actual financial reward for any particular investment will deviate from the expected value.<sup>113</sup> If there is a relatively greater probability or likelihood that the actual financial reward for an investment will be worse or better than the expected one, that investment is said to be more risky.<sup>114</sup> By contrast, if there is a relatively smaller probability that the actual financial reward will be worse or better than the expected one, the investment is said to be less risky. Here as well, investors have preferences. Assuming other factors are equal,

108. In an initial offering, the issuer receives the capital contribution as financing for the issuer's business operations. If the security is purchased after the initial offering, the selling shareholder receives the capital contribution as payment for the initial financing.

109. See Cunningham, *supra* note 6, at 567 (describing modern portfolio theory as "propos[ing] that all investments are reducible to two elements, *risk* and *return*" (emphasis in original)).

110. See Stout, *supra* note 4, at 643 ("A thriving corporation with high earnings can sell shares at a proportionately higher price than a less successful firm with the same assets but lower earnings.").

111. A simple numerical example illustrates this principle. Consider an investor who purchases a hypothetical share of common stock for \$100. Suppose the investor expects that, at the end of one year, the price of the stock will have appreciated by \$4, and the company will declare a dividend of \$6. The financial reward for the stock, at the end of one year, is the total of the initial purchase price, the expected capital gain, and the expected dividend—\$110. Consider also an investor who extends a hypothetical loan of \$100 at a 10% interest rate, compounded annually. The expected financial reward for the loan, at the end of one year, is the total of the principal and the anticipated interest to be paid on that principal—\$110. In both cases, with an identical initial investment of \$100, the expected financial reward is \$110. Assuming other factors are equal, the stock and the loan present equivalent investment opportunities.

112. See Cunningham, *supra* note 6, at 567 ("[The] expected return on an investment is simply the weighted arithmetic average of all possible returns on it." (emphasis in original)).

113. Cunningham, *supra* note 6, at 567 ("[T]he risk of an investment is the dispersion of possible returns on that investment around the expected return."); see also CHARLES J. GOETZ, CASES AND MATERIALS ON LAW AND ECONOMICS 77 (1984) ("In either case, the essential nature of the exercise is really the same: the person facing the [decision under uncertainty] formulates its certainty equivalent, whether it be a certain *loss* that is the equivalent of prospective costs or a certain *gain* that is the equivalent of uncertain benefits." (emphasis in original)). See generally COOTER & ULEN, *supra* note 107, at 55-70 (providing an introductory explanation of economic risk). Those who study financial markets often speak of deviations from the expected value in terms of the market's volatility. See, e.g., Hazen, *supra* note 105, at 137, 144-45.

114. Risk is often defined through the statistic known as variance. See, e.g., Cunningham, *supra* note 6, at 567 n.98.

investors generally are risk averse and prefer an investment with less risk.<sup>115</sup> By the same token, assuming other factors are equal, investors are indifferent among different kinds of investments with the same risk.<sup>116</sup>

Investors' preferences for a greater rate of return and for less risk are the links that connect the purchase price to the expected value of an investment. To be sure, the two links often appear factually related. Investments with high rates of return typically are associated with higher risk, and investments with lower rates of return similarly are associated with less risk.<sup>117</sup> Conceptually, however, the two links are distinct, and it is not always accurate to describe the difference between an investment's price and expected value solely in terms of either the rate of return or the degree of risk.<sup>118</sup> For example, describing the difference between the price of an investment and the expected value as the rate of return is not always accurate because part of that difference derives from investors' preference for less risk. To understand how prices and price changes signal material information, it is necessary to explore further the conceptually distinct effects of the rate of return and risk.

### B. Rate of Return and the Value of Assets

As noted above, to an investor, the value of the issuer's assets is the ability of those assets to generate a rate of return that produces the expected value. In common parlance, the rate of return might refer to the entire difference between an investment's price and its expected value. That reference is not sufficiently precise for present purposes. Rather,

115. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 405 (3d ed. 1986) ("In choosing among securities that have identical expected returns, the risk-averse investor will always choose the one having the least uncertainty, unless the prices of the others fall, thereby increasing their expected returns, to compensate him for bearing greater risk.")

Much of the economic analysis of decisionmaking under uncertainty is based on the assumption, supported by empirical observations, that individuals' utility preferences generally are risk averse. See COOTER & ULEN, *supra* note 107, at 63 ("The general presumption in economics is that people are risk-averse over gambles affecting a significant proportion of their wealth."); A. MITCHELL POLINSKY, *AN INTRODUCTION TO LAW AND ECONOMICS* 53 (2d ed. 1989) (stating that there is a "generally more realistic assumption that parties are *risk averse* (at least with respect to large risks)" (emphasis in original)). "A more formal definition of risk aversion is this: a person is said to be a risk averse [sic] if she considers the utility of a certain prospect of money income to be higher than the expected utility of an uncertain prospect of equal expected monetary value." COOTER & ULEN, *supra* note 107, at 58; see also GOETZ, *supra* note 113, at 82-84 (explaining risk-averse behavior through concept of diminishing marginal utility of money).

That is not to say, however, that every person is risk averse with respect to every decision that is made under uncertainty. See COOTER & ULEN, *supra* note 107, at 58-69 (defining and providing examples of risk-averse, risk-neutral, and risk-seeking behavior and analyzing different degrees of risk adversity with respect to different decisions); Stout, *supra* note 4, at 685 ("Some investors may play the stock market as a form of recreational risk taking, akin to gambling at Atlantic City.")

116. A simple numerical example illustrates these principles. Consider an investor who may purchase a hypothetical share of A Corporation common stock for \$100. Suppose further that, at the end of one year, there is a 50% chance that the investor will receive a total financial reward of \$105 and a 50% chance of \$115. Thus, the share of A Corporation stock has an expected value of \$110. Compare the alternative of purchasing a hypothetical share of B Corporation common stock, also for \$100. Suppose here that, at the end of one year, there is a 50% chance that the investor will receive \$100 and a 50% chance of receiving \$120. The share of B Corporation stock has the same expected value of \$110. Risk-averse investors will prefer the investment in A Corporation because, when compared with the alternative, the actual financial reward will be neither worse nor better than the expected value.

117. See Cunningham, *supra* note 6, at 567 ("[Modern portfolio theory] assumes that investors are *risk averse* in the sense that they will sacrifice returns to avoid risk and demand greater returns to assume risk." (emphasis in original)).

118. See Stout, *supra* note 4, at 669-70 ("Stocks which are very volatile (*i.e.*, stocks which experience sharp changes in price or dividends over time) are 'riskier' than stocks whose prices and earnings are stable, even when the average returns on the two are the same.")



the rate of return is better defined by the economic concepts of profit and rents.<sup>119</sup> Profit is the minimum return required to pay for the lost opportunity, or opportunity cost, of not investing elsewhere. Profit is usually calculated in terms of the competitive rate of return for a risk-free investment. This calculation is determined by the capital markets as the minimum rate of return necessary to attract investment.

The value of the issuer's assets is the ability of those assets to generate a rate of return, which not only includes profit but ideally includes rents. In contrast to profits, rents are additional returns that derive from the competitive advantages of a business' assets.<sup>120</sup> Rent is calculated by taking the difference between the market price for the business' goods or services and the business' costs, including profit defined as the opportunity cost of not investing elsewhere.<sup>121</sup> This calculation is determined by the unique competitive advantages of the business' assets. For present purposes, "rate of return" includes both profit and rents.<sup>122</sup>

The way that prices signal an investment's rate of return and, consequently, the market's valuation of the issuer's assets is perhaps most clearly shown by the sale of short-term government securities, such as six-month treasury bills. This example shows the pricing relationship between asset value, rate of return, and expected value because short-term government securities often are cited as examples of risk-free investments. Here, the difference between price and expected value discloses the rate of return and the market's valuation of the government's assets that stand behind the investment.<sup>123</sup> To be sure, over time there may be differences in the prices of short-term government securities. Such differences can be traced to differences in the competitive rate of return caused by inflation and other effects of monetary or industrial policy.<sup>124</sup> As the example nonetheless demonstrates, the price of a security at any one time provides information about the market's valuation of the assets associated with the investment.

Just as importantly, changes in the price of a security disclose changes in the ability of the issuer's assets to produce the rate of return. Consider, for example, a security where the difference between price and expected value reflects profit, that is, the competitive rate of return. Ignoring, for the moment, changes in other factors such as risk

119. Of course, history provides examples of investment binges wholly unrelated to an asset's ability to produce profit or rent. BURTON G. MALKIEL, *A RANDOM WALK DOWN WALL STREET* 35-43 (5th ed. 1990) (citing examples of tulips and bubble companies).

120. The concept of economic rents is often attributed to DAVID RICARDO, *THE PRINCIPLES OF POLITICAL ECONOMY AND TAXATION* (Everyman's Library 1973) (1817).

121. A simple numerical example illustrates the concept of profit as the opportunity cost of not investing elsewhere. Consider an investor who has \$100 to invest. Suppose that the rate of return on short-term government securities is 4%. Suppose further that an entrepreneur would like the investor to put the \$100 into a new business venture. The entrepreneur must offer an expected rate of return of at least 4% to attract the investor. If the entrepreneur offers less than 4%, the investor will purchase a short-term government security. Thus, 4% is the "profit" that the entrepreneur must offer, at a minimum, to attract investors and to keep them from investing elsewhere. This 4% "profit" is as much a cost as any other expense that the entrepreneur must incur to manufacture and distribute goods or services. Any return above 4%, above "profit," is "rent."

122. The competitive rate of return tends to be a return that is equal to profit because, in competitive markets, sellers forgo rents as they vie for buyers. The fact that rents are not uncommon can be attributed to at least two recurring situations. The first is when markets are not competitive, thereby allowing certain producers to restrict output, to raise price, and to collect "monopoly rents." See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 271-81 (4th ed. 1992) (describing monopoly rents as monopoly profits or producer surplus). The other is where a competitor gains a temporary advantage, perhaps through innovation, that lasts until competitors can adapt and imitate to gain a like advantage. See JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* 81-91 (1947).

123. Perhaps the risk-free character of government securities derives not so much from the value of the government's current assets, but rather the government's ability to use its power of taxation to increase its future assets.

124. See Stout, *supra* note 4, at 656 (noting that informational efficiency turns upon "the market's incorporation of macroeconomic news, like a change in the prevailing interest rate").

or the market's determination of the competitive rate of return, if the value of the issuer's assets increases because those assets now provide the issuer with competitive advantages that generate rents, the investment has a greater rate of return and an increased expected value.<sup>125</sup> Because of the greater rate of return, there will be a greater difference between the price of the security and the expected value.

Where the difference between the price of a security and the expected value increases because the value of the issuer's assets increases, that difference likely will be short lived. Investors prefer investments that will generate a higher rate of return and produce a greater expected value. Consequently, demand for the security will increase, driving the price up as the difference between price and expected value adjusts towards the competitive rate of return.<sup>126</sup> In effect, sellers of the security will capture the capitalized value of future rents by increasing the price of the security.<sup>127</sup> Even if only a short-lived adjustment, the price change signals a change in the value of the investment.

The price of a security and, in particular, changes in the price of a security, signal material information about the rate of return and consequently the market's valuation of the issuer's assets. If the effects of risk can be distinguished, the signal provided by the price of a security discloses the portion of the difference between price and expected value that is the rate of return. Of course, the rate of return is the market's valuation of the issuer's assets. Similarly, a change in the price of a single security may signal information that discloses a change in the value of the issuer's assets. With other factors held constant, if the price of a security increases, the value of assets has increased; if price decreases, the value of assets has decreased.

The disclosure goals of the securities laws include information about the value of the issuer's assets and any change in that value.<sup>128</sup> Investors can learn this information by monitoring the issuer's disclosures that directly describe the issuer's assets. For those investors who have difficulty obtaining or understanding the typically technical information provided by the issuer, current price information potentially provides an alternate source of material information about the issuer's assets. Prices and changes in prices indirectly describe the value of an issuer's assets and changes in that value. Price signals potentially disclose the same material information that the securities laws require issuers to provide by way of more technical disclosures that directly describe asset value and changes in asset value.

---

125. An example that illustrates this kind of a change is an innovation, such as a patented process or invention, that gives the issuer a decided competitive advantage, either in terms of lower production costs or enhanced product characteristics for which consumers will pay a higher price.

126. Examples that illustrate this adjustment include an initial public offering that is priced below the market's valuation of the issuer's assets and a takeover bid by a party who places greater value on the target's assets. In both, demand for the security drives the price up as the difference between price and expected value adjusts towards the competitive rate of return.

127. The practice known as "greenmail" is actually an example of a tactic by which an owner of a security capitalizes the increased value of the security by forcing a sale. Greenmail typically results after an unsuccessful takeover bid by a party who places greater value on the target's assets. The bidder may not be successful in gaining control, but the bidder may obtain sufficient shares to gain representation on the board of directors. By threatening to be a disruptive influence on the board, the bidder can force the target to purchase the bidder's shares at the higher price, which represents the unsuccessful bidder's estimate of the capitalized value of the target's assets.

128. 17 C.F.R. § 240.13a-11 (1995) (describing requirements for filing mandatory reports with the SEC).

### C. Risk and Risk Premiums

The price of a security also signals information that indirectly describes the risk of an investment, as examples from common experience demonstrate. Credit terms are more costly to debtors with greater chances, or risks, of not repaying loans. Similarly, insurance is more costly to individuals with greater chances, or risks, of being involved in accidents.<sup>129</sup> For securities, however, risk is not defined solely in terms of the chances of recovering less than the expected value.<sup>130</sup> The economic definition of risk derives from the probability that the actual financial reward may be worse or better than the expected one. Thus, a riskier investment holds out an increased possibility of an unexpected gain as well as an unexpected loss.<sup>131</sup>

The risk characteristics of an investment are determined by underlying factors, and financial analysts typically group those factors into two categories. The first kind of risk refers to those aspects of risk that affect an entire economy and equally affect every company and every industry in an economy. Financial analysts refer to this kind of risk as "systematic" risk. In other contexts, economists use the label "market-specific" risk.<sup>132</sup> Regardless of the label, this kind of risk will likely vary across different countries or global regions according to factors that distinguish the economies of those countries or global regions. Those factors include not only natural resources and the relative stages of economic development, but also rates of inflation and other effects of monetary or industrial policy.

The risk characteristics of an investment are affected by underlying factors other than systematic or market-specific risk. Financial analysts sometimes group all of these factors under a second rubric of "unsystematic" risk.<sup>133</sup> In some studies, financial analysts and economists classify these factors into more particular categories. For example, in some contexts, nonsystematic risk has been divided into two categories.<sup>134</sup> One is "industry-specific" risk. This kind of risk is associated with a particular industry and equally affects

129. See, e.g., PA. STAT. ANN. tit. 40, § 1008.3 (1992). Pennsylvania's Act 78 permits an insurance company to refuse to renew an insured's automobile insurance policy based on the occurrence of two or more accidents within a 36 month period.

130. In some contexts, an erroneous implication might be drawn that the concept of risk refers only to the risk of a loss. For example, in the study of the law that pertains to accidents, scholars discuss risk spreading in terms of compensating for injuries by spreading losses incurred during accidents. In fact, in the context of accidents, it may be nonsensical to talk about anything but losses. See generally GUIDO CALABRESI, *THE COSTS OF ACCIDENTS* (1970); POLINSKY, *supra* note 115, at 53-58, 132-34. Similarly, in the study of the law that pertains to externalities, scholars typically equate externalities to losses and analyze how those losses affect the allocation of resources. Even though externalities can produce gains, scholars primarily focus their attention on externalities that result in social costs. See, e.g., Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

131. See GOETZ, *supra* note 113, at 79 ("When a decisionmaking entity cares about the *dispersion* of prospects in addition to their expected values, 'risk preference' is said to be present." (emphasis in original)); MALKIEL, *supra* note 119, at 216 ("Risk, and risk alone, determines the degree to which returns will be above or below average.").

132. See Stout, *supra* note 4, at 670-71 ("Beta,' 'systematic,' and 'market' risk are all terms referring to that nondiversifiable risk attributable to factors that affect the market as a whole—the kind of macroeconomic tides on which all boats rise or fall.").

133. See MALKIEL, *supra* note 119, at 229. Of course, the possible ways to categorize or distinguish different kinds of risk are not limited to those mentioned in the text. See COOTER & ULEN, *supra* note 107, at 55-56 (distinguishing "primary" or "event" uncertainty from "secondary" or "market" uncertainty).

134. For a general discussion of industry-specific and firm-specific risk, see RICHARD A. BREALEY, *AN INTRODUCTION TO RISK AND RETURN FROM COMMON STOCKS* 115-31 (1969).

every company in that industry but not other companies in other industries.<sup>135</sup> The second is “firm-specific” risk. This kind of risk is associated with the unique way that a particular company conducts its economic affairs and affects only that company.<sup>136</sup>

Even though the riskiness of an investment may be affected in different ways, the price of a security provides important information about the combined risk characteristics of investments with the same expected values. The reason is that investors generally are risk averse and demand a premium to purchase a more risky investment. The examples cited above demonstrate this relation. Creditors demand higher interest rates when lending to risky debtors, and insurance companies charge higher premiums when insuring risky individuals. The price of a security also includes a risk premium, but that premium is not reflected in a separate or higher payment. In fact, the risk premium for a security is reflected in the lower price for that investment.

