Columbia Law School
The Center for Law and Economic Studies
435 West 116th St.
New York, NY 10027-7201

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The Essential Role of Securities Regulation
Zohar Goshen and Gideon Parchomovsky

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THE ESSENTIAL ROLE OF SECURITIES REGULATION

ZOHAR GOSHEN † AND GIDEON PARCHOMOVSKY ‡

Abstract

This Article posits that the essential role of securities regulations is to create a competitive market for information traders (“analysts”). The Article advances two related theses—one descriptive and the other normative. Descriptively, it demonstrates that securities regulation is specifically designed to facilitate and protect the work of analysts. Normatively, the Article shows that analysts are the only group that can best underwrite efficient and liquid capital markets and, hence, it is the group securities regulation should strive to protect. By protecting analysts, securities regulations enhance efficiency and liquidity in financial markets. This protection, in turn, benefits other types of investors by reducing transaction costs. Furthermore, by protecting analysts, securities regulation represents the highest form of market integrity by ensuring accurate pricing to all investors, and improves the allocation of resources in the economy.

Securities regulation may be divided into three broad categories—disclosure duties; restrictions on fraud and manipulation; and restrictions on insider trading—each of which contributes to the creation of a vibrant market for analysts. Disclosure duties reduce analysts’ costs of gathering information, and diminish the ability of analysts to produce biased analyses in exchange for pay. Restrictions on fraud and manipulation lower analysts’ cost of verifying the credibility of information, and enhance analysts’ ability to make accurate predictions. Finally, restrictions on insider trading protect analysts from competition from insiders that would undercut the ability of analysts to recoup their investment in information, and thereby drive analysts out of the market.

† Professor of Law, Columbia Law School.
‡ Professor of Law, Pennsylvania University Law School.

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Thus, the effect of securities regulation is to develop and secure a competitive market for analysts.

Moreover, a competitive market for analysts reduces management agency costs. While courts can discern fraud or illegal transfers, they are ill-equipped to evaluate the quality of business decisions. Judicial oversight can curtail breaches of the duty of loyalty but not breaches of the duty of care; the tasks of curbing breaches of the duty of care and restraining inefficient investments are performed by analysts. Furthermore, a competitive analysts’ market generates positive externalities for the rest of the economy by improving the information market and facilitating the operations of the investment banking industry.

Our account has important implications for several policy debates. First, our account supports the system of mandatory disclosure. We show that while market forces may provide management with an adequate incentive to disclose at the initial public offering (IPO) stage, they cannot be relied on to effect optimal disclosure thereafter. Second, our analysis categorically rejects the calls to limit disclosure duties to hard information and self-dealing by management. Third, our analysis supports the use of the fraud-on-the-market presumption in all fraud cases regardless of how efficient financial markets are. Fourth, our analysis suggests that in cases involving corporate misstatements, the appropriate standard of care should, in principle, be negligence, not fraud.
INTRODUCTION

Securities regulation has come a long way since the time it was believed to be a field designed to protect the common investor.\(^1\) It is now widely accepted that the goal

\(^1\) For a long time, courts focused on protecting the ordinary or small investor. See, e.g., Schlesinger Inv. P’ship v. Fluor Corp., 671 F.2d 739, 743 (2d Cir. 1982) (noting that the “Williams Act was meant to protect the ordinary investor”); Feit v. Leasco Data Processing Equip. Corp., 332 F. Supp. 544, 565 (E.D.N.Y. 1971) (“Prospectuses should be intelligible to the average small investor.”). Similarly, Congress also focused on ordinary investor protection for many years. See, e.g., H.R. REP. NO. 73-85, pt. 1 (1933) (legislative history of Securities Acts); H.R. REP. NO. 73-1383, pt. 2 (1934) (same). Some commentators criticized this focus on the ordinary investors. See, e.g., Ralph K. Winter, On ‘Protecting the Ordinary Investor’, 63 WASH. L. REV. 881 (1988) (criticizing the monolithic view of investors’
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of securities regulation is to attain efficient financial markets so as to improve the allocation of resources in the economy. But how does securities regulation promote market efficiency? Surprisingly, this pivotal question has never been fully answered. In this Article, we show that the essential role of securities regulations is to create a competitive market for information traders (“analysts”). This insight allows us to construct a comprehensive account of the mechanisms through which securities regulations promote efficient financial markets, and to offer a coherent legal framework for analyzing securities regulation policy.

The two main determinants of market efficiency are share price accuracy and financial liquidity. The more accurate share prices are and the more liquid trading is, the more efficient the market is. Given that achieving market efficiency requires incorporating information into prices and providing liquidity in trading, the question for policymakers is: Who should be entrusted with performing these tasks? There are several groups of market participants among whom policymakers can choose. The first consists of insiders, who possess non-public information, and have the ability to process and analyze general market and firm specific information. The second group is information traders, or analysts, who specialize in gathering and analyzing general market and firm specific information. The third group is comprised of liquidity traders, who buy and hold a portfolio of stocks based on consumption/saving considerations independently of general market or firm specific information. The final group is noise traders, who act irrationally, falsely believing that they possess valuable informational advantages or superior trading strategies. Given the list of candidates, and the lack of interest by noise traders or liquidity traders in achieving market efficiency, the tasks of incorporating information into stock prices and providing liquidity in trading may be entrusted either to insiders or to analysts.

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A comparison of the two groups reveals that analysts operate in a highly competitive environment, whereas insiders operate under “quasi-monopolistic” conditions. In addition, analysts enjoy economies of scale and scope in gathering and analyzing general market and firm specific information; generate positive externalities for the information market and the investment banking industry; cannot manipulate business decisions or take advantage of timing when using firm specific information; and reduce corporate governance agency costs. For all these reasons securities regulations favor analysts over insiders (and other market participants).

This Article justifies this decision. It advances two related theses—one descriptive and the other normative. Descriptively, this Article demonstrates that securities regulation is specifically designed to facilitate and protect the work of analysts. Furthermore, it shows that analysts are the only group that benefits from securities regulation. The remaining groups—liquidity traders, noise traders and insiders—either cannot or do not need to avail themselves of the benefits that securities regulation provides. For liquidity traders and noise traders, securities regulation is of little practical relevance. Insiders, on the other hand, are made worse off by securities regulation. The only group positively affected is the analysts.

Normatively, this Article shows that analysts are the only group that can best underwrite efficient and liquid capital markets and, hence, it is the group securities regulation should strive to protect. By protecting analysts, securities regulations enhance efficiency and liquidity in financial markets. This protection, in turn, benefits other types of investors by reducing transaction costs. Furthermore, by protecting analysts, securities regulation represents the highest form of market integrity by ensuring accurate pricing to all investors, and improves the allocation of resources in the economy.

Securities regulation may be divided into three broad categories: disclosure duties; restrictions on fraud and manipulation; and restrictions on insider trading. Each of

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9 It is customary to group insider trading under “fraud and manipulation.” However, for reasons explained next in the text, we differentiate between insider trading and other forms of fraud relating to distorted information and trading.
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these legal categories contributes to the creation of a vibrant market for analysts. Disclosure duties reduce analysts’ costs of gathering information, and diminish the ability of analysts to produce biased analyses in exchange for pay. Restrictions on fraud and manipulation lower analysts’ cost of verifying the credibility of information, and enhance analysts’ ability to make accurate predictions. Finally, restrictions on insider trading protect analysts from competition from insiders that would undercut the ability of analysts to recoup their investment in information, and thereby drive analysts out of the market. Thus, the effect of securities regulation is to develop and secure a competitive market for analysts.

Moreover, a competitive market for analysts reduces management agency costs. In cases of conflict of interest between management and shareholders, management is likely to abuse its power to further its interests rather than those of shareholders. The management agency cost might take the form of a breach of the duty of loyalty (e.g., self-dealing), or a breach of the duty of care (e.g., inefficient investments). Disclosure duties help reveal management actions. Although breaches of the duty of loyalty attract greater media attention, breaches of the duty of care are much more prevalent and their social cost is much higher. While courts can discern fraud or illegal transfers, they are ill-equipped to evaluate the quality of business decisions. As a result, judicial oversight can curtail breaches of the duty of loyalty but not breaches of the duty of care. In fact, in reviewing business decisions, courts employ the business judgment rule, which calls for minimal intervention. Thus, the task of curbing breaches of the duty

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11 See infra Part 0III(C).
12 Goshen & Parchomovsky, supra note 6.
of care is largely left to the market and to social norms. Specifically, we show that restraining inefficient investments and ineffective management is the role of analysts. In contrast to judges, analysts are capable of evaluating the quality of managements’ business decisions and their coverage is reflected in stock prices. Intense analyst coverage is, therefore, the most effective antidote to management agency costs. However, to achieve this level of coverage, it is necessary to create the required background conditions under which a competitive analysts market can develop.