The price of a security includes a premium that indirectly describes the risk of the investment, but the seller is the one who pays the premium by lowering the price of the security.<sup>137</sup> Consider two stocks with the same expected value. The expected rate of return for both stocks is the competitive rate of return. Assuming that the rate of return does not change, the stocks will have different purchase prices if the companies that issued the stocks have different risk characteristics. To attract an average, risk-averse investor, the company with greater risk will provide a “premium” in the form of a lower initial purchase price.<sup>138</sup> The company with less risk can attract the same risk-averse investor without providing a premium.<sup>139</sup> Thus, if two investments have the same expected value

135. Industries characterized by rapid technological developments, such as the biotechnology field, offer riskier investments, because any one company in that industry may be the first to develop the next generation of products or to be displaced by a competitor’s innovation. Another example of industry-specific risk arises from the music recording industry where the introduction of compact disc technology adversely affected every firm in the industry with production facilities for vinyl records. See Hazen, *supra* note 105, at 140.

136. A company with a high ratio of long-term debt to equity is a riskier investment than one with a lower ratio, because an equal decline in revenues will have a greater effect on a company with a higher fixed cost for debt service. POSNER, *supra* note 115, at 410-12; see also Stout, *supra* note 4, at 650 & n.202 (“Banking literature confirms that lenders prefer to measure risk by comparing outstanding debt against the value of a corporation’s underlying assets . . .”).

137. This may partly explain why “studies of new issue pricing conclude that, on average, underwriters *underprice* new issues.” Stout, *supra* note 4, at 659 (emphasis in original). To the extent that the issuers of initial public offerings are associated with increased risk, *id.* at 675 (“IPOs [initial public offerings] tend to be made by smaller, more speculative ventures and are notoriously ‘risky’ . . .”), underwriters must lower the price to induce average, risk-averse investors to purchase the offering. The fact that the prices of initial offerings adjust upwards in a relatively short time suggests that the initial underpricing may derive from other factors. See *id.* at 659-63 (suggesting other factors).

138. At some point, companies with increasingly greater risk characteristics are not likely to issue bonds. One reason is that bonds are secured by the firm’s assets. See RICHARD J. TEWELES & EDWARD S. BRADLEY, *THE STOCK MARKET* 29-36, 496 (1987). The increasingly greater risk leads potential bond purchasers to conclude that the firm’s assets are also subject to increasingly greater risk thereby reducing or eliminating the issuer’s ability to use its assets as collateral. Another reason is that investors who are drawn to investments with greater risk are gambling on the possibility of receiving more than the expected value. The face value of the bond places a maximum limit on the range of possible returns, thereby reducing the ability of an issuer to use this form of financing to attract investors who are relatively risk prone. Indeed, the concept of a “junk” bond was an innovation because it was an investment in a highly leveraged firm—an investment at high risk—with a maximum limit on the expected value of the investment.

139. A simple numerical example illustrates this principle. Recall the prior example of two shares of common stock, one from A Corporation and one from B Corporation. For the share in A Corporation, there is a 50% chance of a total financial reward of \$105 and a 50% chance of a total financial reward of \$115. The investment in B Corporation is riskier because, for the share in B Corporation, there is a 50% chance of \$100 and a 50% chance of \$120. If the price of a share in A Corporation is \$100, sellers of shares in B Corporation will need to offer a premium to average, risk-averse investors. If a premium of \$2 will induce average investors to take on the additional risk, sellers of shares in B Corporation will need to price the stock at \$98 per share.

and rate of return, a difference in the initial price signals a difference in risk characteristics.<sup>140</sup>

Changes in the price of a security also signal potentially important information about changes in the risk characteristics associated with that investment. Consider, again, the example of stock. To isolate the effects of a change in risk, assume further that the expected rate of return for the stock does not change and that the expected value does not change. If there is a change in the purchase price of the stock, that change is due to a change in the risk associated with the investment. If, for example, the purchase price declines, the investment has become more risky, and sellers of the stock must pay a risk premium to induce average, risk-averse investors to purchase the security. Thus, a change in the price of a security may signal a change in the risk characteristics associated with the investment.

The price of a security and, in particular, changes in the price of a security, signal material information about the risk characteristics associated with an investment. If the effects of the rate of return can be distinguished, the signal provided by the price of a security discloses the portion of the difference between price and the expected value that is the risk premium. Similarly, a change in the price of a single security may signal information that discloses a change in the risk associated with that investment. With other factors held constant, if the price of a security increases, risk has decreased; if price decreases, risk has increased.

The disclosure requirements of the securities laws include information about the risk associated with an investment and any change in that risk.<sup>141</sup> Investors can learn this information by monitoring the issuer's disclosures since those disclosures directly describe risk characteristics. For those investors who have difficulty obtaining or understanding the typically technical information provided by the issuer, current price information potentially provides an alternate source of material information about risk. Prices and changes in prices indirectly describe the risk of an investment and changes in that risk. Price signals potentially disclose the same material information that the securities laws require issuers to provide by way of more technical disclosures that directly describe risk and changes in risk.

The foregoing analysis of prices and price changes suggests a way to distinguish different kinds of material information by grouping the information into four categories. One category is information about the rate of return. Given that profit is the minimum rate of return necessary to attract investors, this first category consists essentially of information about rents or the unique competitive advantages of a business' assets. A second category is information about risk, but only about firm-specific risk. Information here describes the unique way that a particular company conducts its economic affairs. A third category is industry-specific risk. Information in this category describes the context of a particular industry and is material to every company that competes in that industry. A fourth and final category is systematic or market-specific risk. This category

---

140. Scholars recognize this relationship, but often characterize the premium as an increase in the expected return. See Cunningham, *supra* note 6, at 567 (observing that risk-averse investors will "demand greater returns to assume risk"); Stout, *supra* note 4, at 670 ("Financial theory assumes that most investors are risk averse and view risky stocks as worth less than stable stocks with the same average return. As a result, investors will not buy riskier stocks unless they are paid a risk premium in the form of greater expected returns." (footnote omitted)).

141. See, e.g., 17 C.F.R. § 229.101(a)(1) (1995) (requiring the disclosure of material changes in the issuer's business pursuant to both the 1933 and 1934 Acts).

includes information about the context of an entire economy or global region which is material to every company and every industry in that economy or global region.

#### *D. Patterns of Price Signals*

As the discussion has urged thus far, the price or a change in the price of a security is an important signal that potentially conveys much information to investors. The difference between the price of a security and its expected value signals information first about the market's valuation of the issuer's assets and second about the risk characteristics associated with the investment. Price changes also signal important information.<sup>142</sup> If the price of a security increases, either the value of assets has increased, or the risk characteristics associated with that investment have decreased. By contrast, if the price of an investment decreases, either the value of capital assets has decreased or the risk characteristics have increased.

The prices of securities signal important information, but changes in prices may also send mixed signals that produce noise. Consider, for example, that the price of a security increases. That increase might result from either an increase in the market's valuation of the issuer's assets or a decrease in risk. The reason for the price increase is relevant to investors or to the disclosure goals of the securities laws. Individual investors or portfolio managers who select investments because of risk characteristics might be misled by a signal that does not clearly indicate if the change in price resulted from a change in the value of assets or from a change in risk characteristics.<sup>143</sup> Perhaps in recognition of this, the securities laws require disclosure of information that allows investors to distinguish whether there has been a change in the value of assets or a change in risk.<sup>144</sup>

By examining patterns of changes in the prices of securities, an investor can better interpret price signals by distinguishing the distortions caused by inaccurate and noisy price signals. For example, if the value of an issuer's assets increases, a reasonable inference is that the prices of securities issued by only that one company should increase proportionately. If the value decreases, the inference is that the prices of securities issued by only that one company should decrease proportionately. There is little reason to expect the prices of other securities issued by other companies to change.<sup>145</sup>

---

142. Examining price changes instead of the price itself discloses information about changes in the value of the investment, but does not necessarily reveal the value of the investment. Indeed, because investors' opinions about the value of a security may differ significantly, the ECMH has been criticized because marginal trading does not signal the higher value placed on the security by optimistic shareholders who will not sell unless the price of the security increases. See Stout, *supra* note 4, at 687-90 (observing that the premium paid for control in a tender offer is the amount necessary to induce all shareholders to sell). By the same token, marginal trading does not signal the lower value placed on the security by pessimists who will not purchase unless the price of the security decreases. Aside from the outcome of that debate, a less controversial proposition is that marginal changes in the price of a security reflect marginal changes in the value of the investment.

143. Indeed, one challenge to the usefulness of price signals is that changes in price may be caused by numerous factors. *Id.* at 679-80 ("Prevailing interest rates, inflation expectations, trade balances, economic legislation, new technology, changes in consumer demand and markets, and pending litigation—each and every one of these factors changes stock prices in a fashion that has nothing to do with management's skill or honesty."). While the patterns of price changes postulated in this Article do not isolate the effect of changes from every potential factor, those patterns isolate the effect of changes from groups of factors that share common characteristics.

144. 17 C.F.R. § 229.101(a)(1) (1995).

145. An exception would arise in cases where separate companies have joint ownership or use of productive assets, such as joint operating agreements between newspapers or companies that license the same technology. A change in the market's valuation of the jointly owned or jointly used asset would equally affect the prices of securities issued by both companies.

Changes in risk characteristics also produce patterns of price changes, but the patterns are different depending upon the kind of risk that changes. If systematic or market-specific risk decreases, the reasonable inference is that the price of every security issued by every company that competes in that economy should increase proportionately.<sup>146</sup> With systematic or market-specific risk, there is no reason to expect that the price of any security in that economy would be unaffected.<sup>147</sup> If industry-specific risk decreases, the reasonable inference is that only the prices of securities issued by companies that compete in that one industry should increase proportionately. There is no reason to expect that prices of securities issued by companies in other industries would be affected by industry-specific risk.<sup>148</sup> Finally, if firm-specific risk decreases, the reasonable inference is that the price of securities issued by only that one company should increase proportionately.<sup>149</sup> Prices of securities issued by other companies would be unaffected by firm-specific risk.<sup>150</sup>

At this point, adherents of the Capital Asset Pricing Model ("CAPM") and modern portfolio theory might object to the assertion that changes in prices potentially signal changes in different kinds of risk. The typical presentation of CAPM differentiates risk in terms of only systematic and unsystematic risk.<sup>151</sup> Further, CAPM predicts that, by diversifying through a well-balanced portfolio, the astute investor can, in theory, eliminate the combined effects of different kinds of unsystematic risk, leaving a portfolio of investments with a net risk equal to systematic risk.<sup>152</sup> If this is true, then sellers of

146. This is the kind of material information that is the focus of program traders who deal in stock index futures. See Stout, *supra* note 4, at 628-31.

147. *Id.* at 656 ("Policies that slow the market's incorporation of macroeconomic news, like a change in the prevailing interest rate, will affect all firms in the same fashion.")

The generally inverse relationship between prices in the bond and stock markets actually shows how prices of all securities are affected by changes in this kind of risk. If systematic or market-specific risk increases, the price of stocks will decrease because sellers must pay a risk premium to induce investors to purchase stocks. Demand for bonds will increase, largely because bonds are secured by the issuer's assets and, therefore, are less risky than stocks. The increase in demand for bonds will drive up the price of bonds. Thus, when systematic or market-specific risk increases, the price of stocks decreases because sellers must pay a risk premium; whereas, the price of bonds increases because investors will shift funds to less risky investments.

148. An exception here would be the securities issued by a conglomerate or investment holding company which, by definition, operates or owns companies that operate in several markets or industries.

149. When making this point, Professor Stout uses the example of insider trading, but with an implicit assumption that insiders trade only on firm-specific information:

Securities policies that allow the market to digest firm-specific information more slowly or incompletely seem unlikely to produce such wholesale inflation or deflation of market prices. For example, the prohibition on insider trading would not affect all stocks in the same fashion; where one firm's "inside" information is good tidings, another's may well be bad news.

Stout, *supra* note 4, at 655-56.

150. Of course, if more than one kind of risk changes, the patterns may become more difficult to interpret, but the difficulty can be overcome. Consider, for example, that market-specific risk decreases and that industry-specific risk increases for a particular industry. Except for the prices of securities in that one industry, all prices will increase proportionately. The prices of securities in that one industry will not increase as much or may, depending upon the relative effects of the changes in risks, remain unchanged or decrease.

151. CAPM is based upon a statistic known as "beta," which measures the variations in the price of an individual security relative to variations in the capital markets as a whole. A market index that measures variations in the capital markets is set arbitrarily at one. In other words, the beta for the market as a whole is one. Then, the beta for a particular stock is determined by calculating the covariance between the variation in the price of an individual security and the variation in the market index. If the beta is less than one, the security is said to be less volatile or less risky than the market. If the beta is equal to one, the security is said to be as volatile or as risky as the market. If beta is greater than one, the security is said to be more volatile or more risky than the market.

152. "CAPM holds [*i.e.*, predicts] that the expected return on an investment is equal to the risk-free rate of return plus compensation for the systematic risk of the investment . . ." Cunningham, *supra* note 6, at 568 (footnote omitted).

securities need not provide a risk premium beyond that associated with systematic risk.<sup>153</sup> According to CAPM, the prospect of a diversified portfolio provides all the incentive that is necessary to induce investors to purchase a security with unsystematic risk.<sup>154</sup> Sellers of securities, consequently, do not need to pay an additional premium to induce investors to purchase an investment with risk that can be eliminated through diversification.<sup>155</sup>

CAPM is, however, a positive theory that makes a statistical prediction, but that does not explain how market forces cause the predicted result. As a positive theory, CAPM predicts that, on average, a well-balanced portfolio will eliminate unsystematic risk. Consequently, on average, sellers of securities will not pay a premium to induce investors to purchase an investment with unsystematic risk. As a positive theory, CAPM does not purport to provide a prediction or understanding of individual events or transactions. To predict that sellers of securities do not, on average, pay a risk premium for unsystematic risk is not equivalent to the overly bold proposition that sellers never, in any transaction, pay a risk premium for unsystematic risk. Indeed, the fact that sellers of securities do pay risk premiums suggests a causative theory that explains the predicted result.

An understanding of how market forces cause the result predicted by CAPM actually supports the assertion that patterns of price changes signal changes in different kinds of risk. Consider a well-balanced portfolio that eliminates the effects of unsystematic risk and, therefore, eliminates the need for sellers to pay a risk premium to induce the portfolio manager to purchase a security with unsystematic risk. Consider further that the unsystematic risk associated with one investment changes in a way that distorts the ability of the portfolio to eliminate the effects of unsystematic risk. The portfolio manager will need to trade investments to reach a new mix of investments that, once again, eliminates unsystematic risk. The resulting arbitrage will likely involve the payment of premiums that signal the change in risk.

After a change in the risk characteristics associated with one investment leads portfolio managers to trade for a new mix of investments, prices will depart from the prior equilibrium and, in so doing, signal changes in the desirability of investments with different kinds of risk. Portfolio managers will purchase investments with desirable risk characteristics, driving up the price of those investments, thereby allowing sellers to charge more or, in effect, to pay less of a premium. Portfolio managers will also sell

153. The CAPM posits that the expected rate of return of a given stock portfolio is equal to the risk-free rate of return, as earned on governmental securities, plus a premium for the amount of systematic (nondiversifiable) risk contained in a portfolio. ROBERT C. RADCLIFFE, *INVESTMENT: CONCEPTS, ANALYSIS AND STRATEGY* 175 (1982).

154. Indeed, this is the lesson of modern portfolio analysis. That analysis uses the statistic known as covariance, which measures the tendency of two variables to vary together rather than independently. See DEGROOT, *supra* note 107, at 213. In portfolio analysis, statistics calculate the degree to which variations in returns for a particular investment follow or covary with variations in the entire securities market. Put another way, the statistics indicate the degree to which the unsystematic risk of a particular investment covaries with the systematic risk of the stock market. By diversifying, or mixing investments with different covariances, the overall risk of the portfolio can be reduced, even though the riskiness of individual investments remains unaffected. For an introductory treatment of portfolio analysis, see POSNER, *supra* note 115, at 405-10; Cunningham, *supra* note 6, at 567-68. For more advanced treatments, see the articles cited in 3 *THE NEW PALGRAVE: A DICTIONARY OF ECONOMICS* 920 (John Eatwell et al. eds., 1987) and see also Hazen, *supra* note 105, at 161-62 (arguing that diversification can reduce the unsystematic risk of the portfolio but not the systematic risk).