Importantly, competition among analysts generates additional positive externalities beyond efficient and liquid capital markets. First, competition among analysts develops and improves the information market. The greater the competition among analysts the more information is supplied to the market. Superior information, in turn, makes capital markets more accessible to investors. In addition, better information improves analysts’ predictions, and reduces overinvestment in analysis. Second, a competitive market for analysts contributes to the development of the market for investment banking, and helps attract foreign corporations from countries with a less competitive analysts market to issue and list shares in the U.S. Moreover, a vibrant analysts market also facilitates and simplifies secondary offerings as the shares of the corporation are already traded in an efficient and liquid market.

Our account of the role of securities regulation sheds new light on several ongoing policy debates concerning the role and content of securities regulation. First, our account supports the system of mandatory disclosure. We show that while market forces may provide management with an adequate incentive to disclose at the initial public offering (IPO) stage, they cannot be relied on to effect optimal disclosure thereafter. While in the IPO there is a classic case of asymmetric information between the seller (the corporation and its management) and the buyers (potential shareholders), in the secondary market, there is no asymmetric information between sellers (actual shareholders) and buyers (potential shareholders); all non-public information lies with management. Thus, analysts facing competition among and between equally uninformed sellers and buyers cannot induce optimal disclosure from corporations by “assuming the worst” about corporations that engage in suboptimal disclosure. Since the interest of management diverges from that of shareholders, analysts cannot

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19 See, e.g., John A. Doukas, Chansog Kim, & Christos Pantzalis, Security Analysis, Agency Costs, and Company Characteristics, 56 FIN. ANAL. J. 54 (2000) (supplying empirical evidence showing that security analysis acts as a monitor to reduce the agency costs associated with separation of ownership and control).
20 See infra Part II(F)(1).
21 See infra Part II(F)(2).
22 See infra Part III(A).
discipline “reticent” management by lowering share prices. Thus, optimal disclosure must be mandated.

Second, our analysis categorically rejects the calls to limit disclosure duties to hard information23 and self-dealing by management.24 These calls are predicated on the view that securities regulation should only be concerned with minimizing agency costs, not with achieving accurate pricing. However, it seems that this proposal assumes only one type of management agency cost: breaches of the duty of loyalty. Once breaches of the duty of care are added to the analysis, it becomes apparent that narrowing disclosure duties would in fact hamper the ability of analysts to minimize total management agency costs.

Third, our analysis supports the use of the fraud-on-the-market presumption in all fraud cases regardless of how efficient financial markets are.25 Recently, several scholars have argued that the finding of certain behavioral economics studies, which showed that markets are inefficient, eliminated the theoretical justification for the fraud-on-the-market presumption.26 Our model, however, shows that the justification for using the fraud-on-the-market theory is even stronger when markets are inefficient. Analysts are the agents who render markets efficient. Therefore, when markets are inefficient, it becomes even more important to support and protect analysts.

Fourth, and relatedly, our analysis rejects the argument that, even when markets are efficient, courts should abolish the fraud-on-the-market presumption, and reinstate, in its stead, common law reliance.27 Critics of the fraud-on-the-market presumption have claimed that it over-deters voluntary disclosure by management as it forces corporations to compensate not only analysts who relied on misstatements, but also liquidity traders who were unharmed by the misstatements.28 We show that once the full scope of the harm from misstatements is taken into consideration, no over-deterrence results. Misstatements create several types of harms. They increase verification costs for analysts, raise liquidity costs for liquidity traders, and aggravate agency costs for all corporations. The fraud-on-the-market presumption ensures compensation that reflects all these harms. In fact, we show that given that management is the cheapest cost avoider of the harm resulting from misstatements, the appropriate standard of care

23 Hard information refers to facts that are easy to verify, such as past information, while soft information refers to facts that are hard to verify, such as future plans and projections.
24 See infra Part II(E)
25 See infra the text following note 224.
27 See infra the text following note 232.
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should, in principle, be negligence, not fraud.

Structurally, this Article proceeds in three parts. Part I explores the mechanisms by which financial markets achieve efficiency and liquidity. It pays special attention to the role of analysts in improving financial markets and explains why securities regulations should favor analysts over other market participants and ensure the development of a vibrant analysts market. Part II highlights the ways in which securities regulation law facilitates the job of market analysts. Part III discusses the normative implications of our theory.

I. THE MARKET MECHANISM

Markets are efficient when prices accurately reflect all available information about the assets traded.\(^{29}\) Attaining efficient pricing is essential for achieving efficient allocation of resources in the economy.\(^{30}\) Among other things, efficient pricing is important for the market for corporate control; for monitoring and controlling the management agency problem; for the allocation of resources through initial public offerings and secondary offerings; and for other transactions in the economy that rely on market prices.\(^{31}\) Liquidity of markets is a function of time, price, and quantity.\(^{32}\) Markets are liquid when traders can buy or sell large quantities, immediately, and without causing substantial price effect. Liquid markets benefit the economy as they reduce the cost of transacting, and the risk associated with investments.\(^{33}\) In the remainder of this Part, we present a market model that explains the processes by which markets attain efficiency and liquidity.

A. Efficiency and Liquidity in Financial Markets

1. Incorporating Information Into Prices

For markets to be efficient, information about the value of firms must be incorporated quickly and accurately into stock prices.\(^{34}\) This process involves three

\(^{29}\) See Gilson & Kraakman, supra note 5, at 554.
\(^{30}\) See supra note 8.
\(^{31}\) For a detailed analysis of the effects of efficient pricing, see Kahan, supra note 7.
\(^{34}\) For a comprehensive description of the processes by which markets attain efficiency, see Gilson &
different tasks: production of information; verification of its accuracy; and finally, pricing the information. Production of information involves searching for currently unknown information that affects prices. Verification of accuracy involves actions necessary to confirm the reliability of the information source and the credibility of the information. Pricing information requires analyzing the information in order to determine its value, and then trading based on discrepancies between price and value.

Production of information involves two different types of information: firm specific information and general market information. Firm specific information includes information about various attributes of the firm, such as the quality of its management, its business plans and past record, its financial position, and the probability of success of the firm’s R&D efforts. General market information includes information about the general conditions in which the firm functions, such as the prospect of competitors, the industry as a whole, and the local and global economy.

Verification of the accuracy of information involves two kinds of information: explicit and implicit information. Explicit information includes all types of direct firm specific and general market information, such as financial reports, conference calls, and news. Implicit information includes all types of activities that indirectly convey information, such as price movements, volume of trading, identity of traders, and order flows.

Pricing information consists of two distinct activities: analyzing information and trading. Analyzing information requires analyzing both firm specific and general market information. Firm specific information cannot be accurately priced in isolation: one cannot evaluate the future prospects of a corporation without knowledge about the estimated course of the local and global economy. Trading is the act by which information is transmitted to the market. Trading can take on one of two forms: direct trading or indirect trading through recommendations and advice to others who trade.

2. Providing Liquidity in Trading

For markets to be liquid there must exist sufficient trading to enable most buyers and sellers to consummate transactions expeditiously. Liquidity is achieved on account of three principal reasons: portfolio adjustments, consumption/investment adjustments, and divergence of opinions. Portfolio adjustments provide liquidity through changes in the composition of portfolios that are intended to bring them in conformity with investors’ predetermined levels of risk and return. This kind of trading is mostly random among investors. Consumption/Investment adjustments create liquidity by

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Kraakman, supra note 5.

effecting shifts of funds from investment to consumption and vice versa. This kind of trading is random when individuals’ decisions to reduce or increase savings are uncorrelated; but it is non-random when spurred by trends in the economy, such as reduced savings following a recession. Divergence of opinions among market players creates liquidity by prompting market players with lower valuations to transact with investors with higher valuations. This kind of trading is partly random and partly non-random. Divergence of opinion amongst investors is spread along a spectrum with some degree of correlation since valuation methods share many common characteristics.

B. The Market Players

We model the capital market as consisting of four groups of players: insiders, information traders, liquidity traders, and noise traders.\(^{36}\) Insiders have access to inside information due to their proximity to the firm; they also have the knowledge and ability to evaluate this information and to price it. Insiders can produce and price general market information, as well as inside information. However, their nearly exclusive focus on the corporation they are managing prevents them from exploiting economies of scale and scope in gathering, evaluating, and pricing general market information.\(^{37}\)

Information traders, the second group, lack access to inside information, but are willing and able to devote resources to gathering and analyzing information as a basis for their investment decisions. Information traders are comprised of three sub-groups: professional investors, specialists (or market makers), and stock pickers. Professional investors are comprised of a wide range of institutional investors, money managers, and other market players, all of which rely, with varying degrees, on some sort of analytical financial or business works as a basis for their investment decisions. Therefore, we group the whole variety of professional investors under the category of “analysts.” Like insiders, analysts have the ability and knowledge to collect, evaluate, and price firm specific and general market information. In contrast to insiders, analysts, on account of their broader focus on industries and markets, can exploit economies of scale and scope in evaluating and pricing information. Knowledge gained with respect to one corporation in a particular industry can often be used with respect to another, and knowledge pertaining to the economy as a whole is useful in analyzing all corporations.\(^{38}\)

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\(^{38}\) Anat R. Admati & Paul Pfleiderer, *Forcing Firms to Talk: Financial Disclosure Regulation and*
Specialists or market makers are professionals who facilitate trading and maintain a market for securities by offering to buy or sell securities on a regular basis. They post a buying offer (bid price) and a selling offer (ask price), and serve as the counter party for investors who want to trade. Specialists and market makers are well informed about the demand and supply of a security as they use this information to set the bid and ask prices (widely known as the “bid/ask spread”). But they are not as well-informed as analysts regarding firm specific information because they do not invest as much time and effort in searching and analyzing firm specific information.

Stock pickers, too, collect and evaluate information. But they are less efficient than analysts in performing these tasks. As a result, stock pickers are “slower” at gathering, analyzing, and responding to new information, and the accuracy of their evaluations is inferior to that of analysts. Therefore, stock pickers often buy information and analytical services from analysts.

The third group of market players in capital markets, liquidity traders, do not collect and evaluate information; rather, their investment reflects their allocation of resources between savings and consumption. Unwilling to devote resources to constant gathering and analyzing of new information, liquidity traders, if rational, follow a strategy of buying and holding a portfolio of stocks.

Finally, noise traders, the fourth group, act irrationally, following differing methods of investment either as individuals or as a group. Noise traders often believe that they

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39 See Roger D. Huang & Hans R. Stoll, Dealer versus Auction Markets: A Paired Comparison of Execution Costs on NASDAQ and the NYSE, 41 J. FIN. ECON. 313, 322-326 (1996); Stanislav Dolgopolov, The Relationship Between Insider Trading and the Bid-Ask Spread: A Critical Evaluation of the “Adverse Selection” Model (2003), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=440380. For a common definition of the bid/ask spread, see http://www.nasdr.com/glossary/b.asp (“[The bid/ask spread is the] difference between the price at which a Market Maker is willing to buy a security (bid), and the price at which the firm is willing to sell it (ask). The spread narrows or widens according to the supply and demand for the security being traded.”).

40 See J.R.C Hirst, A Model of Market-Making with Imperfect Information, 1 MANAGERIAL & DECISION ECON. 12 (1980). Indeed, it is claimed that while specialists on the New York Stock Exchange do not engage in security analysis, NASDAQ market makers do. See Ji Chai Lin et al., External Information Costs and the Adverse Selection Problem: A Comparison of NASDAQ and NYSE Stocks, 7 INT’L REV. FIN. ANALYSIS 113 (1998). From our perspective, however, when market makers are informed we would need a different model in which liquidity traders trade directly with informed traders. However, the thrust of our arguments in this Article would not be altered even if market makers were fully informed.


42 See De Long et al., supra note 36, at 706-707.
are in possession of valuable information, and invest as if they are information traders. In such cases, other market participants cannot separate noise traders from true information traders.

C. The Pricing Process

Insiders or analysts detect discrepancies between value and price based on the information they possess, and, then trade to capture the value of their informational advantage. When they observe an under-valuation, they buy, thereby raising the price; conversely, when they spot over-valuation they sell, thereby causing the price to drop. Since price changes are always assessed against some calculated value, a trade is triggered when the price change is not justified by the currently known information. Consequently, with this investment strategy, trading against a party with superior information, or trading while relying on fraudulent information, will result in a loss. Moreover, this risk cannot be diversified away as all trades are triggered by a price change or by the arrival of new information.

Liquidity traders, who trade regardless of new information—i.e., sell for liquidity or buy for saving—will trade irrespectively of the actions of insiders and analysts. If liquidity traders trade in the same manner as do insiders or analysts—i.e., buy when information traders or insiders buy, or sell when these groups sell—they will lose. When buying, they could have bought for a lower price if the insiders, or analysts, were not buying. When selling, they could have sold for a higher price if the insiders, or analysts, were not selling. If liquidity traders trade against insiders or analysts, they gain. When buying, they would have bought for a higher price absent the selling by insiders or analysts. When selling, they would have sold for a lower price absent the buying by insiders or analysts. Thus, liquidity traders who follow the strategy of buying and holding a portfolio do not lose, on average, to either insiders or analysts. When they buy a portfolio they lose on some transactions (when they buy together with insiders or analysts), and gain on others (when they buy when insiders or analysts are selling). Likewise, they lose at times, and gain at others when they sell the portfolio. On average they earn the market return for the period of their holding. In short,

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43 See, e.g., Eugene F. Fama, Random Walks in Stock Market Prices, 21 FIN. ANALYSTS J. 55 (1965) (describing the process by which market professionals incorporate information into prices).

44 Goshen & Parchomovsky, supra note 6.

45 In other words, the “fair play” or “market integrity” rationales do not hold with regard to these investors: they do not expect equal and timely access to information and indeed they are not harmed by not getting it. Robert J. Haft, The Effect of Insider trading Rules on the Internal Efficiency of the Large Corporations, 80 MICH. L. REV. 1051 (1982) (explaining the “fair play” and the “market integrity” rationales); Harry Heller, Chiarella, SEC Rule 14e-3 and Dirks: “Fairness” versus Economic Theory, 37 BUS. LAW. 517, 555-556 (1982) (noting that it is doubtful that investors question the integrity of the market due to known differences in information available to investors).
liquidity traders can diversify the risk of trading against more informed traders.\textsuperscript{46} Only traders whose trades are triggered by changes in price will lose when trading against more informed traders.\textsuperscript{47}

Although liquidity traders can diversify away the risk of transacting with more informed traders, doing so is not cost free.\textsuperscript{48} Liquidity traders do care about liquidity (i.e., the ability to execute large transactions quickly, and without affecting the price of the stocks traded). If markets are illiquid it means that when a trader wants to sell (or buy) a large quantity of securities she will either have to accept a large drop (or increase) in price or a long execution period. High liquidity, on the other hand, means lower transaction costs: fast execution of large blocks for a small fee. The main indication of liquidity is the bid/ask spread. Every time liquidity traders trade they bear the cost of the bid/ask spread much like a tax on each transaction. Therefore, liquidity traders will either reduce their trading (hold a portfolio for longer periods) to avoid paying the spread too many times or discount the market price to compensate for bearing the cost of the spread.\textsuperscript{49} High bid/ask spreads translate to further reducing liquidity and increased cost of capital.

The size of the bid/ask spread is influenced by, among other factors, the total amount of trading and the level of asymmetric information among the traders.\textsuperscript{50} The effect of the amount of trading on liquidity is direct: the more traders (informed and uninformed) there are the more liquid is the market (and vice versa). The effect of asymmetric information on liquidity is indirect: specialists and other market makers who face the undiversifiable risk of trading with, and losing to, more informed traders

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\textsuperscript{46} The risk of asymmetric information can result from the use of illegal inside information, from fraud (by those who committed the fraud or by those who discovered it ahead of the market), or by legally discovering non-public firm specific or general market information. As long as the asymmetric information affects prices randomly it can be diversified.


\textsuperscript{48} It is clear that informed traders make profits at the expense of someone. In our model, although liquidity traders diversify the risk of asymmetric information, they nonetheless eventually bear the cost of asymmetric information. The market makers who cannot diversify the risk of asymmetric information lose to informed traders and pass these losses to the liquidity traders through the bid/ask spread.