155. As Professor Cunningham points out, this implication of CAPM suggests aggregate, empirical results that are inconsistent with those predicted by the ECMH. Cunningham, *supra* note 6, at 569-70 ("By hypothesis, however—under any existing asset pricing model, including CAPM—any linear or nonlinear dependence in security price behavior is inconsistent with the ECMH itself." (emphasis in original)). In terms developed by this Article, prices and price changes signal, not only unsystematic risk, but also the components of unsystematic risk, industry-specific risk, and firm-specific risk. Yet, if CAPM predicts that sellers do not need to pay a premium for these kinds of risk, prices will not signal these kinds of risk. By contrast, if according to the ECMH sellers do pay risk premiums and signal risk and changes in risk, the central lesson of CAPM—that sellers do not pay premiums for unsystematic risk—does not hold.



investments with less than desirable risk characteristics, driving down the price, thereby requiring sellers to charge less or, in effect, to pay more of a premium. When the managers reach a new mix of investments that, once again, eliminates unsystematic risk, sellers of securities may not, as CAPM predicts, pay a premium for unsystematic risk. In the interim, however, the payment of premiums is necessary to achieve the new equilibrium. Those premiums signal desirable and less-than-desirable risk characteristics, and patterns of premiums will likely signal whether desirable or less-than-desirable risk characteristics derive from changes in industry-specific risk or firm-specific risk.

Thus, by examining the price change of a single security in context with patterns of price changes, investors should be able to better interpret the signal as a change in the value of the issuer's assets or in a kind of risk associated with that investment.<sup>156</sup> If, for example, all prices in the capital markets move proportionately in the same direction, the reasonable inference is that the price change signals a change in systematic or market-specific risk. If, by contrast, the prices of securities issued by companies in only one industry move proportionately in the same direction, the reasonable inference is that the price change signals a change in industry-specific risk. Where the prices of securities issued by only one company change, however, the signal is mixed and creates noise. Equally reasonable inferences are that the price change resulted from either a change in the market's valuation of that issuer's assets or a change in firm-specific risk.

The disclosure goals of the securities laws include information about how an issuer's economic performance and risk might be affected by virtue of the economy or industry in which the issuer competes. Prices and changes in prices present an alternative way for investors to get the same material information which the highly technical information disclosed by the issuer also provides. Thus, price signals may accomplish some of the same goals of the disclosure requirements.

Prices potentially signal much, if not all, of the kinds of material information that investors need to make informed judgments.<sup>157</sup> Information that describes the issuer's

156. The assertion that much can be learned by examining patterns of price changes is a hypothesis that is consistent with some aspects of recent developments in Chaos Theory. At first, price changes may appear random, and consequently the price mechanisms of the capital markets would be characterized as stochastic. A further examination of the relation among different kinds of material information and the price of a security, however, suggests that significant patterns should emerge. Those suggested patterns, if empirically verified, would reveal that the price mechanisms of the capital markets are less chaotic and more the result of deterministic forces. *Id.* at 582 ("[C]haos theory holds that . . . systems that appear to be *stochastic*—to involve only random motion or behavior under conventional linear modeling—may be *deterministic*, or exhibit more complex internal dependence than simple linear modeling reveals." (emphasis in original)).

The assertions in this Article are not as ambitious as recent developments in Chaos Theory because the postulated patterns of price changes suggest a linear model. Indeed, the postulated patterns of price changes imply a linear model based upon multiple regression, without necessarily including the feedback mechanisms of nonlinear models.

157. The assertion that prices potentially signal different kinds of information is not new. As Professors Gilson and Kraakman noted when they proposed a causative theory of efficient prices:

Over time, however, scholars have pressed the weak, semi-strong, and strong form categories [of the ECMH] beyond their original service as a classification of empirical tests into more general duty as a classification of market responses to *particular kinds of information*. For example, prices might be said to incorporate efficiently one genre of information that is semi-strong public, but fail to reflect another that is strong form, or non-public. Indeed, taken a step further, scholars sometimes describe markets themselves as weak, semi-strong, or strong form efficient. Without ever being quite explicit, this powerful shorthand implies that different market dynamics are involved in the reflection of different kinds of information into price, and that varying degrees of market efficiency might well be the consequence.

Gilson & Kraakman, *supra* note 6, at 556-57 (emphasis in original) (footnote omitted). Their causative theory classifies information according to the three empirical tests of the ECMH. *Id.* at 559 ("It is this tacit recognition—that the weak, semi-strong, and strong form tests each sample a particular information set with potentially unique efficiency characteristics—that permits the expansion of the weak, semi-strong, and strong form trichotomy into a shorthand system for partitioning information sets."). The present approach differs because it partitions different kinds of information into sets or categories suggested by the disclosure requirements of the securities laws. *See id.* at 589-91.

assets is material. Price signals potentially disclose information about the market's valuation of those assets as well as changes in that value. Similarly, information about the risk associated with an investment is material. Here too, price signals potentially disclose information about risk as well as changes in risk. Further, information that describes how the issuer's economic performance and risk are affected by the economy or industry in which the issuer competes is material. By examining patterns of price changes, the investor potentially can learn whether changes in risk can be attributed to changes in the economy or a particular industry.<sup>158</sup>

Examining patterns of price changes, however, will not enable the investor to distinguish a change in firm-specific risk. Where the prices of securities issued by only one company change, investors cannot interpret the price signal with sufficient precision. Equally reasonable inferences are that the change in prices signals a change in the value of the issuer's assets or a change in firm-specific risk. Even if one investor trades on accurate financial information, the price signal does not allow other investors to distinguish the precise reason for the price change. For this reason, an investor who trades on these kinds of information will always produce price signals that investors cannot interpret. Further, there are no patterns of price signals to aid in interpretation. Consequently, these kinds of information are accurately characterized as inherently "noisy information."<sup>159</sup> Unless market mechanisms suppress the potentially distorting noise when investors trade on these kinds of material information, price signals will not be efficient.<sup>160</sup>

### III. A CAUSATIVE THEORY OF PRICE SIGNALS

Investors do not learn about prices, price changes, or patterns of price changes in a vacuum, but instead they receive those signals through the price mechanisms of the capital markets. The ECMH predicts that these price mechanisms provide investors with material information as quickly and as accurately as if investors monitored disclosures and other sources of underlying information that directly describe the value of an investment. To explain how market forces operate to produce the predicted result, this

---

158. Interpreting patterns of price changes is a variant of the general practice of "price decoding, [which] requires uninformed traders to observe and interpret anonymous data on price and trading volume against the backdrop of other information or expectations that these traders possess." *Id.* at 574-75.

159. This definition of "noise" differs from a definition based upon the distinction between fundamental and informational efficiency. Prices are fundamentally efficient where those prices accurately signal the intrinsic value of the investment. Prices are informationally efficient where those prices reflect all information, including information that does not accurately describe the intrinsic value of the investment. To the extent that less than accurate information causes informationally efficient prices to depart from fundamentally efficient prices, the less than accurate information produces "noisy signals."

As used in this Article, however, "noisy information" takes on a different meaning. "Noisy information" does not inaccurately describe the intrinsic value of the investment. Rather, "noisy information" accurately describes the fundamental or intrinsic value of the information but nonetheless produces "noisy signals." The reason is that "noisy information" does not produce a price signal, or a pattern of price signals, that permits investors to interpret how the signal is linked to a particular aspect of the intrinsic value of the investment. Thus, prices that accurately signal an increase in the intrinsic value of the investment nonetheless send "noisy signals" if those prices do not signal the reason why there was an increase in the intrinsic value of the investment. The kinds of information that produce these kinds of "noisy signals" are, as these terms are used in the text, "noisy information."

160. The problem, which has been recognized, lies in the efforts of the uninformed trader to "succeed in decoding the actual content of the information." Gilson & Krakman, *supra* note 6, at 575 ("The trick here, and admittedly it is no mean feat, is the uninformed trader's ability to employ knowledge of the informational constituents of the old price to deduce which possible accretion of new information would successfully explain observed price changes."). Put another way, noisy information is information that cannot be decoded from a price signal or patterns of price signals.

Part will first describe the positive theory of the ECMH in greater detail. The discussion will next explain how first-mover advantages create incentives to develop or to discover and then to trade on material information quickly. Finally, the discussion will address the problem of noise that is created when some investors do not trade on accurate financial information. The causative theory that emerges explains how market forces operate differently depending upon how widely material information is held.

### A. The Positive Theory Distinguished

The positive theory underlying the ECMH predicts that, on average, current price information informs investors as quickly and as accurately as information that directly describes the value of an investment.<sup>161</sup> The positive theory thus compares the two general ways by which investors receive material information: monitoring current price signals that indirectly describe the value of an investment and monitoring underlying information that directly describes that value.<sup>162</sup> The positive theory makes this comparison in terms of relative abilities to convey material information quickly and accurately. The prediction is not that price signals convey material information more quickly or more accurately. Rather, the prediction is that the average investor can do as well to monitor current price information as to monitor the underlying information on which the price signals are based.<sup>163</sup>

161. In one sense, this prediction is an assertion that public capital markets closely resemble a theoretically perfect market:

The perfect market is a heuristic invented by stipulating the following assumptions concerning a market: there are a large number of participants such that the actions of any individual participant cannot materially affect the market; participants are fully informed, have equal access to the market, and act rationally; the commodity is homogenous; and there are no transaction costs. Under these assumptions, the perfect market model would predict precisely what the random walk model was implying: that prices of goods (securities) in the public capital markets should adjust instantaneously and accurately to new information concerning them.

Cunningham, *supra* note 6, at 559 (footnote omitted).

162. Stating the ECMH in these terms sheds light on the issue of whether market efficiency should be a goal of securities regulation. Efficiency-enhancing policies are not without costs. So too, the disclosure of underlying information, whether voluntarily or pursuant to mandatory disclosure requirements, is not without costs. *See* Stout, *supra* note 4, at 701-06 (discussing costs of informational efficiency and disclosure). If market efficiency is no more efficacious but more costly than the alternative of disclosure, there is less reason for market efficiency to be a goal of securities regulation. If, by contrast, market efficiency is as efficacious but less costly than the alternative of disclosure, there is reason to question mandatory disclosure requirements.

163. An understanding of the prediction that the ECMH makes helps to explain some instances of acknowledged informational inefficiency. Initial public offerings ("IPOs") are notorious for being mispriced. Studies comparing IPO prices and subsequent market prices find wide divergences. *See generally* Stout, *supra* note 4, at 656-65. These wide divergences suggest that the IPO prices are not efficient.

When the results of these studies are interpreted in light of disclosure requirements, however, those results are not necessarily inconsistent with the prediction made by the ECMH. "Private companies generally are not subject to federal disclosure requirements or the scrutiny of financial analysts . . ." *Id.* at 658; *see also id.* at 658 n.235. Consequently, prior to the IPO and before the company initiates the process of registration with the SEC, there is nothing for the ECMH to predict for the obvious reason that price information does not exist and underlying information likely is not available.

After the registration statement is on file but before it becomes effective, the situation does not change. To be sure, the registration statement provides much underlying information for those who travel to the SEC and can understand the typically technical information that is in the statement. At this stage, before the registration statement becomes effective, the statement does not indicate the price of the security. Consequently, the average investor has no price information to monitor, and there is nothing for the ECMH to predict.

When the registration statement becomes effective, the statement must indicate the price at which the security will be offered by the underwriters, but the situation does not change. The fact that this price may not be efficient in no way contradicts the ECMH. The prediction of the ECMH pertains to prices that are signaled by the market, not to prices that are listed in registration statements. Consequently, after the registration statement is on file but before actual sales are made, the average investor has no market price to monitor, and the prediction of the ECMH does not come into play.

Even when the initial sales are actually made, the situation for average investors does not change significantly. Because

The ECMH often is phrased—and perhaps is better known—by factual implications that can be tested by way of observable empirical relations.<sup>164</sup> For example, the theory is usually characterized in terms of the absence of systematic opportunities to outperform the market.<sup>165</sup> If prices adjust so quickly and so accurately, the implication is that, on average, investors who monitor underlying information will not be able to exploit an informational advantage through arbitrage.<sup>166</sup> The observable empirical relations that can test this implication are the profits made by investors who are likely to monitor different kinds of information that describe the value of investments.<sup>167</sup>

Consequently, what have become known as the three forms of the ECMH are actually applications of statistical tests to three different categories of observable empirical relations.<sup>168</sup> The weak form tests the implication that technical analysis of the history of a security's prices will not yield an informational advantage that can be exploited through

the prospectus need not be delivered prior to the sale but may accompany the sale, the average investor may still not have access to the underlying information when the decision to purchase is made. Again, when initial sales are made, the investor can do as well to monitor the prices of other initial sales as to monitor the underlying information that may not be available by way of a prospective or, perhaps, may be practicably unavailable by way of the registration statement.

164. The ECMH has been examined for its efficacy on three different levels:

[T]he weak form, which [posits] that past price information contains no data that investors can use to obtain profits in excess of the profits a simple buy-and-hold strategy would produce; the semi-strong form, which suggests that the stock market promptly and accurately incorporates into the market price all publicly available information about a particular stock, so that an investor can earn risk-adjusted profits in excess of a buy-and-hold strategy only if the investor has access to inside information; and the strong form, which posits that although some use of inside information occurs in securities transactions, no substantial and consistent use of inside information occurs in a fashion that routinely disturbs a stock's equilibrium price.

Dennis, *supra* note 9, at 375.

165. One variant, for example, states that investors can do no better than a randomly chosen portfolio of securities, the true "random walk" that trusts price signals completely. For a review of the early development of the random walk model, see Cunningham, *supra* note 6, at 551-58.

166. See Gilson & Kraakman, *supra* note 6, at 554-55 ("[The ECMH] is really a shorthand for the empirical claim that 'available information' does not support profitable trading strategies or arbitrage opportunities.").

167. Cunningham explains:

[V]irtually since the emergence of the ECMH as an explanation of the random walk model, the ECMH has been divided into three forms, defined in terms of specified categories of information. The three forms were first proposed to classify empirical tests of price behavior given specified kinds of information. The weak form tested the random walk model itself, using autocorrelation tests and run analysis to investigate whether past prices indicate anything about future prices. Semi-strong form testing investigated whether publicly available information other than prices was reflected in prevailing prices, and strong-form testing investigated whether private information was reflected in prevailing prices.

Cunningham, *supra* note 6, at 560 (footnotes omitted).

168. Typically, ECMH studies apply the statistical technique of hypothesis testing. The procedure begins by constructing two hypotheses that are mutually incompatible. One hypothesis—called the null hypothesis—suggests an empirical relation that is inconsistent with the underlying theory. The other—called the alternate hypothesis—suggests a contrary empirical relation that is consistent with the underlying theory. If a statistical analysis of observable data indicates that the empirical relation suggested by the null hypothesis occurs with only a very low probability, the null hypothesis is rejected as highly unlikely, and the alternate hypothesis is tentatively accepted. If the statistical analysis does not reject the null hypothesis, there is no basis for accepting the alternate hypothesis. See generally OLKIN ET AL., *supra* note 18, at 623-32.

One point that needs to be stressed is that, while the statistical technique of hypothesis testing can provide support for a positive theory, statistics cannot prove the validity of that theory. One reason is that theories often make empirical predictions for which there are no directly observable data. As a result, many statistical studies construct hypotheses that suggest empirical relationships that are surrogates for the empirical relationships predicted by the positive theory. A second and more fundamental reason is that hypothesis testing only rejects theories as being highly unlikely. Theories are never proven; they are tentatively accepted because a contrary theory has been rejected. In fact, in light of more recent and sophisticated tests that have probed the accuracy of previous empirical tests, some now question whether the ECMH can "ever really be validated or discredited." Langevoort, *supra* note 6, at 854 (emphasis in original).

arbitrage.<sup>169</sup> Typically, weak-form tests examine the statistical relationships between past and current prices.<sup>170</sup> The semi-strong form tests the implication that relatively sophisticated investors who monitor publicly available material information cannot obtain an informational advantage.<sup>171</sup> Typically, semi-strong-form tests examine the trading gains of investors who trade just after issuers disclose material information.<sup>172</sup> Finally, the strong form tests the implication that investors with access to nonpublic material information cannot obtain an informational advantage.<sup>173</sup> Typically, strong-form tests examine the trading gains of investors with access to nonpublic information, such as insiders or individuals who work for stock exchanges.<sup>174</sup>

Overall, the empirical studies of the ECMH support the prediction that the capital markets are efficient, although the empirical tests of the different forms of the ECMH have produced different results.<sup>175</sup> One 1978 review, for example, concluded that "there is no other proposition in economics which has more solid empirical evidence supporting it than the [ECMH]."<sup>176</sup> Weak-form tests provide the strongest support for the ECMH by showing that historical prices do not predict future value better than current price information. The results for semi-strong tests generally support the prediction that abnormally high returns are not available when issuers disclose material information, although a minority of semi-strong tests suggest otherwise.

Strong-form tests provide the least support for the ECMH, but the results should be read with caution. These tests indicate that insiders and others who are likely to possess nonpublic material information outperform the market. Strong-form tests should be interpreted with caution because they do not directly examine trades that are made on

169. The impetus for weak-form tests seems to be market analysts, commonly called chartists, who study and chart patterns of historical price movements and then use those patterns to select investments. Cunningham, *supra* note 6, at 561 ("[T]echnical analysis of past price changes—sometimes called *chartist analysis*—cannot aid prediction of future price changes in any systematic way." (emphasis in original)); see also *id.* at 558 (noting that early random walk model was directed at a "filter technique [which] epitomizes the *chartist* or *technical* approach to security analysis and trading, under which a study of past prices (or other data) is used as a basis for predicting future prices" (emphasis in original)).