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will protect themselves by increasing the bid/ask spread. However, since informed traders will only trade if they stand to make a profit that is greater than the cost imposed upon them by the bid/ask spread, the real cost of the higher bid/ask spread falls on liquidity traders (and noise traders). The effect of asymmetric information on liquidity depends on the number of informed traders and the value of their information. As the number of informed traders increases, and competition among them intensifies, the information advantage they have lessens. And the smaller the value of the informational advantage the smaller the bid/ask spread. Thus, liquidity traders are more concerned about liquidity than about accurate pricing.

Noise traders are active but irrational. As a result, their actions are hard to predict. If they act completely randomly they will cancel out the effect of each other on prices, and, on average, they will not lose to insiders or analysts. However, noise traders sometimes act as a herd. They can be bearish or bullish, as a group, with respect to a specific stock, a particular industry, or the market as a whole. Whether they will lose to insiders or analysts depends on the time it takes the stock to reach its estimated “value” as calculated by insiders or analysts. Suppose insiders and analysts believe that a certain stock is over-valued, and thus, sell it. Noise traders who buy the stock will lose if they hold the stock until it eventually drops. But, in the interim period they can earn a positive return if the stock price continues to rise. In the long run, however, they will lose, as a group, to insiders or analysts. Moreover, due to their high frequency of trading they will bear the cost of liquidity, i.e., the bid/ask spread.

Market prices are the result of the actions of all four groups. Insiders and analysts follow market prices and counter deviations from their calculated subjective “value.” Liquidity Traders who follow the “buy and hold” strategy do not distort prices because

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53 Liquidity traders are also concerned with shareholders expropriation by managers or controlling shareholders. Protection against this risk is the role of corporate law.

54 Randomizing a large number of trades has the same protective effect as buying and holding a portfolio. However, this strategy involves greater transaction costs. Similarly, securities regulations are irrelevant to this strategy.


56 See De Long et al., supra note 36, at 704, 715.
their trades are mostly random and other market participants do not ascribe informational content to their trading activities. Noise traders, on account of their irrational investment strategies, distort prices. Thus, the accuracy of stock prices depends on the ability of insiders or analysts to counter the actions of noise traders and to price newly disclosed information.\(^57\) The better analysts or insiders can counter price deviations caused by noise traders, or by newly disclosed information, the more efficient the market is. A perfectly efficient equilibrium, however, is unattainable.\(^58\) Prices always deviate from value and analysts engage in a continuous process of aligning price and value. Clearly, the fluctuations of price around value represent some level of inefficiency. Yet, it is precisely this inefficiency that creates an incentive to invest in information and constantly pushes the market to become more efficient.\(^59\)

From this perspective it is clear that efficient pricing is a matter of degree. The larger the deviation between price and value and the longer it takes for prices to revert to value, the less efficient the market is. Thus, it is not appropriate to classify markets as either “efficient” or “inefficient” based on the level of price accuracy. Markets can be efficient at times and inefficient at others depending on the length of time and the degree of deviation between prices and values.\(^60\)

It is more appropriate to classify markets based on whether or not they have a mechanism aimed at correcting price deviations. A market that does not have such a mechanism is “inefficient” in the sense that the pricing is completely random, lacking the ability to cause prices to revert to value. We label such a market as “ineffective,” as opposed to “inefficient.” A market that has such a mechanism is “efficient” in the sense that it tends to cause prices to revert to value. We label such a market as “effective.” Indeed, in such a market there will be periods in which noise traders will dominate and analysts or insiders will be unable to counter the price distortions caused by noise traders. As a result, in such a market, large deviations of prices from value will persist for long periods. Obviously, the result will be inaccurate pricing. However, as long as there is a mechanism in place to correct this effect, prices will eventually revert to value. In other words, a market can be effective overall, while varying between efficient and inefficient. Improving the efficiency of the market thus requires


\(^58\) Id.

\(^59\) See Philip A. Cusick, Price Effects of Addition or Deletion From the Standard & Poor’s 500 Index—Evidence of Increasing Market Efficiency, 11 FIN. MARKETS, INSTIT. & INSTRUM. 349 (2002) (supplying evidence that market efficiency increases over time).

\(^60\) The market’s efficiency also varies with regard to different corporations. See, e.g., Benjamin C. Ayers & Robert N. Freeman, Evidence That Analyst Following and Institutional Ownership Accelerate the Pricing of Future Earnings, 8 REV. ACCT. STUD. 47 (2003) (finding evidence that the stock prices of corporations that receive increased analyst coverage reflect future earnings earlier than neglected firms).
improving the effectiveness of the mechanism that causes prices to revert to value. The more effective this mechanism, the smaller is the deviation of prices from value and the faster prices will revert to value.

The effectiveness of a corrective mechanism is a function of the costs and risks involved in informed trading. The ability of analysts or insiders to counter price deviations depends on the risk and cost involved in the process. Searching, verifying, analyzing, and pricing general market and firm specific information are costly tasks. Capturing the value of a price deviation is a risky undertaking. Assume that an analyst estimates the share price of XYZ, Inc. is five percent lower than its “true” value. To capture this deviation, the analyst must buy the share, and once the price goes up to the “true” value, she will sell the share and make a profit. However, the price might not go up for many reasons: the analyst may be wrong; noise traders might keep distorting the price for a longer time than expected; new and unexpected bad news may arrive; a misstatement about the corporation may be released to the market; interest rates may go up; etc. Thus, the analyst must consider both the size of the deviation and the probability of capturing it (i.e., the expected value of the deviation).

To make a profit the analyst will compare the costs, which are certain, with the expected profit from the price deviation. The higher the costs, the larger the price deviation necessary to yield a profit. That is, with high costs, analysts will not attempt to capture small deviations, but rather let prices get farther away from value in order to increase the expected profit. Alternatively, analysts will decrease their investment in information and focus on general market information or salient pieces of specific information, avoiding attempts to look for fine tuned information. This is a strategy that will also result in capturing only large deviations between price and value. Either response will result in less accurate pricing and a less efficient market. And conversely, the lower the costs, analysts will invest in more exacting information and counter even small deviations of price, leading to more accurate prices and efficient markets.

Similarly, reducing the risk associated with the probability of capturing the calculated price deviation will increase efficiency. The lower the risk, the higher the probability of capturing the price/value deviation, and the smaller the price/value deviation required to cover the analysts’ costs. While some elements of risk cannot be reduced by securities regulation as they are an integral part of the analyst work (e.g., changes in interest rates, and revelation of new information) other elements can be reduced. Reducing the probability of misvaluation through mandated disclosure will increase the accuracy of analysts’ predictions as well as the likelihood of capturing price/value deviations. Reducing the frequency of encountering misleading information through the prohibition of fraud and manipulation, and reducing the effect of noise
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traders through improved arbitrage, will lower the risk involved in capturing price deviations. The smaller the effect of noise traders and the lower the probability of fraud, the smaller the price deviations required to compensate analysts for their costs and the more efficient is the market. Reducing the costs and risk involved in keeping prices more accurate is thus a primary goal to achieve efficient markets.

In light of this market model, and given the goal of attaining efficiency and liquidity in financial markets, it will be shown next that securities regulations achieve this goal by reducing the risk and costs of performing the tasks of pricing accurately and providing liquidity.

II. SECURITIES REGULATION: ATTAINING EFFICIENT AND LIQUID MARKETS

Given the market model presented above, it is clear that attaining efficient and liquid markets requires entrusting the role of providing efficient pricing and liquidity to one of the groups active in the market. Liquidity traders do not respond to information and thus cannot be entrusted with this role. Noise traders are irrational and thus, as well, cannot be entrusted with this role. Consequently, we are left with insiders and analysts as the potential candidates to perform the role of providing efficient pricing and liquidity.

As will be shown below, insiders and analysts cannot coexist, so regulators must make a choice between these two groups. Securities regulation chose, by adopting the restriction on insider trading, to entrust analysts with the role of providing efficient and liquid markets. Once this choice was made, securities regulation, through disclosure duties and restriction on fraud and manipulation, minimizes the costs and risks that analysts bear when performing their role. Next we show how the combined effects of securities regulation facilitate a competitive market for analysts that promotes efficient and liquid markets.

A. Prohibiting Insider Trading: Choosing the Analysts

Analysts cannot discern whether price changes are caused by noise traders or by insiders. When noise trading is mixed with insider trading, analysts cannot extract information from volume or price movements; nor can they deduce the identity of the traders. Thus, when insiders are permitted to trade, they will consistently beat the

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62 It is noteworthy that Gilson & Kraakman, supra note 5, have argued that the trading volume or price movements may themselves send a message to analysts regarding the nature of the inside information, especially if some analysts can deduce the identity of the insider traders. However, they
analysts. Since analysts follow prices and react to information, they will always be on the losing end.63 Suppose an analyst, based on the information available to her, believes that a price of a certain stock accurately represents its value. Now suppose that an insider is selling the stock on account of negative private information she possesses, causing the stock price to decline. Unaware of the inside information, the analyst will interpret this decline as an under-valuation and will buy the stock. The stock will continue to decline, and only after the negative information becomes public will the analyst realize that she bought an over-priced stock. The same is true of positive inside information. In such a situation, a security’s price will go up due to insider trading, and the analyst will sell short, assuming over-valuation has occurred, only to realize that she sold under-priced shares. Analysts cannot diversify away the risk of trading against insiders, and will always lose when competing against them.64 Thus, when insider trading is pervasive, analysts will be unable to recoup their investment in information, and eventually they will exit the market.65

have acknowledged that this method is the least efficient way of achieving efficient pricing because this process of “decoding” is imprecise and slow. Id. at 574-579. We submit that our assumption is more realistic for several additional reasons. First, it is important to note that Gilson and Kraakman’s argument was made regarding a market from which noise traders are absent. The addition of noise traders makes it even more difficult for analysts to isolate informed trading from uninformed trading, which further reduces the efficiency of decoding. Second, empirically, the feasibility of decoding is challenged by the finding that markets do not display “strong efficiency” (i.e., insiders do outperform the market). See, e.g., Joseph E. Finnerty, Insiders and Market Efficiency, 31 J. FIN. 1141 (1976); H. Nejat Seyhun, Insiders’ Profits, Costs of Trading and Market Efficiency, 16 J. FIN. ECON. 189 (1986). That is, analysts are unable to detect the nature of the inside information or to deduce the identity of the inside traders during the trade so as to prevent abnormal return to insiders. Moreover, even the information about already executed and reported insiders’ trades compounded in the SEC’s Official Summary is not always exhausted by analysts. See, e.g., Jeffrey F. Jaffe, Special Information and Insider Trading, 47 J. BUS. 410 (1974) (suggesting that investors can profit from prompt use of the Official Summary’s information). Compare, Halbert Kerr, The Battle of Insider Trading vs. Market Efficiency, 6 J. PORT. MGT. 47 (1980) (positing that knowledgeable investors have largely eliminated the opportunity to earn excess return by using the information contained in the Official Summary), with Goldie & Ambachtsheer, Are Some Insiders More ‘Inside’ Than Others? Comment, 10 J. PORT. MGT. 75 (1983) (pointing out that after correcting for methodological problems, Kerr’s results show that outsiders can use the Official Summary to earn excess returns).

63 Haddock & Macey, supra note 41, at 1458-1459.
64 See Walter Bagehot, The Only Game in Town, 2 FIN. ANALYSTS J. 12 (1971) (showing that in a model with informed traders, market makers and liquidity traders, market makers always lose to informed traders).
65 See, e.g., Michael Fishman & Kathleen Hagerty, Insider Trading and the Efficiency of Stock Prices, 23 RAND J. ECON. 106 (1992) (showing that in a model with outsiders possessing less precise and more costly information than that of an insider, the number of informed outsiders declines as a function of the relative precision of the insider’s information); Hayne Leland, Insider Trading: Should it be Prohibited?, 100 J. PUBLIC ECON. 859 (1992) (showing that in a model with monopolistic insiders possessing more precise information than informed outsiders, the welfare of informed outsiders always declines when the insiders are trading).
When insiders are restricted from trading, the outcome is different. Consider a legal restriction on insider trading that is based on the “disclose or abstain” rule. Under this rule, insiders can either disclose the inside information they possess and trade on this information together with the rest of the market, or abstain from trading until some other legal duty forces them to disclose. Absent incentives to withhold information, insiders will disclose. Once the information is disclosed, insiders and analysts compete to capture the value of the information. Initially, there will be only a few analysts in the market, who will make abnormal returns on investment in information. In this transition period, the market will be less efficient and less liquid in comparison with the preceding stage in which insiders were allowed to trade. Gradually, however, the number of analysts will increase and competition among them will bring down the return on investment in information to a competitive rate, thereby attaining a more efficient and liquid market. In this market, however, due to their superior skills, analysts will beat stock pickers. Valuing information trading over liquidity trading, but acknowledging the superiority of analysts, stock pickers will respond by buying analytical services from analysts, who will sell them these services at a competitive price.

If only a few insiders occasionally violate the restriction and trade on inside information, the analysts market can still function. Such limited insider trading

68 See, e.g., Rezaul Kabir & Theo Vermaelen, Insider Trading Restrictions and the Stock Market: Evidence from the Amsterdam Stock Exchange, 40 EURO. ECON. REV. 1591 (1996) (examining the effect of introducing insider trading restrictions, since 1987, on the behavior of the Amsterdam Stock Exchange and finding that stocks became less liquid and also finding some evidence that the stock market adjusted more slowly to positive earnings news).
69 See Fishman & Hagerty, supra note 65, at 118-119 (arguing that insider trading leads to less efficient stock prices). Indeed, empirical studies support the model’s prediction. See Robert M. Bushman, Joseph D. Piotroski, & Abbie J. Smith, Insider Trading Restrictions and Analysts’ Incentives to Follow Firms, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=373520 (finding that “the intensity of analyst coverage (average number of analysts covering followed firms within a country) and breadth of coverage (the proportion of domestic listed firms followed by analysts) increase after initial enforcement of insider trading laws” and “that this increase is most prominent in emerging market and non-liberalized countries”); Laura N. Beny, A Comparative Empirical Investigation of Agency and Market Theories of Insider Trading, (2004), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=193070 (finding that “countries with more lax insider trading laws have less liquid equity markets” and “that in countries with tougher insider trading laws stock prices are more informationally efficient”); Utpal Bhattacharya & Hazem Daouk, The World Price of Insider Trading, 57 J. FIN. 75 (2002) (finding that initial enforcement of insider trading laws is associated with a significant decrease in country-level equity cost of capital).
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diminishes, at least to some extent, the expected return of analysts, but leaves them a sufficient return to remain operative. The extent of insider trading sets the boundaries of the analysts market. When the extent of insider trading is limited, a competitive analysts market will develop; when insider trading is extensive, no analysts market will form. This substitution effect between insiders and analysts is the key to understanding the ban on insider trading.

Choosing analysts over insiders through the ban on insider trading is preferable to the opposite alternative for several reasons. First, insiders enjoy virtual exclusivity over the use of the inside information they possess. This insularity from competition allows insiders to manipulate the timing of the disclosure—they can either delay the disclosure and thereby prevent information from reaching the market as expeditiously as possible, or prematurely disclose the information and damage the firm’s business. Analysts, on the other hand, cannot manipulate disclosure: they do not control the disclosure, but they must respond to it. Analysts operate in a highly competitive market, and would thus strive to process newly found information to the market as quickly as possible, lest they be beaten by a rival analyst. Second, insiders control firms’ business decisions. Allowing insiders to trade on non-public information would likely prompt them to abuse their power to create opportunities for trade and waste resources to protect their informational advantage. As outsiders, analysts cannot influence firms’ business decisions, and allowing them to trade does not aggravate the agency problem within firms.

There are several additional reasons to favor analysts over insiders. First, analysts can realize economies of scale and scope in searching, analyzing, and pricing general market information. Second, although insiders have a small advantage in searching for

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70 See Jhinyoung Shin, The Optimal Regulation of Insider Trading, 5 J. FIN. INTERMEDIATION 49 (1996) (considering the optimal enforcement efforts and costs in a model including insiders, informed market professional, and liquidity traders, and concluding that tolerating some insider trading can be an optimal regulation policy).