170. See *id.* at 560 ("[T]he weak form holds that current security prices fully reflect all information consisting of past security prices . . ."). In terms of the statistical technique of hypothesis testing noted above, the null hypothesis is that historical price patterns predict future value better than current prices. The alternate hypothesis is that historical price patterns fare no better than current price information.

171. The impetus for semi-strong-form tests seems to be market professionals who study investment information that is technical in character but available to the public generally. These analysts are sophisticated traders who have the skills to analyze and understand the typically technical information that is contained in prospectuses, audits, and regulatory filings.

172. See Cunningham, *supra* note 6, at 560 ("[T]he semi-strong form holds that current security prices fully reflect all information that is currently publicly available . . ."). In terms of the statistical technique of hypothesis testing noted above, the null hypothesis is that, after material information is released to the public, prices adjust so slowly that those who first learn of the information obtain abnormally high returns. The alternate hypothesis is that, after information is released, securities prices adjust so quickly that there are no opportunities for investors to obtain abnormally high returns. See *id.* at 561 ("Testing this more ambitious claim requires a focus not on correlation analysis of price changes but on the relative swiftness with which prices change given new information.").

173. The impetus for strong-form tests seems to be insiders and stock exchange employees, who are likely to have access to material information prior to disclosure. Thus, "the strong form is a theological proposition, holding that public capital markets are infinitely wise: even non-public information is reflected in public security prices." *Id.* at 562.

174. See *id.* at 560 ("[T]he strong form holds that current security prices fully reflect all currently existing information, whether publicly available or not."). In terms of the statistical test of hypothesis testing noted above, the null hypothesis is that, as soon as nonpublic material information is privately available, prices adjust so slowly that those with nonpublic information obtain abnormally high returns. The alternate hypothesis is that, as soon as nonpublic material information is privately available, prices adjust so quickly that there are no opportunities for investors to obtain abnormally high returns.

175. *Id.* at 571 ("Although few informed students of the ECMH ever invested great confidence in the strong form, the semi-strong and weak forms have held sway over academic discourse in financial economics and law for nearly two decades.").

176. Michael C. Jensen, *Some Anomalous Evidence Regarding Market Efficiency*, 6 J. FIN. ECON. 95, 95 (1978).

nonpublic material information. Rather, the tests indirectly examine the empirical relation by inferring that investors who are likely to have access to nonpublic material information always obtain and trade on that kind of information. The tests do not consider the extent to which these investors might have traded on public information or, for that matter, for other than financial reasons. Nonetheless, these studies do suggest that insiders can and do exploit informational advantages by engaging in arbitrage at the expense of others.<sup>177</sup>

The statistical tests of the implications of the ECMH should not lead to misunderstandings of what the underlying positive theory does and does not predict. Like the definition of expected value and CAPM, both of which refer to a mathematical average, the positive theory of the ECMH is a statistical prediction of all possible outcomes, some of which may depart from the predicted result. Indeed, many statements of the ECMH are made in probabilistic terms that speak of average outcomes.<sup>178</sup> A positive theory, however, does not purport to provide a prediction or understanding of individual events or transactions. Thus, the characterization of the ECMH as the absence of opportunities to outperform the market by monitoring underlying information is not meant to define the success of every individual investment or the fortunes of every individual investor.

The prediction that, on average, price signals efficiently convey all available material information is not meant to imply that individual investors never outperform the market, or that individual investors never monitor underlying information.<sup>179</sup> Some investors may outperform the market while others may perform worse than the market. So too, there may be instances in which individual investors monitor the underlying information that directly describes the investment.<sup>180</sup> In fact, if an individual investor monitors underlying information and obtains an informational advantage, that investor has an opportunity to reap rewards by trading on the information.<sup>181</sup> By the same token, a second investor who

177. See Cunningham, *supra* note 6, at 562 & n.74 (citing studies which show that "insider trading scandals of the 1980's are among the many proofs that the strong form of the ECMH is invalid").

178. Langevoort, *supra* note 6, at 853 ("[A]rbitrage opportunities [are] minimal: markets exhibit a sufficiently high degree of efficiency so that any residual imperfections can safely be treated as trivial.")

179. See Stout, *supra* note 4, at 628-29 (noting that program traders study the market and engage in profitable arbitrage when buying and selling stock index futures). Nor is the positive theory meant to imply that some traders never engage in investment transactions for nonfinancial reasons.

180. If anything, the practice of monitoring underlying information is significant, even if only for market professionals. See Langevoort, *supra* note 6, at 852 ("Billions of dollars are spent to generate securities research, recommendations, and advice.")

181. When discussing the fraud-on-the-market theory in light of the ECMH, Professor Langevoort made precisely this point:

One of the ironies in the development of the [fraud-on-the-market] theory, if understood this way, is that it uses the [ECMH] in the one way that it is not meant to be used: as a predictor of behavior of individual investors. As we have seen, the efficiency hypothesis states that market prices behave *as if* investors were rational and invest resources in information only to the point of positive return. Nothing in the [ECMH] denies what most popular accounts assume: that much information searching and trading by investors, from institutions on down, is done in the (perhaps erroneous) belief that undervalued or overvalued stocks exist and can systematically be discovered.

*Id.* at 895 (emphasis in original) (footnote omitted); see also *Weilgos v. Commonwealth Edison Co.*, 892 F.2d 509 (7th Cir. 1989). In *Weilgos*, Judge Easterbrook, writing for the majority, stated that:

Prompt incorporation of news into stock price is the foundation for the fraud-on-the-market doctrine and therefore supports a truth-on-the-market doctrine as well. Knowledge abroad in the market moderated, likely eliminated, the potential of a dated projection to mislead. It therefore cannot be the basis of liability.

*Id.* at 516 (citations omitted).

does not monitor underlying information but who makes the same investment at the same time will obtain the same rewards.

Moreover, the fact that an individual investor monitors underlying information does not guarantee success. All investments are at risk, and unforeseen contingencies may adversely affect the fortunes of even the most informed and sophisticated of investors. Provided the gains and losses of those with informational advantages balance the gains and losses of others, the prediction holds true that investors do not, on average, outperform the market by monitoring underlying information that directly describes the investment.

The atypical example of an individual who monitors underlying information and obtains a valuable informational advantage has important implications for a causative theory. The ideal type or paradigm case, one that describes how market forces operate to produce the predicted result, need not shy away from including an atypical event as one in a series. To the contrary, market equilibria are not stable, and market forces are not static. An atypical event may cause a disruption or shock to the system, resulting in a departure from an existing equilibrium. The disruption or shock may then spur market forces into operation, guiding the market to a new equilibrium. Thus, an atypical event may actually play a key role in a causative theory by showing how market forces produce the predicted result after a disruption or shock to the system.<sup>182</sup>

### B. First Movers and Free Riders

A causative theory that explains why current price information informs investors as *quickly* as information that directly describes the value of an investment actually begins with an atypical event.<sup>183</sup> Suppose that a few potential buyers and sellers monitor underlying information and acquire material information that discloses a change in the value of the investment. Those few traders now have an informational advantage. If the information indicates that the price of a security will increase, one of the buyers will enter the market and purchase the security, thereby signaling the information to all traders. If, by contrast, that information indicates that the price will decrease, one of the sellers will enter the market and sell the security, thereby signalling the information to all traders. Trading on new information is a disruption or shock to the system, resulting in a departure from the previous equilibrium or price of the security as other investors react to the price signal. Trading on new information also spurs market forces into operation, guiding the market as others react to the price signal and the price of the security adjusts to a new equilibrium based upon the new information.<sup>184</sup>

182. Professors Gilson and Kraakman observe:

[T]he price *disequilibrium* generated by new information ultimately evolves to a new equilibrium with the same efficient prices that would result if all traders initially possessed the new information. But this description of the restoration of efficient prices ignores all aspects of the process itself, including the most critical: *How long* does it take?

Gilson & Kraakman, *supra* note 6, at 560 (emphasis in original) (footnote omitted).

183. Indeed, an important aspect of the ECMH is the promptness with which prices signal material information. "When new information indicates that a particular stock is mispriced, traders promptly adjust the price to reflect the new information. The result is an 'informationally efficient' (or, as it is sometimes known, 'pricing efficient') market which rapidly incorporates all available data into stock prices." Stout, *supra* note 4, at 619-20 (footnote omitted).

184. See Gilson & Kraakman, *supra* note 6, at 570 ("Subgroups of informed traders, or even a single knowledgeable trader with sufficient resources, can also cause prices to reflect information by persistent trading at a premium over 'uninformed' price levels."). Professors Gilson and Kraakman have similarly explained insider trading in terms of a disruption or shock that moves price from one equilibrium to another. *Id.* at 630-31.

This part of the causative theory is fashioned with reference to market forces that create strong incentives to capture first-mover advantages where information has value.<sup>185</sup> Those market forces have been studied where producers of valuable information seek to sell that information as a good or service. Unlike the tangible value of a commodity that can be appropriated only by obtaining physical possession, the value of information does not require physical appropriation. Once disclosed through sale or use, information is peculiarly susceptible to appropriation by others. There is no practical way to exclude others from taking disclosed information and using it to their own advantage. Those who seek to reap rewards from valuable information must exploit their informational advantage quickly and before others discover the information and appropriate it to their own use. The window of opportunity for these first movers may be small, but the opportunity exists provided that the one with an informational advantage moves quickly to capture the advantage.

The strong incentives to capture first-mover advantages provide an understanding of why investors with material information signal that information as quickly as possible. Where a few potential buyers and sellers acquire material information, each recognizes that delay might allow another investor to capture the first-mover advantage and to reap the largest rewards. Moreover, investors with nonpublic material information may not know whether others have a like informational advantage or, for that matter, when others will develop or discover the information on their own. Thus, the uncertainty of how widely the information is held reinforces the incentives to move quickly and to capture the first-mover advantage.

The speed by which prices signal material information appears linked to how widely the information is held.<sup>186</sup> Incentives to capture first-mover advantages explain this link. To the extent that investors have material information and know that the information is widely held, there is a heightened sense of urgency to move as quickly as possible to capture a share of the first-mover advantages.<sup>187</sup> If investors suspect that the information is not as widely held, there may be less urgency. Perhaps the only situation where there are less than strong incentives to move as quickly as possible is where the investor knows, with certainty, that others do not hold the information and will not soon develop

185. See generally DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 383-84 (2d ed. 1994); F.M. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 584-92 (3d ed. 1990).

186. As Professors Gilson and Kraakman have noted:

The availability of information is a function of its distribution among traders in a given market. Different "bits" of information are more or less "available" depending on how many traders are aware of them.

Thus, the strength of the claim that prices fully reflect *all* available information hinges in large part on where one sets the minimum threshold of information distribution.

Gilson & Kraakman, *supra* note 6, at 558 (emphasis in original) (footnote omitted).

187. Apparently, the SEC believes that this is exactly what happens. Many program traders who deal in stock index futures focus upon information pertaining to the entire economy. This information will equally affect the prices of the broad range of stocks that underlie the index.

The SEC had noted in earlier reports that "index products appear to have a significant effect on the prices of securities. Economic events that would be expected to affect stocks generally are *quickly* reflected in futures prices; these price effects are transmitted *rapidly* to individual stock prices through index arbitrage." The result, the SEC believes, is that stock index futures "offer significant benefits to today's capital markets" by adding "substantial . . . pricing efficiency to equity markets."

Stout, *supra* note 4, at 631 (emphasis added) (footnote omitted) (quoting U.S. SEC. & EXCH. COMM'N, *THE ROLE OF INDEX-RELATED TRADING IN THE MARKET DECLINE ON SEPTEMBER 11 AND 12, 1986* 17 (1987) and quoting DIVISION OF MKT. REGULATION, U.S. SEC. & EXCH. COMM'N, *THE OCTOBER 1987 MARKET BREAK* 3-5 (1988).



or discover the information on their own.<sup>188</sup> Regardless of how widely the information is actually held, strong incentives to move quickly will likely exist if investors with material information are uncertain as to how widely the information is held or when others will develop or discover the information on their own.<sup>189</sup>

The market incentives of capturing a first-mover advantage provide an understanding, not only of why price signals quickly convey available material information, but also of why nonpublic material information is developed or discovered in the first place.<sup>190</sup> Developing or discovering information is not a costless activity.<sup>191</sup> Investors will not willingly allocate resources to developing or discovering nonpublic material information without an opportunity to recover their costs and, hopefully, additional rewards.<sup>192</sup> Indeed, a justification for intellectual property laws is that their reward of a limited monopoly is a necessary incentive to encourage innovation, creativity, and discovery. So too, the first-mover advantage provides the reward of a limited informational monopoly, and the first-mover advantage is the incentive for investors to develop or to discover nonpublic material information in the first place.<sup>193</sup>

At this point, it is important to note the issue of whether the incentives to capture a first-mover advantage send price signals faster than an issuer must disclose information

188. Noise theorists posit that this possibility is not all that remote:

Much of recent noise theory argues that there can be a contrived run-up in the price of a stock based on hopes and illusions that the smart money either waits out or joins. The mere fact that a critical mass of smart money is not fooled will not necessarily prevent the stock price from being influenced by fraud[on-the-market].

Langevoort, *supra* note 6, at 906 (footnote omitted). There are at least two responses to this possibility, one theoretical and one practical. From a theoretical standpoint, if this possibility occurs with sufficient frequency, the ECMH would be refuted statistically. Until that refutation, however, this possibility is an atypical event that need not be part of the ideal type or paradigmatic example of a causative theory. From a practical standpoint, it is not altogether clear why the smart money will wait on the sidelines for arbitrage opportunities to increase. The smart money will wait if the smart money knows, with certainty, that others will not develop or discover the nonpublic material information. Or, the smart money will wait if the smart money knows, with certainty, that no one with nonpublic material information will break ranks and start trading too soon. Given that these conditions are not easy to predict with certainty, market incentives to capture first-mover advantages will encourage even the smart money to move quickly.

189. See Gilson & Kraakman, *supra* note 6, at 567 (“[T]he individual trader who initially learns of new information can capture an increasing portion of its trading value as the initial distribution of the information narrows.”).

190. This insight follows from and addresses what has been known as the efficiency paradox. The paradox is that, while ECMH teaches that prices impound all available information and eliminate opportunities for arbitrage, ECMH depends upon those who seek to exploit informational advantages through arbitrage to make information available in the first place. *Id.* at 622-25; see also Langevoort, *supra* note 6, at 877 (“[M]andatory disclosure does not stress the production of information, assuming that most material information has been gathered and is in the possession of the issuer’s senior management at the time of a public distribution.”).

191. See generally Gilson & Kraakman, *supra* note 6, at 593-95 (analyzing investment information costs in terms of acquisition, processing, and verification).

192. This points out a serious shortcoming of the current approach to insider trading under Rule 10b-5. That approach grants entitlements to nonpublic material information in favor of individual investors who are not the ones who are likely to develop or to discover the information. The entitlement is not granted in favor of insiders who are the ones who are likely to develop or to discover the information. The shortcoming of the current approach is in failing to appreciate that insiders—and the issuers for whom they work—face costs when they develop or discover material information. If anything, the current approach seems based upon an empirical assumption that, for insiders, developing or discovering material information is a costless activity, and therefore no additional rewards are needed. *But see* Langevoort, *supra* note 6, at 877 (“[T]he formatting required by the disclosure forms no doubt creates some new information, and occasionally the due diligence search effectively imposed by the Securities Act leads to some information discovery.” (footnote omitted)).

193. The beneficial effects of allowing firms to exploit informational advantages by capturing first-mover advantages are recognized in other legal contexts. For a case in which a firm’s failure to predisclose a new product configuration withstood an antitrust challenge by a producer of a physically compatible, complementary product, see *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 279-85 (2d Cir. 1979) (holding that failure to predisclose is not an illegal use of informational advantage), *cert. denied*, 444 U.S. 1093 (1980). See also Donald K. Stockdale, Jr., Note, *An Economic and Legal Analysis of Physical Tie-Ins*, 89 YALE L.J. 769 (1980) (analyzing *Berkey Photo* from perspective of promoting innovation).

in current reports that are filed with the SEC. Of course, this is an empirical question, and the comparison of the speed of disclosure does not address whether price signals and regulatory filings convey the same kind of information or convey information with equal accuracy.<sup>194</sup> Nonetheless, a reasonable inference is that prices signal information more quickly than regulatory filings disclose the underlying information.<sup>195</sup> Under SEC regulations, an issuer can delay filing a current report from five to fifteen days after the occurrence of a defined event, depending upon the event that has occurred.<sup>196</sup> Traders with informational advantages seem to pursue first-mover advantages more quickly.<sup>197</sup> Indeed, the results of strong-form tests suggest that traders with information advantages can capture first-mover advantages before the general public receives or digests the information in regulatory filings.

The explanation that the speed at which prices signal information is linked to how widely the information is held suggests a similar explanation for incentives to develop or to discover information.<sup>198</sup> To the extent that there are a greater number of potential investors who might develop or discover material information, the potential reward for any one investor's efforts must be discounted for at least two reasons. First, if one investor loses the race to be the first to develop or to discover information, the opportunities to participate in the first-mover advantage will dissipate or, perhaps, vanish altogether. Second, if several investors develop or discover information at the same time, the market will adjust very quickly, narrowing the window of opportunity for any one investor to capture first-mover advantages. Thus, incentives to develop or to discover information are low where a large number of investors can develop or discover the information. Incentives increase if there are fewer investors, and incentives are strongest

194. Regulatory filings provide information about a myriad of factors that describe the value of the investment. Price signals, by contrast, disclose information about groups of factors that share common characteristics.

195. The legislative history suggests that Congress made this inference when enacting the securities laws. One committee report noted that the initial sale of a security should not take place until 30 days after registration so that the investing public could digest the information. H.R. REP. NO. 85, *supra* note 22, at 3-4. If trading were allowed prior to 30 days, the implication is that information, accurate or otherwise, would be conveyed only by way of a price signal. The empirical assertion that 30 days is sufficient is subject to debate. In fact, the original bill from the House provided for 30 days, but after conference the time period was reduced to 20 days, as is now reflected in § 8 of the 1933 Act. *See* H.R. REP. NO. 152, *supra* note 27, at 25; *see also* H.R. REP. NO. 1383, *supra* note 23, at 11 ("The disclosure of information materially important to investors may not instantaneously be reflected in market value, but despite the intricacies of security values truth does find relatively quick acceptance on the market.")

Interestingly, this "holding period" is still reflected in decisions regarding purchases or sales by insiders subsequent to public disclosures of material information. In *SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833 (2d Cir. 1968), *cert. denied sub nom.* Coates v. SEC, 394 U.S. 976 (1969), and *cert. denied sub nom.* Kline v. SEC, 394 U.S. 976 (1969), for example, the court found that despite disclosure, which had occurred at about 10:00 a.m. on April 16, 1964, purchases ordered by a defendant insider at 10:20 a.m. on the same day were insider trading. The court reasoned that the news release itself was "merely the first step in the process of dissemination." *Id.* at 854. Noting that the announcement did not appear on the Dow Jones until 10:54 a.m., the court stated that "at the minimum [the insider] should have waited until the news . . . appear[ed] over the . . . Dow Jones broad tape." *Id.*

196. Form 8-K allows the issuer to delay the report for 15 days for the following events: (1) change in control of the registrant (Item 1); (2) acquisition or disposition of a significant amount of assets not in the ordinary course of business (Item 2); (3) bankruptcy or reorganization proceedings (Item 3); (4) decision to change the registrant's fiscal year (Item 8). Form 8-K requires a report to be filed within five days if the registrant changes accountants (found in Item 4) or if the registrant experiences the resignation of, or disagreement with, a director under Item 6. There is no mandatory disclosure period for other events under Item 5.

197. *See Stout*, *supra* note 4, at 624 ("Trading by insiders (accompanied, perhaps by some free-riding, trade-decoding investors) ensures that stock prices reflect the news before it is news." (emphasis in original)).

198. *See Gilson & Kraakman*, *supra* note 6, at 576-79 (explaining the arbitrage opportunities for price decoders in terms of how widely initially acquired information is held).

where only a very limited number of investors can develop or discover the information.<sup>199</sup>

Consider, in contrast to the incentives of a first-mover advantage, the classic free-rider problem that is created by a rule that prohibits trading on nonpublic material information unless the information has been disclosed and the market has adjusted to the information. The rule effectively bars the investor who developed or discovered the information from obtaining a reward by moving quickly and capturing the first-mover advantage. Instead, the first-mover advantage goes to another investor who first learns of the information after disclosure and moves quickly to exploit the informational advantage.<sup>200</sup> The rule actually provides disincentives to those who might develop or discover material information because, not only are they barred from recovering the costs devoted to developing or discovering the information, but their efforts reward free riders who monitor disclosures.

At this point, it should be clear why the current approach to insider trading under Rule 10b-5 is deficient, at least from the perspective of addressing market failures to provide economic incentives to develop or to discover and then to disclose nonpublic material information through price signals.<sup>201</sup> The current approach under Rule 10b-5 assigns entitlements to nonpublic material information. Such an approach certainly is warranted where the ones who are likely to develop or to discover material information need added incentives to disclose the information that they develop or discover. Assigning entitlements is not warranted if the ones who receive those rights do not need added incentives to develop or to discover and then to disclose nonpublic material information.

Under the corrective justice approach to insider trading of Rule 10b-5, entitlements in nonpublic material information are not always granted to the appropriate class of investors. Market professionals and insiders are likely to develop or to discover material information, but individual investors are not.<sup>202</sup> The law treats market professionals correctly by granting them entitlements and allowing them to trade on information without first disclosing the information to others. Indeed, if market professionals were

---

199. The way that incentives to capture first-mover advantages affect incentives to develop or to discover information sheds light on the assertion that the costs of gathering information about securities greatly outweigh any public benefit. Typically, the assertion is premised upon the belief that everyone engages in the activity of information gathering. *E.g.*, Stout, *supra* note 4, at 704 (“[S]o long as everyone on Wall Street believes that he or she is brighter or luckier than the rest, all will spend time and energy creating, collecting, and analyzing information that not only is socially useless, but costs more to collect than any possible sum of resulting private benefits.”). The incentives for capturing first-mover advantages do not apply equally to every potential trader. Thus, the issue becomes whether the costs of gathering information by potential first movers outweigh the public benefits of informational efficiency that flow to all investors.

200. The fact that average investors may have difficulty obtaining or understanding the information disclosed by issuers indicates that Rule 10b-5 actually operates in favor of sophisticated investors such as market professionals. Where insiders avoid sanction under Rule 10b-5 by disclosing technical information, it is wrong to imply that Rule 10b-5 produces benefits to average investors by granting them ownership of nonpublic material information. The ones who benefit are those who monitor disclosures and are capable of quickly understanding the information that is disclosed. Rule 10b-5 benefits these relatively more sophisticated investors by allowing them to capture first-mover advantages. While ownership in nonpublic information seemingly is granted to every investor in the capital markets, the ones who actually benefit are the sophisticated investors who monitor technical disclosures.

201. Another way to explain the deficiency of the current approach is by analogy to the acknowledged informational inefficiency that results from trading halts or price limits: “Trading halts or daily price limits can prevent market price from incorporating information even if the public may be fully informed.” Stout, *supra* note 4, at 650 n.203. In the context of insider trading, the abstain-or-disclose rule is analogous to a trading halt or price limit, and the insider is analogous to an informed public. In both, rules that prevent informed investors from trading are equally likely to produce informationally inefficient prices.

202. It does not make sense to justify insider trading prohibitions by suggesting that insiders are the only ones to discover or to disseminate material information. Economic forecasts, industry trends, competitors’ strategies, and initial movements in the price of the security are all examples of valuable investment information that can be developed wholly outside of the issuer whose securities are traded.

not allowed to exploit nonpublic information by capturing first-mover advantages, market professionals would not have incentives to develop or to discover information in the first place.<sup>203</sup> Because market professionals have those incentives, market professionals thus are a good example of the atypical event that plays a key role in explaining how market forces produce the result predicted by the ECMH.<sup>204</sup>

With respect to insider trading, the current corrective justice approach of Rule 10b-5 does not allocate entitlements correctly. If insider trading needs regulation, it is because insiders do not have economic incentives to disclose the material information that they develop or discover. Individual investors, as distinguished from market professionals, do not need added incentives because individual investors are not likely to develop or to discover information at all. Yet, the current approach grants entitlements in favor of individual investors who free ride on the efforts of those who develop or discover material information.<sup>205</sup> From the perspective of correcting market failures, the current approach actually provides disincentives to insiders who are the ones more likely to develop or to discover material information.<sup>206</sup> The current approach potentially creates a market failure by providing insiders with disincentives that work in opposition to the disclosure goals of the securities laws.<sup>207</sup>

### C. Accurate Signals and Noise

A causative theory should also provide an understanding of why current price information informs investors as *accurately* as underlying information that directly describes the value of an investment. Noise theorists have leveled a serious challenge to this aspect of the ECMH by pointing out that not every securities transaction sends an accurate price signal.<sup>208</sup> The reasons for inaccurate price signals are numerous.<sup>209</sup> Some

203. See Stout, *supra* note 4, at 626 (“The misappropriation theory’s expansion of 10b-5 liability to cover anyone tipping or trading on information obtained in a less-than-wholesome fashion has been criticized as chilling the legitimate collection of data by analysts and investors.”).

204. Indeed, both the Supreme Court and the SEC have recognized the beneficial role that market professionals play in efficient pricing. See *Dirks v. SEC*, 463 U.S. 646, 658 nn.17-18 (1983); Stout, *supra* note 4, at 630-32 (observing that both before and after the 1987 market crash, the SEC believed that stock index futures trading by program traders contributed to pricing efficiency).

205. Although in theory the intent may be to allow individual investors to free ride on the efforts of others, as noted above, sophisticated investors are likely to be the ones who free ride by monitoring and digesting the typically technical disclosures of the issuer.

206. See Stout, *supra* note 4, at 624 (“Abandoning the ‘disclose or abstain’ rule and allowing insider trading thus appears to promote . . . efficiency. Because the corporation need not disclose nonpublic, proprietary information, it reaps the benefits of its own analysis and investigation. Such a policy preserves incentives to acquire valuable new knowledge . . .”).

207. Indeed, this is the insight of commentators who criticize the “disclose or abstain” rule because “it leads to mispriced securities and, therefore, to misallocated resources.” *Id.* at 623 & n.42 (citing commentators).

208. Cunningham, *supra* note 6, at 571 (“Noise theory shows that the information-processing properties of public capital markets are so bluntly powerful that fundamental information about underlying asset values is crowded out by extraneous information or noise.”); Gilson & Kraakman, *supra* note 6, at 587-88 (“Price noise, then, regardless of its source, establishes limits on the ultimate efficiency of uninformed trading.” (footnotes omitted)); Langevoort, *supra* note 6, at 911-12 (“[N]oise theory taken seriously is a doctrinally threatening and disruptive idea.”).

209. A related but distinct concept that concerns the accuracy of price signals is as follows:

Uncertain information inevitably becomes more certain as the acquisition of new data either confirms or alters the old information and thereby renders it “new.” Similarly, any change that new information induces in the forecast of future events also results in “new” information. A forecast that an event has a fifty percent likelihood of occurrence is different information from one that projects a nearly certain probability of occurrence.

Gilson & Kraakman, *supra* note 6, at 563. Arguably, a price signal may produce noise if the price is based upon uncertain information but appears based upon certain information. The discussion in this Article does not address noise from trading on uncertain information but examines, instead, noise from trading on inaccurate information, for nonfinancial reasons,

investors may trade for nonfinancial reasons. For example, some need to raise cash for personal reasons, and some select investments for the political or social policies of the companies that issued the securities.<sup>210</sup> Some investors may trade for financial reasons that, ultimately, rely upon only partially accurate information.<sup>211</sup> For example, some may hold incomplete information, misinterpret the information that they do hold, or depart from generally risk-averse behavior and, instead, gamble on securities by playing as much upon intuition or hunch as upon accurate financial information.<sup>212</sup> Finally, some investors may trade for financial reasons and upon accurate material information, but those investors rely upon inherently noisy information. Noisy information is information that, because it describes the issuer's assets or firm-specific risk, sends mixed signals that cannot be interpreted by examining patterns of price changes.

Noise theorists describe examples that, if sufficiently numerous, pose a threat to the statistical prediction that price signals are accurate.<sup>213</sup> That threat can be explained by way of an example of how noise distorts price signals. Suppose that a few potential buyers and sellers make trades for nonfinancial reasons or on the basis of partially accurate information. Suppose further that these transactions cause prices to move in a uniform direction.<sup>214</sup> Others who monitor price signals may mistakenly believe that the change in price resulted because investors with accurate financial information discovered a change in the value of the investment.<sup>215</sup> In other words, inaccurate price signals may

or on certain kinds of accurate information. This Article does discuss incentives for investors to reduce uncertainty by obtaining accurate information.

210. With respect to the political or social characteristics of an investment, Judge Posner argues that the market eliminates those considerations through arbitrage by individuals who do not share the same agenda for social responsibility: "The market will bid the prices of all [morally questionable investments] up or down until their expected return, correcting for differences in systematic risk, is the same as that of alternative investments." Richard A. Posner, *Law and the Theory of Finance: Some Intersections*, 54 GEO. WASH. L. REV. 159, 172 (1986); see also ROBERT W. HAMILTON, CASES AND MATERIALS ON CORPORATIONS 560 (4th ed. 1990) ("A corporate executive's responsibility is to make as much money for the stockholders as possible . . . . When an executive decides to take action for reasons of social responsibility, he is taking money from someone else . . . ." (quoting *Playboy Interview: Milton Friedman*, PLAYBOY, Feb. 1973, at 51, 59)).

211. Faced with the almost heretical suggestion that noise may result from irrational behavior, some economists have seized on a definition that equates noise with instances in which investors trade on inaccurate information. See Cunningham, *supra* note 6, at 565 n.86 (citing studies). With this definition, noise is easier to model because behavior is rational, it is just that behavior may be based upon faulty information. In the context of a positive theory that makes a statistical prediction, this response was unnecessary. Provided that, on average, investors behave rationally and rely upon accurate information, the prediction holds true, regardless of individual instances of irrationality or reliance upon inaccurate information that may produce individual results that are inconsistent with the theory.

212. See Langevoort, *supra* note 6, at 858-72 (reviewing reasons why investors engage in less than optimal behavior).

213. Professor Cunningham describes the threat posed by noise theory in the following terms:

Noise-theory models hold that the public capital markets are infected by a substantial volume of trading based on information unrelated to fundamental asset values (*noise trading*). These models attempt to explain both why noise trading occurs and why its effects persist. The most common noise-theory model holds, for example, that noise trading is conducted by ill-informed investors and that it keeps prices from reflecting fundamental values accurately because even sophisticated arbitrageurs will not fully arbitrage its influence away. This is because arbitrageurs are risk averse, and they cannot be sure that the misperceptions of the noise traders will not change adversely at any time.

Cunningham, *supra* note 6, at 565-66 (emphasis in original) (footnotes omitted).

214. This is the underlying assumption of those who believe that informational efficiency sends signals that diverge from fundamental efficiency. If prices signal nonmaterial information and diverge from prices that would signal the fundamental or intrinsic value of the investment, it is because nonmaterial information causes prices to move in a uniform direction.

215. The SEC's original policy with respect to "soft information" is consistent with this account of misleading price signals. "Soft information is information of a subjective or speculative nature, such as news of preliminary merger negotiations, appraisals of asset values, management's opinions and predictions for the future, and projections of future dividends or earnings." Stout, *supra* note 4, at 632-33. For many years, the disclosure of "soft information" was disfavored or prohibited by the SEC. "The SEC feared that allowing expression of subjective information might tempt management to make unduly optimistic claims or might induce unsophisticated investors to attach too much importance to information

be indistinguishable from accurate ones.<sup>216</sup> Inaccurate signals, according to noise theorists, are just as likely to spur market forces into operation, guiding the price of a security to a new equilibrium, albeit an unstable one that is not based upon accurate financial information.<sup>217</sup>

Indeed, legal scholars now recognize recurring instances in which prices send less than accurate signals and, in that sense, produce noise. One example is the enormous premium typically paid by acquiring firms in takeovers.<sup>218</sup> If prices already reflect the value of the target's stock, then the target's shareholders should not demand, and the acquiring firm should not pay, a premium over the pre-takeover price.<sup>219</sup> One explanation lies in the recognition that investors' opinions about the value of a security may differ significantly.<sup>220</sup> Consequently, marginal trading does not signal the higher value placed on the security by optimistic shareholders who will not sell until the price of the security increases. By the same token, marginal trading does not signal the lower value placed on the security by pessimists who will not purchase unless the price of the security decreases.

Recognizing that investors have heterogeneous beliefs about the value of a security does not defeat the ECMH but does explain why a takeover premium is noise. The ECMH is a statistical prediction of all possible outcomes, including potential trades by optimistic investors who will only sell for more and pessimistic investors who will only pay less. The fact that some investors are unwilling to trade at current prices does not mean that marginal trading is not a mathematical average of the heterogeneous beliefs held by all potential investors. Even with heterogeneous beliefs, marginal changes in the price of a security can still signal marginal changes in the value of the investment.

A takeover premium likely creates noise, however, because the acquiring firm does not trade on a market that includes the entire range of heterogeneous beliefs. Rather, in a takeover, the acquiring firm deals only with existing shareholders. A takeover thus excludes any consideration of the beliefs of nonshareholders who are pessimists and will

which held little factual basis." *Id.* at 633. In other words, if investors uniformly misinterpret "unduly optimistic" disclosures, uniform price trends will not convey accurate financial information.

216. See Langevoort, *supra* note 6, at 896 ("[C]ertain speculators can be driven by pseudo-signals and cognitive illusions, as well as by fundamental analysis, thus moving prices away from value . . .").