71 The arguments in the following two paragraphs are fully developed in Goshen & Parchomovsky, supra note 6.

72 Insiders are also much more likely to manipulate the contents of disclosure. See, e.g., Paul Dunn, The Impact of Insider Power on Fraudulent Financial Reporting, 30 J. MGMT. 397 (2004).

firm specific information, analysts are superior in analyzing and pricing this type of information. Third, analysts outperform insiders in providing liquidity to financial markets because of: the greater financial resources they use for trading; divergence of opinions that triggers trading, and strong competition over the exploitation of any informational advantage—particularly over public information. This last point is crucial for liquidity traders. For these reasons, the decision to favor analysts over insiders enhances efficiency.

B. Disclosure Duties: Reducing Search Costs

Once analysts are entrusted with the role of providing efficiency and liquidity, they must perform the following tasks: search for information, verify its accuracy, and then analyze and price the information. Each of these tasks entails costs. The lower these costs, the better the ability of analysts to counter price deviations, and the more analysts will operate in the market. Therefore, securities regulations should strive to reduce the cost of gathering, verifying, and pricing information.

74 Darren T. Roulstone, Analyst Following and Market Liquidity, 20 CONTEMP. ACCT. RES. 551 (2003) (arguing that since analysts provide public information, increased analysts’ coverage has a positive association with liquidity).

75 See, e.g., Fox et al., supra note 8 (finding that mandatory disclosure effectively contributes to share price accuracy); David Gelb & Paul Zarowin, Corporate Disclosure Policy and the Informativeness of Stock Prices, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=235009 (finding that “enhanced disclosure results in stock prices that are more informative about future earnings, indicating that greater disclosure provides information benefits to the stock market”); Paul M. Healy, Krishna Palepu, & Amy P. Hutton, Do Firms Benefit from Expanded Voluntary Disclosure?, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=55451 (finding that following an increase in voluntary disclosures there is a reduction in under-valuation accompanied by an increase in stock liquidity, analyst following, and institutional holdings).


77 See, e.g., John C. Coffee, Jr., Market Failure and the Economic Case for a Mandatory Disclosure System, 70 VA. L. REV. 717, 728-729 (1984) (arguing that mandatory disclosure is a subsidy to the investment analysts industry that increases analysts activity); Mark H. Lang, Karl V. Lins, & Darius P. Miller, ADRs, Analysts, and Accuracy: Does Cross Listing in the U.S. Improve a Firm’s Information Environment and Increase Market Value?, 41 J. ACCT. RES. 317 (2003) (finding “that firms that cross-list on U.S. exchanges have greater analyst coverage and increased forecast accuracy relative to firms that are not cross listed” and “that firms that have more analyst coverage and higher forecast accuracy have a higher valuation”); Ole-Kristian Hope, Disclosure Prácticas, Enforcement of Accounting Standards and
Mandatory disclosure duties reduce the cost of searching information. Absent mandatory disclosure duties, analysts would engage in duplicative efforts to uncover non-public information. The cost of these efforts would be extremely high since analysts, as outsiders, lack access to the inside management of the firm. Disclosure duties pass these costs to the individual firm. For the firm, the cost of obtaining firm specific information is rather minimal; indeed, it is a mere byproduct of managing the firm. Moreover, securities regulations mandate a specific format of disclosure, which further reduces the costs of analyzing information and comparing it to data provided by other firms.

Additionally, disclosure duties reduce the risk involved in detecting price/value deviations. First, the more information is disclosed, the lower is the risk associated with insider trading. Second, the more information is disclosed about a given firm, the lower is the risk associated with estimating the fundamental value of the firm. Some

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Analysts’ Forecast Accuracy: An International Study, 41 J. ACCT. RES. 235 (2003) (finding that “firm-level disclosures are positively related to forecast accuracy, suggesting that such disclosures provide useful information to analysts” and that strong enforcement of accounting standards is associated with higher forecast accuracy); Carol A. Frost, Elizabeth A. Gordon, & Andrew F. Hayes, Stock Exchange Disclosure and Market Liquidity: An Analysis of 50 International Exchanges, (2003), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=355361 (finding “strong support for the hypothesis that strength of disclosure system (disclosure rules, monitoring and enforcement, and information dissemination) is positively associated with market liquidity, after controlling for stock exchange size, legal system and several other proxies for extent of market development and the information environment”).

78 See Coffee, supra note 77, at 733-734.
79 See, e.g., Douglas W. Diamond, Optimal Release of Information by Firms, 48 J. FIN. 1071 (1985) (demonstrating that when the cost of releasing information to the firm is lower than the aggregate expenditure incurred by investors to acquire the information independently, welfare is enhanced if the firm discloses the information).
80 Michael Fishman & Kathleen Hagerty, The Optimal Discretion to Allow in Disclosure, 105 Q.J. ECON. 427 (1990) (showing that limiting discretion on the form of disclosure (e.g., mandating the use of accepted accounting principles) leads to more informative disclosure).
81 See Hope, supra note 77 (finding that “enforcement encourages managers to follow prescribed accounting rules, which, in turn, reduces analysts’ uncertainty about future earnings” and “disclosures being more important when analyst following is low and with enforcement being more important when more choice among accounting methods is allowed”).
82 Shunlong Luo, The Impact of Public Information on Insider Trading, 70 ECON. LETTERS 59 (2001) (finding, based on a proposed model, that public information is detrimental for insider trading).
83 Donal Byard & Kenneth Shaw, Corporate Disclosure Quality and Properties of Analysts’ Information Environment, 18 J. ACCT., AUDITING & FIN. 355 (2003) (finding—based a study that examined how the quality of corporate disclosures impacts the precision of information that financial analysts incorporate into their forecasts of annual earnings—that higher quality disclosures increase the precision of analysts’ common and idiosyncratic information); Carol Simon, The Effect of the 1933 Securities Act on Investor Information and the Performance of New Issues, 79 AM. ECON. REV. 295 (1989) (finding that the dispersion of abnormal returns (investors’ forecast errors) is significantly lower following the Securities Act); Merritt B. Fox, Measuring Share Price Accuracy, 1 BERKELEY BUS. L.J.
undisclosed information may be found by analysts through investment in search, but other undisclosed information would not be found even with extremely high investment in search. Given that a corporation might avoid disclosure to promote value or to cover mismanagement, once information is of the type that cannot be found without corporate disclosure, its value must be estimated. Such estimates are bound to be imprecise, and thus the risk of failing to capture price/value deviation faced by analysts is increased. Third, by increasing the number and the activity levels of analysts, disclosure duties lower the effect of noise traders and the noise risk associated with it.\footnote{Nicholas L. Georgakopoulos, \textit{Why Should Disclosure Rules Subsidize Informal Traders}, 16 INT’L REV. L. & ECON. 417, 424 (1996) argues that disclosure will cause noise traders to reevaluate their mistaken believes. However, we think that this argument can work both ways: from the noise traders point of view, disclosure might fuel the miscalculations.} Hence, the net effect of mandatory disclosure duties is to support a competitive analysts market.\footnote{Some support for the proposition that corporate disclosure reduces analysts’ costs of searching and processing information can be found in the positive correlation documented by several studies between analysts following and disclosure. \textit{See supra} note 76 and Healy et al., \textit{ supra} note 75.}

Competition among analysts creates important information synergies. A vibrant analysts market produces additional information well beyond that mandated by disclosure duties, and makes it available for all investors free of charge. The additional information has two sources. First, the increased demand for firm specific information generated by a competitive analysts market will provide managers with incentives to make timely and elaborate disclosures beyond what is mandated by law, in an attempt to capture the benefits stemming out of increased coverage by analysts.\footnote{Caramanolis-Çötelli et al., \textit{ supra} note 52 (presenting a study of Swiss firms that shows abnormal returns are significantly and positively affected by the rating measure of the informational quality of annual reports, and that a firm’s financial disclosure policy plays a signaling role).} In fact, once mandatory disclosure facilitates a competitive analysts market, the analysts will induce many firms to adopt a disclosure regime that is much more elaborate, timely, and fine-tuned than the mandatory disclosure duties.\footnote{This might explain the finding that foreign corporations that are under less stringent SEC disclosure requirements do not exhibit greater information asymmetry compared to U.S. corporations. \textit{See Andrew Alford & Jonathan Jones, Financial Reporting and Information Asymmetry: An Empirical Analysis of the SEC’s Information-Supplying Exemption for Foreign Companies, 4 J. CORP. FIN.: CONTRACTING, GOVER. & ORG. 373 (1998).}} Second, although there are strong incentives to keep analytical works confidential, in a competitive market more analytical works will be revealed to the market, especially for marketing reasons. Revealed analytical works, or even pieces of analytical works, provide additional information and allow analysts to compare and reevaluate their own work against the published works, thereby reducing the costs associated with searching and analyzing the information for all analysts. While disclosure duties reduce duplication of search costs, a competitive market for analysts eliminates to some extent the duplication in analysis

\footnote{113 (2004) (noting that more information leads to lower risk in valuation).}
costs.