217. A variant of this explanation is the fraud-on-the-market theory now adopted by courts in Rule 10b-5 litigation. *Basic Inc. v. Levinson*, 485 U.S. 224 (1988). This theory was developed with regard to the requirement, under Rule 10b-5, for a class of plaintiffs to show individual reliance on a material misrepresentation. Proof of reliance begins with the ECMH and the inference that investors trust prices completely. If someone discloses misleading information and sophisticated investors rely on that misrepresentation, prices will adjust to a new equilibrium that is based upon the misrepresentation. Reliance is found in reliance upon prices that have adjusted to the misleading information. See Langevoort, *supra* note 6, at 889-903 (discussing fraud-on-the-market theory in light of ECMH and noise theory). Once again, the underlying assumption is that inaccurate information causes prices to move in a uniform direction.

218. See Lynn A. Stout, *Are Takeover Premiums Really Premiums? Market Price, Fair Value, and Corporate Law*, 99 *YALE L.J.* 1235 (1990).

219. *Id.* at 1235 ("According to the widely accepted theory of the efficient stock market, the shares of target firms should trade at prices that fully and accurately reflect the value of the firms' assets and expected earnings." (footnotes omitted)).

220. There are numerous reasons for heterogeneous beliefs, one of which is the different ways in which investors forecast economic performance:

[I]nformation is not limited to hard facts; it also includes soft information, the stuff of forecasts and predictions, that is at least as critical to trading as key trading facts. Both in developing forecasts of future events and in making a master forecast of value, traders employ, in addition to key facts, a wide variety of secondary facts, differing beliefs, and diverse levels of predictive skills. This heterogeneity of information, beliefs, and skills adds additional uncertainty to that stemming from the inherent indeterminacy of the future.

Gilson & Kraakman, *supra* note 6, at 579 (footnote omitted).

not trade unless the price of the security decreases. Shareholders, by contrast, include optimists who will only sell for more than the prevailing market price. Because the acquiring firm must induce all shareholders to sell, price will move in a uniformly higher direction to accommodate the optimistic beliefs of shareholders. If the premium is an inaccurate and noisy signal, the takeover price is a disruption or shock that the market will correct when trading once again accounts for the entire range of heterogeneous beliefs.<sup>221</sup>

Another example of how legal scholars recognize recurring instances in which prices send less than accurate signals is found in the distinction between fundamental and informational efficiency. Prices are fundamentally efficient where those prices accurately signal the intrinsic value of the investment. Prices are informationally efficient where those prices reflect all information, regardless of whether that information accurately reflects the intrinsic value of the investment. If, as the ECMH predicts, prices signal all available information, then prices truly signal all information, including information that is not material. To the extent that informationally efficient prices diverge from fundamentally efficient prices, informational efficiency creates noise.<sup>222</sup>

Recognizing that prices may signal information that is not material to the intrinsic value of the investment does not sound the death knell for the ECMH. Again, the ECMH survives this recognition because it is a statistical prediction of all possible outcomes, some of which include trades made on misleading or immaterial information. Provided that the divergences from fundamentally efficient prices balance out, the prediction holds true that prices signal the intrinsic value of the investment. Even if informational efficiency causes prices to move in a uniform direction away from the fundamentally efficient price, the divergence likely is a disruption or shock that the market will correct when trading once again is based upon accurate information.

From the perspective of a causative theory that supports and provides an understanding of the ECMH, there are at least three potential explanations of how price signals remain accurate despite potentially distorting noise. First, the overwhelming majority of trades are based upon partially accurate information that is widely held.<sup>223</sup> Here, noise is ubiquitous but truly random, and therefore balances out and does not produce any uniform price trend that might send an inaccurate signal.<sup>224</sup> Second, most trades create

221. There is the possibility that the post-takeover price will not correct, at least in the sense that the price moves downward. Again, this possibility does not necessarily defeat the ECMH. Presumably, the acquiring firm paid a takeover premium because it placed a higher value on the security than the shareholders who received the premium. Consequently, the heterogeneous beliefs expressed in the marketplace now include those of the very optimistic acquiring firm, who will not sell unless investors offer to pay a higher price that includes the takeover premium.

222. See *supra* note 143.

223. Partially accurate information may be due to the different ways that investors interpret information and, consequently, form different opinions about the value of a particular security. See Stout, *supra* note 4, at 688 n.372 (criticizing ECMH as based upon an "assumption of homogenous beliefs [which] is at odds with a reality in which investors and analysts disagree strongly about the likely fate of a particular corporation or industry"). In addition, and as urged elsewhere in this Article, low incentives to capture first-mover advantages may not provide sufficient incentives to develop or to discover information or, for that matter, to interpret properly technical information that is held.

224. See *In re Apple Computer Sec. Litig.*, 886 F.2d 1109, 1114 (9th Cir. 1989) ("[It is a] basic assumption of the securities laws that the partially-informed investors will cancel each other out, and that Apple's stock price will accurately reflect all relevant information. . . . [Consequently,] the market . . . will not be misled."), *cert. denied*, 110 S. Ct. 3229 (1990); see also Gilson & Kraakman, *supra* note 6, at 581 ("As trading proceeds, the random biases of individual forecasts will cancel one another out, leaving price to reflect a single, best-informed aggregate forecast.")

This also suggests an explanation of why prices that are informationally efficient need not diverge from prices that are fundamentally efficient. If nonmaterial information is ubiquitous but truly random, nonmaterial information will balance out and even an informationally efficient market will produce prices that will not diverge from prices that, on average, accurately signal the fundamental or intrinsic value of the security.

noise, but noise is created by investors who typically engage in small transactions that send weak signals. Other trades send accurate signals, and accurate signals are created by investors who typically engage in large transactions that send strong signals.<sup>225</sup> Here, strong and accurate price signals overwhelm any noise. Third, although many trades create noise, those who monitor price signals focus upon a very limited number of investors who are the most likely to send accurate signals.<sup>226</sup> Here, accurate signals supplant noisy signals because investors who look to price signals ignore noisy traders and, instead, monitor those who send accurate signals.<sup>227</sup>

The explanations of how price signals remain accurate despite potentially distorting noise appear linked to how widely financial information is held.<sup>228</sup> If a large number of investors can develop or discover material information, there is a greater likelihood that many investors randomly hold partially accurate information. The reduced possibility of being the first to capture the first-mover advantage translates into lower incentives to allocate resources to obtain complete information and to interpret the information correctly.<sup>229</sup> Noise is ubiquitous but random. If fewer investors can develop or discover material information, there is a greater likelihood that these investors trade on accurate financial information and typically engage in large transactions that send strong price

225. These investors are the so-called "smart money" who have the time and resources to obtain and interpret the underlying information that typically is technical in character and available in obscure sources. These investors are "gatekeepers," the underwriters, accountants, and lawyers who participate in preparing disclosures and who have reputational and financial interests at stake in guarding against incomplete and inaccurate disclosure. Langevoort, *supra* note 6, at 880-81; *see also* Gilson & Kraakman, *supra* note 6, at 618 ("Our analysis suggests that investment bankers play a third role, that of an information and reputational intermediary, which is particularly important in the context of new issues and other innovations."). For an insightful discussion of the role of "gatekeeping" as an enforcement strategy in the securities and other contexts, *see* Reinier H. Kraakman, *Gatekeepers: The Anatomy of a Third-Party Enforcement Strategy*, 2 J. L. ECON. & ORGANIZATIONS 53 (1986).

226. This is what is called "trade decoding." *See* Gilson & Kraakman, *supra* note 6, at 573 ("Trade decoding occurs whenever uninformed traders glean trading information by directly observing the transactions of informed traders.").

The SEC's changed policy with regard to "soft information" is consistent with a belief that market professionals can interpret "soft information" and convey the information through accurate price signals. As noted above, the SEC originally disfavored or prohibited the disclosure of "soft information" because investors might uniformly misinterpret "unduly optimistic" disclosures. Now, however, the SEC permits and encourages the disclosure of certain kinds of soft information. Stout, *supra* note 4, at 633-34. The change in policy certainly makes sense if the SEC believes that market professionals can correctly interpret "soft information" and contribute to market efficiency through accurate price signals. The change also makes sense if the SEC believes that any inaccurate interpretations are truly random and will balance out without producing distributions in the average market price.

227. The idea that investors look to others to interpret the typically technical information provided by the issuer was a rationale advanced, in the legislative history, for the requirement to delay trading until 30 days after the filing of the registration statement. H.R. REP. NO. 85, *supra* note 22, at 5-6 ("Such 'registration statement' has remained on file for not less than 30 days, subject to public inspection, thereby giving adequate opportunity for appropriate scrutiny by state securities commissions and independent securities services and advisors."). Indeed, §§ 5b(1) and (2) require that individual investors receive a prospectus that satisfies § 10 requirements, but the § 5 requirement can be met if the prospectus accompanies the delivery of the security which, by definition, is after the individual has decided to invest.

228. Some have argued that the ECMH can withstand the challenge of noise theory only with the assumption that investors behave rationally and trade only upon material information about the intrinsic or fundamental value of the investment. *See* Cunningham, *supra* note 6, at 564-65 & n.83 (noting debate). Yet, such assumptions regarding individual behavior misapprehend the implications of a positive theory that makes a statistical prediction:

In the context of the ECMH, rational behavior need not obtain at the individual level provided it obtains the aggregate—provided the result of the process is *as if* individuals had behaved rationally. In other words, under the ECMH, participation of many investors will produce the outcome that would be produced if all were rational, because the mistakes made by those who do not act rationally will be exploited and thus corrected by those who do.

*Id.* at 565 n.84 (emphasis in original). Even the third explanation in this Article of how price signals remain accurate despite potentially distorting noise will not disturb the prediction of the ECMH, provided that those traders who are monitored send signals that balance out and do not produce a uniform price trend that sends an inaccurate signal.

229. *See* Gilson & Kraakman, *supra* note 6, at 563-64 (describing ways that investors reduce uncertainty by obtaining, interpreting, and verifying information).



signals. The greater likelihood of capturing first-mover advantages translates into greater incentives to obtain complete information and to interpret that information accurately. The accurate signals of investors with greater incentives overwhelm the weak signals of investors with lower incentives. Finally, if only a very limited number of investors can develop or discover material information, there is a greater likelihood that these investors send accurate signals. These investors have the greatest likelihood of capturing first-mover advantages and, hence, the greatest incentives to obtain and to trade on accurate financial information. Those who send accurate signals are the ones that others monitor.

The explanations of how price mechanisms suppress the potentially distorting effects of noise do not account for every reason why a securities transaction might send an inaccurate price signal. Price mechanisms seem geared to dampen the potential distortions that are created when investors trade for nonfinancial reasons or upon inaccurate financial information. Indeed, these kinds of distortions will not create noise if erroneous signals balance out, strong and accurate signals overwhelm noisy ones, or those who send accurate signals are the ones that others monitor. But, price mechanisms will not dampen the distortions that are created when investors trade upon inherently noisy information about the issuer's assets or firm-specific risk. Regardless of whether investors randomly trade upon one kind of information or the other, send strong signals, or attract the attention of those who monitor the market, an investor who trades on noisy information will send mixed signals.

These last observations also indicate why the explanations of how price signals remain accurate appear to be linked to how widely financial information is held. The reason is that noisy information is most likely to be held or developed by a very limited number of investors. Noisy information describes the market's valuation of a particular issuer's assets or the firm-specific risk associated with that issuer. These kinds of information are less likely to be available to the general public and, hence, not likely to be held widely. By contrast, information about systematic or market-specific risk or about industry-specific risk is more likely to be available to the general public and, hence, likely to be held more widely. Thus, noisy information, which is not likely to be widely held, produces noise that market mechanisms do not dampen. By contrast, other information, which is likely to be widely held, produces noise that market mechanisms can dampen.

The analysis under the current approach to insider trading under Rule 10b-5 is deficient from the perspective of addressing market failures to suppress potentially distorting noise. Assigning entitlements to material information is not necessarily an inappropriate tool of regulatory policy. Such an approach is warranted where the individuals who are likely to develop or to discover material information are also likely to send noisy signals that price mechanisms will not suppress. If so, the entitlement to material information should be granted to those who receive noisy signals so that they can interpret the price signal.<sup>230</sup> If those who receive noisy signals are assigned entitlements to material information, the ones who send noisy signals should only trade if they disclose the underlying information upon which they trade. By contrast, if the ones who are likely to develop or to discover material information are not likely to send noisy signals or are likely to send noisy signals that price mechanisms will suppress, there is no reason to assign entitlements to those who receive already accurate signals.

---

230. Implicit in this proposal is an argument in favor of retaining the system of mandatory disclosure. To the extent that price signals are noisy, mandatory disclosure ensures that individual investors have the underlying information necessary to interpret the price signal.

Under the current approach to insider trading, entitlements to nonpublic material information are granted without regard for the need to address market failures or to suppress potentially distorting noise. Perhaps this is unfair criticism. Only recently have legal scholars begun to interpret the lessons of noise theory for the regulatory policy of securities law. Nonetheless, if the need to suppress potentially distorting noise motivates the different treatment of market professionals and insiders, that different treatment would necessarily follow from an examination of the transactions in which market professionals and insiders engage. Market professionals would be granted entitlements because they engage in transactions in which they send accurate signals. Insiders, by contrast, would be denied entitlements because they engage in transactions in which they send noisy signals.

The discussion thus far has outlined a causative theory that provides an understanding of how, in an ideal type or paradigmatic example, market forces operate so that prices, on average, signal material information efficiently. The possibility of capturing rewards through the first-mover advantage provides incentives to develop or to discover material information that directly describes the value of the investment. That same first-mover advantage provides incentives to exploit an informational advantage by trading on the information as quickly as possible. Even if an investor does not disclose the nonpublic material information, changes in the price of a security signal changes in the value of capital assets or risk characteristics. Others react to initial price signals, causing the market to adjust until a new price equilibrium is attained. Because market forces operate quickly and accurately, on average investors can do as well by monitoring current price information as by monitoring the underlying material information that directly describes the value of an investment.

Implicit in the causative theory is the assertion that at least some investors monitor patterns of price signals. As urged above, if systematic or market-specific risk decreases, the reasonable inference is that the price of every security issued by every company in that economy should increase proportionately. If industry-specific risk decreases, the reasonable inference is that only the prices of securities issued by companies in that one industry should increase proportionately. The causative theory does not require that every investor monitor every price to detect patterns of signals. Indeed, the information gleaned from monitoring patterns of price signals may itself create the possibility of a first-mover advantage. The causative theory requires only that at least some investors monitor patterns of price signals and disclose information by trading on that information as quickly as possible.<sup>231</sup>

The causative theory has not just explained how market forces are likely to produce efficient prices that signal underlying information quickly and accurately; it also has

---

<sup>231</sup> The process is similar to what Professors Gilson and Kraakman have described as weak learning from price:

Unlike price decoding, which transmits key trading facts, weak learning conveys refracted data about consensus opinion that is already fully impounded in price and has comparatively little potential for revising individual traders' facts and forecasts. In many instances, the simple aggregation process of uninformed trading will obscure the sources of weak or gradual price changes and so preclude any deduction about their meaning other than the obvious one—that a shift has occurred in consensus market expectations.

Gilson & Kraakman, *supra* note 6, at 586. The process suggested in the text goes further and contemplates "weak learning," not by uninformed traders, but those with the skill to interpret patterns of price signals. *See id.* at 594 ("Evaluation of information, whether self-produced or acquired from others, requires special skills, such as a facility in accounting, finance or securities analysis, that can ordinarily be obtained only through investment in expensive professional training.").

generated concrete guidelines for regulatory policy to address situations in which market forces fail to provide incentives that produce efficient prices. The current approach to insider trading grants entitlements to material information, but with a view to creating a system of corrective justice. If the focus of regulatory policy turns to addressing market failures, entitlements would be granted, but with a view to providing supplemental incentives for insiders to develop or to discover and then to disclose material information. Ownership of the underlying information would be granted to those likely to develop or to discover information, but only where they need added incentives to develop or to discover and then to disclose that information through price signals. Ownership of underlying information would also be granted to those who receive information through price signals, but only where they need the underlying information to interpret potentially noisy signals. Of course, whether entitlements are needed to address market failures would turn upon the characteristics of different kinds of information on which insiders trade.

A key to the prescriptions for regulatory policy that are implicit in the causative theory is that, at each step, the causative theory takes into account how widely market forces operate.<sup>232</sup> The first-mover advantage provides different incentives to develop or to discover and then to trade on material information, depending upon the number of investors who can develop or discover the information on their own. So too, the way in which price mechanisms dampen potentially distorting noise differs depending upon how widely material information is held. How widely market forces operate also plays a role in the patterns of price changes that help investors to interpret a price signal as a change in the value of the investment's capital assets or as a change in the kind of risk associated with that investment. In fact, the market failures approach to insider trading suggested next is based upon a link between how widely information is held and how widely prices are affected by different kinds of risk, a link that identifies the problem of insider trading in terms of noisy information.

#### IV. MARKET FAILURES AND INSIDERS

A causative theory of the ECMH has important implications for regulatory policy because the theory helps to identify market failures. For example, where first-mover advantages are attenuated, capital markets may fail to provide adequate incentives to develop or to discover and then to disclose material information quickly. Similarly, where investors are likely to engage in transactions for nonfinancial reasons, on information that is partially accurate, or on noisy information, noise may prevent prices from signaling material information accurately. If regulatory policy is meant to address these kinds of market failures, then any prohibition of insider trading should account for whether a transaction is one in which insiders are likely, or unlikely, to have strong incentives to capture first-mover advantages or to send accurate signals.

---

<sup>232</sup>. See *id.* at 556 ("The more private the information, the more intuitively reasonable the proposition that one might profit by trading on it, and so the stronger the opposing claim that such profitable trading is impossible.")

### A. Dual Sets of Incentives

Potentially, insider trading is an atypical disruption or shock that spurs market forces into action, quickly and accurately guiding the market to a new equilibrium. The atypical investor who played a key role in the causative theory developed in the preceding Part of this Article did not closely resemble an insider. The atypical investor of the causative theory was more analogous to a market professional who looks to capital markets to exploit informational advantages. Thus, if regulatory policy were to focus solely upon market professionals, that policy need account only for the way in which market forces operate in the capital markets to provide incentives to capture first-mover advantages or to send accurate price signals.<sup>233</sup>

Insiders are very different from market professionals because insiders—and the issuers for whom they work—can exploit informational advantages in two markets. Of course, insiders who engage in securities transactions by trading on nonpublic information look to the capital markets to exploit informational advantages. Insiders can also look to the market in which the issuer competes for the sale of goods and services. Indeed, the fact that executive compensation programs link bonuses to improvements in the price of stock<sup>234</sup> or to performance in the market for goods and services confirms that insiders have two markets in which to exploit informational advantages. So too, the fact that the securities laws do not compel disclosure of trade secrets or other proprietary information confirms that insiders can exploit informational advantages in the market for goods and services.<sup>235</sup>

The fact that insiders might not seek to exploit an informational advantage in the capital markets does not, by itself, warrant a blanket prohibition on insider trading. To the contrary, the implications of the causative theory suggest that any regulation of insider trading should account for at least three concerns. First, regulatory policy should not create disincentives by allowing others to free ride on informational advantages that insiders develop or discover. Second, regulatory policy should not intervene in the kinds of transactions in which insiders are likely to cause the atypical disruption or shock that spurs market forces into operation, and in turn quickly guides the market to a new equilibrium. Third, regulatory policy should not intervene in those kinds of transactions

233. Indeed, Professors Gilson and Kraakman argue that “the dominant minority of informed . . . market professionals” is sufficient to assure that prices are efficient. *Id.* at 571-72.

234. Professor Stout cautions that linking management’s bonuses to the price of stock may itself become a source of informational inefficiency:

There is a particular moral hazard associated with using stock prices to evaluate and compensate management. Judging management’s performance by a stock price signal shifts management’s self-interest from running the corporation well, to running the *signal* well. Management whose tenure and salary depends on stock price performance will be tempted to focus attention on maintaining or increasing stock prices, even when these efforts are not in the interest of the corporation or its shareholders. Management will have incentive to delay the announcement of bad news; to disseminate false good news; to avoid investments that are in the business’ long run interest but depress prices in the short run; or to waste corporate assets by initiating a stock buy-back plan designed with no other purpose than to drive marginal prices higher.

Stout, *supra* note 4, at 681 (emphasis in original) (footnotes omitted).

235. Of course, shareholders benefit when insiders exploit informational advantages in the market for goods and services. Increased profits from more efficient operations or increased sales translates into investor gains, either through stock appreciation or distribution of higher earnings through dividends. The fact that insiders can and should provide these benefits to shareholders does not necessarily mean that the insider’s activities further the disclosure goals of the securities laws. The insider can increase the value of shareholders’ investments without disclosing the reasons for the increase to the general public.

in which insiders are likely to signal information accurately. One way for regulatory policy to account for these concerns is to examine how dual sets of market incentives operate when insiders trade on different kinds of nonpublic material information.<sup>236</sup>

### 1. Systematic or Market-Specific Risk

Information about systematic or market-specific risk is most likely to be widely held or independently developed or discovered by a potentially large number of investors.<sup>237</sup> This kind of information describes factors that affect an entire economy or global region and equally affect every industry and every company in that economy or global region. Consequently, insiders do not have advantages in developing or discovering this kind of information by virtue of their positions on the inside of particular companies or, for that matter, companies that operate in particular industries.<sup>238</sup> Even if this is the kind of information that can be developed or discovered only by insiders, the number of insiders of all companies in the entire economy suggests that the information may be widely held even if limited to insiders.

In the capital markets, an insider with this kind of information is very much like the overwhelming majority of investors who rely upon financial information but are likely to trade on partially accurate information. Because there are a large number of investors who potentially could develop or discover this kind of information, the reduced possibility of being the first to capture the first-mover advantage translates into low incentives to develop or to discover the information in the first place. Indeed, these low incentives suggest that insiders would not allocate resources to interpret this kind of information correctly or to obtain complete information. Once the information is developed or discovered, however, the fact that numerous investors might also learn of the information means that there are strong incentives to move quickly. There is a significant likelihood of noise because investors are likely to trade on partially accurate financial information, but that noise is likely to be random and therefore not distorting. In addition, where there has been a change in systematic or market-specific risk, investors who monitor current price information can examine patterns of price changes to interpret general price movements and further reduce noise.

In the market for goods and services, information about systematic or market-specific risk is least likely to produce a competitive advantage for any one company because this kind of information describes factors that equally affect every industry and every company in the economy. Additionally, this kind of information is likely to be widely held so that any advantage to one company will likely flow to others quickly, thereby reducing or eliminating any relative advantage to any particular company or industry.

---

236. These concerns, and the suggestions which follow, are consistent with the recent focus of scholars and policymakers on the goal of making the securities markets more efficient. See Stout, *supra* note 4, at 621-22 (noting and citing examples of change in focus from "whether the stock market is informationally efficient to . . . how it might be made more so" (emphasis in original)).

237. For an analysis of how information costs affect how widely information is held and, in turn, market efficiency, see Gilson & Kraakman, *supra* note 6, at 612-13 ("The core of our analysis, then, is that the cost of information critically determines market efficiency because it dictates not only the amount of information attending a particular security but also the distribution of that information among traders, which in turn determines the operative capital market mechanism."). The approach taken in this Article differs because the extent to which information is widely held turns upon incentives to exploit informational advantages which are determined, not only by the costs of developing or discussing such advantages, but also by the potential to exploit first-mover advantages.

238. For example, many program traders who deal in stock index futures are not insiders but, nonetheless, trade on information about the stock market as a whole. See Stout, *supra* note 4, at 628.

Consequently, insiders who develop or discover information about systematic or market-specific risk are least likely to be affected by incentives in the market for goods and services.

That information about systematic or market-specific risk is likely to be widely held and not likely to produce a competitive advantage hardly justifies the current prohibition on insider trading.<sup>239</sup> To the contrary, both the capital market and the market for goods and services provide, at best, weak incentives for insiders to develop or to discover this kind of information. Regulatory policy should not weaken those incentives further by preventing insiders from trading on whatever information they develop or discover. If anything, insiders should be allowed to exploit any first-mover advantage so that they will disclose the information quickly through the price mechanisms of the capital markets. Moreover, because insiders are least influenced by incentives that flow from the market for goods and services, insiders are little different from market professionals who look to the capital markets to exploit informational advantages. Consequently, there is little reason to treat insiders differently than market professionals who may trade freely on nonpublic material information about systematic or market-specific risk.

## 2. Industry-Specific Risk

Information about industry-specific risk is likely to be held or independently developed or discovered by a significant number of investors. This kind of information describes factors that equally affect every company in a particular industry but not other companies in other industries. Consequently, the insiders of companies in a particular industry may have advantages in developing or discovering this kind of information by virtue of their positions on the inside of companies in that particular industry. Those advantages exist with respect to the insiders of companies in other industries, but not with respect to the insiders of companies in the same industry. Even if this is the kind of information that can be developed or discovered only by the insiders of companies that operate within the particular industry,<sup>240</sup> the number of insiders of all companies in the particular industry suggests that the information may be widely held.<sup>241</sup>

In the capital markets, an insider with this kind of information is very much like investors who rely on accurate financial information and typically engage in large transactions that send strong signals. Because there are not a large number of investors who potentially could develop or discover this kind of information, the increased possibility of capturing the first-mover advantage translates into stronger incentives to

---

239. Even if this kind of information is outside the reach of Rule 10b-5 because this kind of information is not material "inside" information, other remedial provisions may apply. Section 16(b) liability does not turn upon the kind of information or, for that matter, whether the information is material. Similarly, liability under the common law approach turns upon whether the insider developed or discovered the information within the scope of employment but does not turn upon the kind of information.

240. This inference is questionable. Sometimes program traders deal in stock index futures where the stocks underlying the index represent "an industry segment." Stout, *supra* note 4, at 628. These program traders, who are not insiders, trade on information about a particular industry.

241. The assertion in the text is affected by the level of concentration in any particular industry. To the extent that an industry is highly deconcentrated, there will be many insiders, and information will be more widely held. For a deconcentrated industry, the incentive effects may therefore begin to resemble those for insiders who hold information about systematic or market-specific risk, which is discussed above. By contrast, to the extent that an industry is highly concentrated, there will be fewer insiders, and information will be less widely held. For a concentrated industry, the incentive effects may therefore begin to resemble those for insiders who hold information about firm-specific risk, which is discussed *infra* part IV.A.3.

develop or to discover the information in the first place. These higher incentives suggest that insiders are more likely to allocate resources to interpret this kind of information correctly and to obtain complete information. Once the information is developed or discovered, however, there may be less urgency to move quickly, but that incentive will likely be increased if the insider is uncertain as to how widely the information is held or when others might develop or discover the information on their own. There is a lower likelihood of noise because the securities transactions of insiders are likely to send strong signals that dampen the weaker signals of other investors. In addition, where there has been a change in industry-specific risk, investors who monitor current price information can examine patterns of price changes to interpret general price movements and further reduce noise.

In the market for goods and services, information about industry-specific risk seems unlikely to produce a competitive advantage. This kind of information describes factors that equally affect every company in a particular industry. For companies that gauge success in terms of their share of an industry's sales,<sup>242</sup> information about industry-specific risk is not likely to affect that share. In addition, because this information is likely to be held by insiders throughout the industry, any advantage to one company will likely flow to others in the industry, thereby reducing or eliminating any relative advantage to any particular company in that industry. Consequently, insiders who develop or discover information about industry-specific risk are not likely to be significantly affected by incentives in the market for goods and services.

The fact that information about industry-specific risk is likely to be widely held and not likely to produce a competitive advantage does not justify a prohibition on insider trading. To be sure, the capital market and the market for goods and services may not provide the strongest incentives for insiders to develop or to discover this kind of information. Incentives from the capital markets would seem to be more significant, however. Because this kind of information is not likely to produce a competitive advantage in the market for goods and services, insiders have greater incentives to exploit first-mover advantages by trading quickly in the capital markets. Regulatory policy should not weaken these incentives by preventing insiders from trading on this kind of information and sending price signals in the capital markets. Moreover, insiders with information about industry-specific risk are little different than market professionals who study particular industries. Here, insiders and market professionals are equally likely to be the atypical disruption or shock that spurs market forces into operation, quickly and accurately guiding the market to a new equilibrium. Consequently, there is little reason to treat insiders differently from market professionals who may trade freely on nonpublic material information about industry-specific risk.

### 3. Asset Value and Firm-Specific Risk

Very few investors are likely to develop or to discover information about the market's valuation of the issuer's assets and firm-specific risk. Information about the value of the issuer's assets describes factors that are associated with the unique assets of a particular company and affect only that one company. Similarly, information about firm-specific

---

242. The percentage share of sales in an industry has long been used as an indicia of success, in both economic and antitrust analysis.

risk describes factors that are associated with the unique way that a particular company conducts its economic affairs and likewise affects only that one company. Consequently, insiders have the greatest advantages in developing or discovering these kinds of information by virtue of their positions on the inside of a particular company.<sup>243</sup> If these are the kinds of information that can be developed or discovered only by insiders, the number of insiders capable of developing or discovering the information is very limited.

At first glance, an insider with these kinds of information appears to be like the very limited number of investors who are most likely to send accurate and reliable signals. Because of the limited number of investors who potentially could develop or discover these kinds of information, the enhanced possibility of capturing the first-mover advantage translates into the highest incentives to develop or to discover the information in the first place. Once the information is developed or discovered, however, the fact that other investors are not likely to learn of the information translates into weak incentives to move quickly. These incentives increase if the insider is uncertain as to when others, including other insiders who work for the same issuer, might develop or discover the information on their own.

The major problem with insiders who trade on information about the value of the issuer's assets or firm-specific risk is one of noise. These kinds of information are noisy because a price signal creates equally plausible inferences of either a change in asset value or in firm-specific risk. Even though others are likely to monitor insiders' transactions, there is a significant possibility that insiders will send mixed signals, at least insofar as investors want to distinguish prices that signal changes in the value of the issuer's assets from those that signal changes in firm-specific risk. Without the underlying material information, potentially distorting price signals will be difficult to interpret. Unlike the other kinds of information, price mechanisms will not suppress potentially distorting noise, and investors who monitor current price information cannot examine patterns of price changes to interpret the price signal as a change in asset value or firm-specific risk. These two kinds of material information are inherently noisy.

There are considerations which suggest that insiders do not send noisy signals when they trade on these kinds of information. The results of strong-form tests of the ECMH certainly suggest that insiders outperform the market and, perhaps, send accurate and reliable signals. Those considerations, by themselves, do not automatically justify removing any regulation of insider trading on the assumption that insiders disclose material information through accurate price signals. In fact, the results of the strong-form tests are equally consistent with the explanation that insiders send noisy price signals. If, for example, other investors are unsure whether a price increase signals an increase in the value of the issuer's assets or a decrease in firm-specific risk, other investors are likely to delay a securities transaction based upon the price signal until they develop or discover information that directly describes the value of assets and firm-specific risk.<sup>244</sup> Only by

---

243. See Hazen, *supra* note 105, at 152 (noting in context of securities market that "information about any particular company" is first known to insiders and then filters down to the public); Stout, *supra* note 4, at 622-23 ("Corporate insiders learn of changes in their corporation's fortunes long before such news is announced to the public.").

244. Another reason for delay is that investors want to ascertain whether the signal is from a reliable source. Arguably, insiders who trade on these kinds of information are more likely to be reliable sources. Disclosure requirements, however, distinguish between these kinds of information, and require the disclosure of both, presumably because investors care about the impact of different kinds of information upon the investment decision. Thus, a separate reason for delay is the need for investors to ascertain the reason why price is moving in a particular direction. Where only the prices of the securities issued by a single company move, there are no patterns of price signals to aid in interpretation. Here, investors who want to know what kind of information is signaled by a price change will need to develop or to discover the



developing or discovering information can other investors interpret the potentially noisy price signal. The resulting delay only lengthens the window of opportunity for insiders to exploit first-mover advantages in the capital markets.<sup>245</sup>

A recommendation to allow insiders to trade on information about the issuer's assets or firm-specific risk should also account for incentives that flow from the market for goods and services. These kinds of information are most likely to produce a competitive advantage. Indeed, these kinds of information disclose the way that a particular issuer conducts its business and competes in the market for goods and services. For example, improvements in the value of the issuer's assets translate into lower costs of producing goods or services or into producing goods or services of better quality. So too, lowering firm-specific risk lowers the costs of capital for that one issuer. Simply put, these kinds of information describe factors that are most relevant to an issuer's ability to maintain or improve its share of sales in a particular industry. The possibility that these kinds of information can reap rewards in the market for goods and services only heightens incentives to develop or to discover complete and accurate information.

A problem arises, however, because it is possible for an insider to seek rewards in the market for goods and services without disclosing the information or providing price signals in the capital markets. Consider, for example, a trade secret: a trade secret will result in a competitive advantage in the market for goods and services only if information that directly describes the trade secret is not disclosed. Suppose that a company with a trade secret contractually prohibits insiders from trading in the capital market and, instead, provides compensation packages linked to improved performance in the market for goods and services. Here, investors will not learn of the financial advantages of the trade secret by monitoring information that directly describes the trade secret because that information is kept confidential. Nor can investors indirectly learn of the information by monitoring current price information in the capital markets because insiders are contractually barred from trading on that information. The only alternative for investors is to look to performance in the market for goods and services for some indicia of material information.<sup>246</sup> Forcing investors to monitor developments in the market for goods and services is not an alternative that is consistent with the disclosure goals of the securities laws. If anything, monitoring developments in the market for goods and services only delays disclosure as investors must spend time and effort to study and interpret those developments.

An insider with information about the issuer's assets or firm-specific risk may not resemble the limited number of investors who are the most likely to send accurate price signals. If the insider is seeking a reward by trading on the information in the capital markets, the insider is likely to send a noisy signal. Here, there is no pattern of price signals to help other investors interpret whether the trade is based upon a change in the value of issuer's assets or in firm-specific risk.<sup>247</sup> If the insider is seeking a reward by

---

underlying information. In fact, delay is the reason why Professors Gilson and Kraakman argue that insider trading should be regulated. Gilson & Kraakman, *supra* note 6, at 631-32. Their proposal differs from the one advanced by this Article because this Article argues that delay is a compelling concern only when the insider trades on inherently noisy information.