Finally, the effects that disclosure duties have on analysts improve liquidity and thus benefit liquidity traders as well. First, the more public disclosure there is, the fewer are the instances of asymmetric information between traders. Second, the more public disclosure there is, the smaller is the expected value of asymmetric information. Indeed, as disclosure improves, informational advantages among traders would be gained through insightful analysis of public information, and not from access to inside information.\(^8^8\) Third, disclosure duties subsidize search costs and facilitate competitive market for analysts. The stronger the competition among analysts the weaker is the ability of individual analysts to fully exploit their advantage. Competition among analysts erodes the value of informational advantages.\(^8^9\) Fourth, by inducing managers to disclose firm specific information in a more timely fashion, competition among analysts further reduces the occasions of asymmetric information. All these effects reduce the risk of trading against more informed traders faced by specialists and other market makers, resulting in a lower bid/ask spread (i.e., high liquidity). Higher liquidity will, in turn, increase trading by liquidity traders and reduce the discount rate they apply to the market due to asymmetric information. Consequently, increased liquidity and lower cost of capital for firms will both have a positive effect on the efficiency of the market.

C. Restrictions on Fraud and Manipulation: Reducing Verification Costs

Analysts invest resources in verifying the accuracy of information. These are precaution costs expended before relying on the information.\(^9^0\) The verification process extends to both explicit information and implicit information. Absent restrictions on fraud and manipulation, all analysts would expend resources on verifying the same pieces of information. This, of course, would be socially wasteful. Moreover, because analysts are outsiders, the cost of verifying information would be quite high. Also, analysts cannot easily detect distortions of implicit information, such as wash sales and matched orders, on their own.\(^9^1\) Such a task requires a central organized detection and

\(^8^8\) Luo, supra note 82 (finding that public information is detrimental for insiders and beneficial for liquidity traders).

\(^8^9\) See Caramanolis-Çötelli et al., supra note 52 (arguing that competition among analysts reduces investors’ adverse selection problem); Brett Trueman, The Impact of Analyst Following on Stock Prices and the Implications for Firms’ Disclosure Policies, 11 J. ACCT., AUDITING & FIN. 333 (1996) (showing that there is a positive relation between the number of analysts following a firm and the firm’s expected share price, and that this relation is a direct consequence of market participants’ inability to observe the number of informed traders in the market).

\(^9^0\) See Mahoney, supra note 28.

\(^9^1\) A wash sale is a practice in which a manipulator opens up a few trading accounts and trades, back and forth, between these accounts—being both the seller and the buyer—to create the impression of true
enforcement system such as the SEC. The ban on fraud and manipulation reduces verification costs. Explicit information cannot be misstated, material facts cannot be omitted, and implicit information cannot be manipulated. If a misstatement or artificial trading (wash sales, matched orders, etc.) is made, criminal and civil sanctions will be imposed. It is cheaper to place the burden of verifying the information on the source of the information. And doing so avoids duplicative and wasteful expenditures by multiple analysts. It is even more so when the misstatement is due to fraud. Avoiding fraud does not entail any additional cost except for simply stopping to do it. Moreover, due to the probabilistic nature of detecting fraud, criminal liability may constitute a better deterrent than civil liability. Improved deterrence reduces the incentive to lie, which, in turn, further reduces precaution cost.

Restrictions on fraud and manipulation also reduce the risk associated with capturing price/value deviations. Fraud and manipulation can affect the analyst at two stages: First, when the analytic work is performed, and second, when the prediction of the analytical work is about to materialize. At the stage in which the analyst is preparing her analytic work, she can use precautions against misstatements and verify the information. However, it is harder to take precautions after the analytical work is done and a trading position is taken. Assume that an analyst predicts that by the end of the year the price of a certain stock will drop by twenty percent. Assume further that at the end of the year the management of the relevant corporation releases a misstatement with positive “news” that drives the stock price up. Analysts will not be able to capture the value of their investment. Consequently, all the analysts will have to keep verifying all available information constantly, in order to reduce the risk of not capturing price/value deviations. Moreover, even if analysts could invest in precautions and discover the misstatement, the activities of noise traders who relied on the price distortion might prevent analysts from capturing the price/value deviation. Prohibitions of fraud and manipulation minimize precaution costs and reduce the risk of not trading activity. A matched orders activity is similar to wash sales, although the artificial trade is taking place between two persons who coordinate the buying and selling, back and forth, between them, by matching their corresponding buy and sell orders. Because the trading is anonymous, analysts cannot detect artificial trade and will assume that real activity is taking place.

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capturing the divergence between value and price.

Additionally, restrictions on fraud and manipulation preserve the value of analysts’ works and protect their reputation. Analysts often rely on and process information, but do not trade. Instead, they sell financial analysis to other investors. Without trading, analysts cannot bring a suit against the source of a misstatement, even if they can show that they relied on it. Yet, investors who buy financial analysis from analysts are clearly adversely affected by misstatements that skew analysts’ predictions. Fraudulent and misleading statements distort the predictions of analysts, and consequently, dilute the value of the analysis they produce. Realizing that analysts’ predictions could be skewed by fraud or misstatements, investors will diminish their trust in analysts and adjust downward the price they are willing to pay for analysts’ services. Worse yet, the distortions caused by fraud and manipulation will tarnish the analysts’ reputation, making it harder for analysts to recover their costs. Restrictions on fraud and manipulation protect the value of analytical works and the reputation of analysts.

Like mandatory disclosure duties, restrictions on fraud and manipulation also create a virtuous cycle. By reducing analysts’ precaution costs, restrictions on fraud and manipulation facilitate entry into the analysts market and thus enhance competition among analysts. The enhanced competition will, in turn, increase the probability of detecting misstatements and fraud, and thereby reduce the incentive for corporations to engage in fraud or manipulation. The reduced incentive to release misleading information to the market will further decrease analysts’ precaution costs, and so on.

Finally, the effects that restrictions on fraud and manipulation have on analysts will improve liquidity, and hence, benefit liquidity traders as well. First, reducing the investment in precaution will reduce asymmetric information between investors who verify and those who do not. Second, reducing the probability of encountering a misstatement will also reduce the risk of asymmetric information. Third, facilitating a competitive market for analysts will further reduce asymmetric information, as the competition will erode the informational advantage. All these effects reduce the risk of trading against more informed traders, thereby leading specialists and other market makers to reduce bid/ask spread. In turn, lower spreads will result in higher liquidity, lower cost of capital, and improved efficiency.

D. Avoiding Analysts’ Agency Costs: Facilitating Unbiased Analyses

As shown above, information search costs are lowered through disclosure duties,
precaution costs are lowered through prohibition of fraud and manipulation, and the probability of capturing the value of investment in information is increased, primarily, through the ban on insider trading, and secondarily, through disclosure duties and the prohibition on fraud and manipulation. Analyzing information is the one task that is not directly facilitated by securities regulations; rather, it is left to the individual analyst’s talent and resources.

While information analysis is not directly subsidized by securities regulations, it is indirectly influenced by disclosure duties. As competition in the analysts market develops, so does the market for information. Analysts reveal their analysis as a marketing strategy, either to achieve media exposure or to allow prospective customers to evaluate their skills. Consequently, analytical works that are revealed for free to the market allow other analysts to evaluate the quality of their own work. This process reduces learning costs for analysts.

Insofar as analysis is concerned, however, the main concern is not merely its direct cost but the agency cost involved in producing it (i.e., biased analyses and curtailed analysts competition). These problems are acute with sell-side analysts. Sell-side analysts create an agency cost in the form of biased analyses as they must generate income indirectly to make up for the fact that they disclose their analytical work for free. While our definition of analyst covers all professional investors, it is important to clarify that not all analysts who come under our definition exhibit the same agency costs. Indeed, the vast majority of analysts do not share the problem of sell-side analysts. Buy-side analysts and other professional/institutional investors who do not publish their analytical works for free, but rather reveal their findings through

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99 For a comprehensive and insightful account of the analysts agency problems, see Jill E. Fisch & Hillary A. Sale, The Securities Analyst as Agent: Rethinking the Regulation of Analysts, 88 IOWA L. REV. 1035, 1041 (2003); Carl R. Chen, Kam C. Chan, & Thomas L. Steiner, Are All Security Analysts Equal?, 25 J. FIN. RES. 415 (2002) (showing that recommendations from analysts are contaminated by their firms’ investment banking relations with corporations).