245. See Stout, *supra* note 4, at 624 (noting that, to be efficient, insider trading may need to be accompanied by "trade-decoding investors").

246. By using the trade secret, the company will signal the competitive advantage through lower prices or increased quantities sold in the market for goods and services.

247. Even if the distinctions among these kinds of material information are not relevant to some investors, as a matter of law, the distinction is relevant under the disclosure requirements.

using the information in the market for goods and services, the insider will likely engage in transactions in the capital markets for nonfinancial reasons and, consequently, send a noisy signal. Here, as well, there is no pattern of price signals to help other investors interpret the trade as one for nonfinancial reasons.

Thus, even though insiders appear to outperform the market, insider trading is not always an atypical event that, in the causative theory, spurs market forces into action, quickly and accurately guiding the market to a new equilibrium. Insiders are most likely to play the role of the beneficial atypical event where they have unique abilities to develop or to discover material information and strong incentives to trade upon that information quickly and accurately. At first, this seems to be the case with respect to information about the value of the issuer's assets or firm-specific risk because the insider presumably has unique abilities to develop or to discover the information. For these kinds of information, however, the insider does not necessarily have strong incentives to trade on the information in the capital markets because the insider may respond to incentives to use the information in the market in which the issuer competes for goods and services. Even if the insider trades in the capital markets, the price signal will not disclose whether the insider is trading on information about asset value, on information about firm-specific risk, or for nonfinancial reasons.

When insiders develop or discover information about the value of the issuer's assets or firm-specific risk, insiders are very much different from market professionals. Largely due to the unique opportunities to exploit informational advantages in the market for goods and services, the capital markets may fail to provide stronger incentives for insiders to disclose these kinds of information by trading on the information in securities transactions. Instead of playing the role of the beneficial atypical event, insiders are just as likely to be noisy traders who delay market forces while other investors interpret potentially distorting noise by searching for underlying information that directly describes the value of the investment. It is for these kinds of transactions—where insiders trade on noisy information about the value of the issuer's assets or firm-specific risk—that the regulation of insider trading seems most justified.<sup>248</sup>

### *B. Addressing Market Failures*

From the perspective of addressing market failures to provide insiders with incentives to disclose material information, the need for regulation of insider trading arises because insiders with information about the issuer's assets or firm-specific risk are likely to send noisy signals that price mechanisms will not dampen.<sup>249</sup> The current remedial provisions, however, are not tailored to address that market failure. Consider what an insider must do to avoid sanction under the major remedial provisions. Under section 16(b), the insider may not make short-swing profits on two transactions within any six month

---

248. This approach to the problem of insider trading is consistent with the proposals by Professors Gilson and Kraakman to focus remedial measures "on those producers who would exploit high buyer verification costs by falsely pretending to provide quality information." Gilson & Kraakman, *supra* note 6, at 605. Regardless of any "pretending" by insiders when they trade, insiders generally are perceived as trading on quality information. When insiders trade on inherently noisy information, insiders increase verification costs to others who receive the price signals.

249. One implication of the approach taken in this Article concerns the definition of an insider. Currently, the definition of an insider turns upon contractual or confidential relations with the issuer. The approach taken in this Article suggests that the definition of an insider should turn upon whether the individual is likely to develop or to discover information about the issuer's assets or firm-specific risk, but is not likely to trade quickly and send accurate signals.

period. The insider is not regulated on the first transaction which permits the insider to send a potentially noisy signal on that transaction. The insider can wait at least six months for the second transaction which permits the insider to send a second potentially noisy signal. Under the common law approach, the insider may not trade on confidential information without violating a fiduciary duty to the corporation. Agency principles, however, allow the corporation to grant its agent, the insider, permission to use the confidential information.<sup>250</sup> Thus, the insider can obtain permission, trade on the information, and send a potentially noisy signal. Under neither approach is the insider required to disclose underlying information to ensure that investors are not delayed or misled by potentially noisy signals.

The approach under Rule 10b-5 seems, at first glance, to address the market failure of insiders who trade on information about the issuer's assets or firm-specific risk and send potentially noisy signals. To avoid sanction under Rule 10b-5, the insider must first disclose the information and wait until the market adjusts to the information. Only then can the insider trade on the now public information. The requirement of prior disclosure certainly addresses the problem of potentially distorting noise because investors can use the disclosed information to interpret the signal from the insider's subsequent transaction. Nonetheless, the requirement of prior disclosure is overkill because it also creates disincentives for insiders to develop or to discover and then to disclose any kind of material information. The requirement effectively bars the insider from capturing a first-mover advantage and, instead, allows others to free ride on the insider's efforts.

Addressing the problem of noise by allowing others to free ride on informational advantages that insiders develop or discover creates disincentives that ultimately are not likely to serve anyone's interests. Consider the options available to an insider who wishes to avoid liability under Rule 10b-5. First, the insider may decline altogether to allocate resources to developing or discovering material information. In this situation, there will be no benefit to anyone in either the capital markets or the market for goods and services. Second, if the insider does develop or discover material information, the insider can avoid Rule 10b-5 liability by keeping the information secret and opting to exploit the informational advantage only in the market for goods and services. In this situation, the benefit in the capital markets may be nonexistent or, at best, delayed as investors turn to the market for goods and services to monitor the issuer's competitive performance. Third, the insider might develop or discover material information and disclose the underlying information in the capital markets, but this is not a foregone conclusion.<sup>251</sup> Given Rule 10b-5, the insider has little incentive to disclose the information so that others may free ride. From the perspective of the disclosure goals of the securities laws, insiders who decline to disclose material information because of Rule 10b-5 provide no benefit in the capital markets.

---

250. See RESTATEMENT (SECOND) OF AGENCY § 390 (1958).

251. For examples of cases in which insiders did not disclose the underlying information, see *Dirks v. SEC*, 463 U.S. 646 (1983); *SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833 (2d Cir. 1968), *cert. denied sub nom. Coates v. SEC*, 394 U.S. 976 (1969), *and cert. denied sub nom. Kline v. SEC*, 394 U.S. 976 (1969). In fact, one variant of the fraud-on-the-market theory is premised on the belief that insiders will trade on underlying information without disclosing that information.

A conceptually preferable solution to a rule of prior disclosure might be to allow insider trading but to require disclosure at or near the time of the transaction.<sup>252</sup> Here, the insider, or the issuer on whose behalf the insider works, can determine whether it is in the issuer's competitive interests to allow insiders to disclose material information indirectly through price signals. If the issuer decides to bestow a first-mover advantage upon insiders as a form of compensation, incentives to develop or to discover and then to trade quickly will return. The requirement of simultaneous disclosure will reduce the potentially distorting noise of insider trading. Other investors will receive not only the price signals of insiders who trade, but also the underlying information that directly describes the financial information on which the insider traded.

From the perspective of individual investors who purchase just prior to a disclosure, a requirement of simultaneous disclosure is little different than the requirements that issuers disclose material information at the time of the initial offering and on a continuing basis if the security will be traded after the initial offering. Neither guarantees that every securities transaction will be fair or that every investment will be successful. Consider an individual investor who engages in a securities transaction just prior to a disclosure, be it a mandatory disclosure or one that follows under an insider trading requirement of simultaneous disclosure. If the disclosed information indicates a change in the value of the investment, trading will ensue as the price of the security adjusts to a new equilibrium. Regardless of the rule that required the disclosure, the individual investor who purchased just prior to a disclosure will gain or lose depending upon how the market adjusts to the material information.<sup>253</sup>

The disclosure goals of the securities laws indicate that individual investors are best served if material information is conveyed as quickly and as accurately as possible. A requirement of simultaneous disclosure coupled with market mechanisms seems best geared to achieve this goal. Incentives to capture first-mover advantages certainly work more quickly than requirements for annual or quarterly reports, and arguably more quickly than current reports. In addition, to the extent that market mechanisms may fail to dampen potentially distorting noise, simultaneous disclosure will provide the underlying information that investors need to interpret price signals.

Another benefit of this approach is that the issuer can determine whether to disclose confidential information that the issuer is not compelled to disclose under the securities laws. For example, the securities laws do not require disclosure of trade secrets or other proprietary information if disclosure would harm the issuer's competitive position. If the issuer decides to allow insiders to trade on this information as a form of compensation, the issuer would be required to disclose the information simultaneously so that investors may interpret price signals. If, however, the issuer decides not to disclose this information, then the issuer would be required to prevent insiders from trading on the

---

252. This suggested approach differs from the disclosure requirements under current reports because, under this approach, disclosure would take place sooner than required in current reports. This suggested approach also differs from the duty to abstain or disclose under Rule 10b-5 because, under this approach, the insider may trade before the market adjusts.

253. Put another way, after the fundamental or intrinsic value of the investment has changed, but before disclosure, the effective value is the realizable value or market price of the security. After disclosure, whether an SEC-mandated disclosure or a price signal, the market price will adjust toward the fundamental or intrinsic value of the investment. In this context, short-term inefficiency will almost certainly lead to a gain or loss for an investor who made a transaction based upon the realizable value of the security prior to disclosure or before the market price of the security adjusts to the fundamental or intrinsic value of the investment. See Stout, *supra* note 4, at 682-84 (analyzing informational efficiency in short-term, medium-term, and long-term contexts).

information and sending potentially noisy price signals. The issuer can still compensate insiders as an incentive to develop or to discover valuable information, but the compensation would have to take a form other than permission to trade on the information.<sup>254</sup>

While this solution may be conceptually appealing, the task of developing judicially manageable standards to implement a simultaneous disclosure rule is not. The suggested analysis indicates that simultaneous disclosure is warranted only for transactions in which the insider trades on noisy information that describes the market's valuation of the issuer's assets or firm-specific risk. The task thus is to distinguish these transactions from those in which insiders trade on other kinds of information or for nonfinancial reasons. One possibility is to allocate to the insider the burden of proving that the transaction was made for other reasons and was not one in which the insider traded on information about the issuer's assets or firm-specific risk. As noted above, objective evidence for this kind of defense can be found in patterns of price changes that provide reasonable inferences as to whether there has been a change in the value of capital assets or firm-specific risk. Moreover, if the insider traded on information about other kinds of risk—market-specific risk or industry-specific risk—that information is likely to be widely held, and the insider might be able to obtain evidence of other investors who traded for the same reason. These kinds of objective evidence do not, however, help to distinguish transactions in which insiders trade for nonfinancial reasons.

An alternative that might appear more manageable is to apply a simultaneous disclosure rule to all insider trading rather than merely to the kind of transaction in which the insider is likely to send a potentially noisy signal. This proposal highlights the dilemma of whether to require the insider to make an accurate and complete disclosure of all material information or only that information upon which the insider relied. It is possible, for example, that the insider traded for nonfinancial reasons and not because of nonpublic material information about the value of the issuer's assets or a particular kind of risk. Given that the purpose of a simultaneous disclosure rule is to address market failures that lead to potentially noisy signals, disclosure should be limited to that information upon which the insider traded. Indeed, if the insider did not trade on nonpublic material information and disclosure of that information would harm the issuer's competitive interests in the market for goods and services, disclosure is neither required nor warranted.

At a more practical level, the need for a simultaneous disclosure rule arises from the misunderstanding that insiders are most likely to send accurate and reliable signals about the market's valuation of the issuer's assets or firm-specific risk. This misunderstanding is only fueled by laws and regulations that identify the fact of insider trading as material information.<sup>255</sup> The kinds of transactions in which insiders are likely to have unique access to nonpublic material information are quite limited, however. There is little reason

---

254. This option recognizes that the disclosure goals of the securities laws should be balanced with the need to preserve incentives to develop or to discover proprietary material. *See id.* at 650 n.203 ("Current disclosure requirements recognize that not all corporate information should be disclosed, even when this action by definition reduces misinformation and enhances efficiency.")

255. The idea that the fact of insider trading is material information can be traced at least as far back as the legislative history of the 1934 Act. H.R. REP. NO. 1383, *supra* note 23, at 25 (stating that the purpose of the 1934 Act was "preventing 'sales against the box' whereby those in possession of inside information sell their holdings but keep the stock registered in their name, so that their change of position does not become known until delivery is made at a later date"). Even here, regulations do not assure that the fact of insider trading is disclosed quickly.

to believe that any one insider or group of insiders who work for the same issuer have unique access to nonpublic material information that describes either systematic or market-specific risk or industry-specific risk. Rather, insiders are likely to have unique access to nonpublic material information about the value of the issuer's assets or firm-specific risk, and these are precisely the kinds of information that lead to noisy signals. Perhaps the best solution is to inform investors that they should not monitor insider trading. Just when an investor believes that an insider has the greatest advantage in developing or discovering material information, insiders are most likely to send inaccurate and unreliable signals.

This last proposal, if followed, would not abandon individual investors to a world of ignorance or noise. With respect to information about systematic or market-specific risk or about industry-specific risk, insider trading poses no threat to market forces that already provide economic incentives to disclose information. With respect to information about the value of the issuer's assets or firm-specific risk, insider trading is not the only way for individual investors to learn of material information. Indeed, SEC regulations already require issuers to disclose, quickly and accurately, these kinds of information if significant events have transpired since the last mandatory disclosure. Of course, these regulations can be criticized because disclosure does not take place as quickly as insiders can capture first-mover advantages. Nonetheless, just when an investor believes that an insider is most likely to send inaccurate and unreliable signals, the SEC requires issuers to disclose information that allows investors to verify the accuracy and reliability of price signals.

#### CONCLUSION

This Article has examined insider trading from the perspective that the securities laws are meant to address market failures for issuers to develop and to discover and then to disclose material information to investors. Perhaps because Rule 10b-5 allows disappointed purchasers and sellers of securities to seek recovery against insiders who trade on nonpublic material information, many courts and commentators take a different perspective that the prohibition on insider trading is meant to prevent harms to individual investors. In the normal play of market forces, however, not all investments are successful, and the gains and losses of individual investors are a fact of life in the capital markets. Individual investors gain or lose for a variety of reasons, only one of which is insider trading. If the current prohibition against insider trading is meant to protect individual investors, that prohibition is at best an incomplete remedy that is inconsistent with the treatment of market professionals, who are allowed to exploit informational advantages by trading on nonpublic material information.

The starting point for the analysis suggested in this Article is the ECMH, the Efficient Capital Market Hypothesis. The ECMH has had a significant influence on securities regulation,<sup>256</sup> no doubt because its central lesson that current prices signal material information is consistent with the disclosure goals of the securities laws. Current prices potentially signal more than general indications about an investment's value. This Article has postulated that patterns of price changes disclose specific information about changes

---

256. For specific examples of the influence of the ECMH upon securities law, policy, and scholarship, see Gilson & Kraakman, *supra* note 6, at 549-50 & nn.1-6; Langevoort, *supra* note 6, at 872-912; Stout, *supra* note 4, at 619-40.

in the value of the market's valuation of the issuer's assets or in particular kinds of risk. Of course, a problem that faces any investor who monitors current price information is that securities transactions create noise if investors trade based on nonfinancial reasons, on inaccurate financial information, or on noisy information that results in mixed signals.

To understand whether market forces fail to disclose material information quickly and accurately through price signals in particular transactions, this Article developed a causative theory of the ECMH. This theory developed an ideal type or paradigmatic example of how an investor discloses material information by trading on that information. Depending upon how widely information is held, market forces provide strong incentives to capture first-mover advantages by developing or discovering information and then trading on that information quickly. Also depending upon how widely information is held, market forces dampen noise that potentially distorts the information provided by accurate price signals. While these market forces operate on all investors who seek rewards in the capital markets, insiders require additional consideration because they are likely to trade on inherently noisy information. Moreover, insiders may have opportunities to exploit informational advantages in the market in which the issuer competes for goods and services. Here, as well, incentives seem to differ depending upon how widely information is held.

Although the Article suggests approaches to insider trading, the suggestions are offered more as examples of the kinds of concerns for which regulatory policy should account. This Article offers two specific proposals—a simultaneous disclosure rule and a warning not to monitor insider trading—both of which were directed at the kind of transactions in which insiders are most likely to send noisy price signals. For example, these proposals were based upon inferences about how widely different kinds of information are held and upon inferences about incentives that flow from market forces in the capital markets to the market in which the issuer competes for goods and services. While the inferences are not unreasonable, inferences about the ways that market forces provide these kinds of economic incentives have not been the subject of extensive investigation or empirical research.<sup>257</sup> If the regulation of insider trading is meant to address market failures for issuers to disclose material information to investors, however, regulatory policy should account for market mechanisms that allow insiders to disclose, quickly and accurately, different kinds of material information by trading on that information.

---

257. One potential avenue for empirical research would be to examine the influence of incentives that flow from the market for goods and services. If those incentives are significant, executive compensation programs should influence insider trading activity. Insiders with executive compensation programs linked to performance in the market for goods and services should be less inclined to engage in insider trading. By contrast, insiders without such programs should be more inclined to exploit informational advantages in the capital markets.