102 Buy-side analysts work for institutional investors. Their reports are not offered to the general public, but gathered for their employers. Their employers purchase securities for their own accounts and those of their clients.

103 For instance, there are independent analysts who do not work for any institution and sell their recommendations to subscribers.
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trading, do not need to generate intentionally biased analyses.\(^\text{104}\) For this group the problem is not intentionally biased opinions, but rather short-term analyses and investment decisions that result from the short-term horizon used for measuring performance.\(^\text{105}\) However, as we explain below, while intervention through securities regulation is warranted for sell-side analysts, in the case of buy-side analysts there is no need for similar intervention and the problem should be left to the market. We start with the sell-side analysts.

Sell-side analysts present a tradeoff between analysts’ agency costs and management agency costs. In other words, the choice between analysts and insiders, regarding who will perform the role of providing efficiency and liquidity to the market, entails a choice between two types of agency costs. Allowing insider trading aggravates the problem of management agency costs as analysts will exit the market and insiders will not monitor themselves. On the other hand, sell-side analysis engenders an analysts’ agency cost. Given the close media attention to the problem of sell-side analysis, one might be tempted to argue that management agency costs are lower than analysts’ agency costs.\(^\text{106}\) However, this is not the case. Management agency cost is a problem of governance structure in all publicly traded corporations.\(^\text{107}\) It pertains to all aspects of a business’ operations (e.g., mismanagement, misreporting, self-dealing) as well as to pricing strategically and providing insufficient liquidity.\(^\text{108}\) Corporate law and part of securities regulation are aimed at curtailing management agency cost. The analyst agency cost, on the other hand, is a much more limited problem. The analyst agency cost is a problem of disclosure, and concerns only a small sub-group of informed traders—namely, sell-side analysts—who may produce distorted analyses with respect to certain corporations.\(^\text{109}\) Furthermore, the agency cost of analysts can be

\(^{104}\) Paul Griffin, A League of Their Own? Financial Analysts’ Responses to Restatements and Corrective Disclosures, 18 J. ACCT., AUDITING & FIN. 479 (2003) studied the the response of First Call financial analysts to company restatements and corrective disclosures that lead to an allegation of securities fraud and comparing the sell-side analysts response with the response of three other informed investor groups—insiders, short sellers, and institutions. The study found that, while the latter groups are unusually active several months ahead of a corrective disclosure event, the analysts respond only after the event.


\(^{108}\) Goshen & Parchomovsky, supra note 6.

\(^{109}\) Among analysts, approximately 30% are sell-side analysts, 60% are buy-side analysts, and about 10% are independent analysts. See Fisch & Sale, supra note 99, at nn.18-19. Moreover, the 60% buy-side analysts proportionally command far more resources than other types of analysts.
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further reduced through appropriate regulation.110

The biased analyses and curtailed competition that characterize sell-side analysts may stem either from selective disclosure by corporations’ management, or from analysts’ desire to promote the business of the investment banker who employs them, or their own personal investments.111 Securities regulation mitigates these problems by restricting selective disclosure and mandating equal access to information, and requiring disclosure of employment relationships and personal or institutional conflicts. By so doing, securities regulation improves the integrity of information analysis. Here, too, securities regulations improve liquidity and benefit liquidity traders. First, by enhancing the integrity of the market, securities regulations help attract greater investment and trading by stock pickers. Second, the reduction in biased analyses results in fewer cases of asymmetric information.

The problem of the buy-side analysts is more fundamental. But securities regulation cannot remedy it. If the performance of an analyst who works for a hedge fund is being evaluated on a quarterly basis, the investment decisions she makes will reflect this short horizon. Such investment decisions might tend toward the speculative. The tendency to speculate might increase noise trading and cause short-term

110 See Fisch & Sale, supra note 99, part III. (presenting and analyzing the existing and the proposed regulation, and offering an alternative solution).

111 See John C. Coffee, Jr., Is Selective Disclosure Now Lawful?, 1997 N.Y. L. J. 5 (describing and analyzing the practice of selective disclosure in which management provides inside information to a group of selective analysts ahead of the market).


113 See Fisch & Sale, supra note 99, at part II.A. (describing the conflict).

114 See Goshen & Parchomovsky, supra note 6, at 1269-1273 (analyzing the effects of FD Regulation); Robert B. Thompson & Ronald King, Credibility and Information in Securities Markets after Regulation FD, 79 WASH. U. L.Q. 615 (2001) (analyzing the effects of FD Regulation); Frank Helfin, K. Subramanyam, & Yuan Zhang, Regulation FD and the Financial Information Environment: Early Evidence, 78 ACCT. REV. 1 (2003) (presenting the finding of a study after the implementation of FD Regulation that showed: (1) improved informational efficiency of stock prices prior to earnings announcements; (2) no reliable evidence of change in analysts’ earnings forecast errors or dispersion; and (3) a substantial increase in the volume of firms’ voluntary, forward-looking, earnings-related disclosures).

115 See Fisch & Sale, supra note 99, at 1068-1069.


117 Hedge funds are private investment vehicles for wealthy individuals or institutional investors. See generally, William Fung & David A. Hsieh, A Primer on Hedge Funds, 6 J. EMP. FIN. 309 (1999).
inefficiencies. Although prices will revert to value in the long run, in the short term excess volatility and distorted prices may exist in the short term. The more prevalent short-term analysis is the higher the risk of short-term market inefficiency.

Indeed, institutions that can avoid the short-horizon problem can profit at the expense of the short-horizon investors. Overcoming the short-horizon problem, however, is a tricky task. Doing so requires an ability to evaluate analysts’ performance ex ante, (rather than ex post based on actual performance) or establishing a sufficiently large pool of long-term investors who do not care about short-term profits. Evaluating analysts based on their ex ante decisions requires reviewing the same data set the analyst had, ensuring that no other relevant information was neglected, and forming a pricing model that compares all available investment options. If one is capable of performing all these tasks, she is unlikely to need analytic services in the first place.

Gathering long-term investors is complicated as well. Investors compare the performance of their fund with other funds. If one fund is doing better than others in the short term purely due to luck, investors will switch to the “successful” fund. The managers of this fund will make more money and have more resources to invest, while other funds will have less of both. A fund that invests based on long-term considerations might show losses or slow growth for a long time while other funds are showing huge profits and growth. It is not simple to convince investors that these losses are due to a calculated informed long-term investment strategy, rather than incompetence. Thus, it might be more profitable to follow the trend of short-term investment/speculation.

However, this is a typical market problem that cannot be remedied through legal intervention. The incentives to solve this problem and make money are in place, and indeed, some institutions solved this problem through reputation, the use of “patient” money, or private money. As this group of investors grows, the short-term efficiency of the market will improve. In any case, it must be emphasized that, whatever the

119 See Poterba & Summers, Mean Reversion in Stock Prices: Evidence and Implications, 22 J. FIN. ECON. 27 (1988) (documenting the presence of mean reversion, and studying its effect on investors’ portfolio decisions given the investment horizon).
121 For a colorful description of the securities investment industry and the phenomenon described in the text, see NASSIM NICHOLAS TALEB, FOOLED BY RANDOMNESS: THE HIDDEN ROLE OF CHANCE IN THE MARKETS AND IN LIFE (Texere, New York, 2001).
122 One might be tempted to mention Warren Buffet as such an exception.
distortions the market exhibit due to short-horizon problems, this is the best we can get out of a free market. Any improvement will not come from the law, but rather from education, social norms, and market learning and incentives.

E. Agency Costs and Corporate Law

In the corporate structure there are three agency problems: between shareholders (principals) and managers (agents); between minority shareholder (principals) and controlling shareholders (agents); and between creditors (principals) and shareholders (agents). In each relationship the agent controls the investment of the principal and, due to conflict of interest and information asymmetry, the agent can further her interest at the expense of the principal. Measures designed to resolve these agency problems entail a cost, widely known as agency cost. The primary role of corporate law is to minimize agency costs, most notably by imposing fiduciary duties on the board of directors and the management, and requiring corporate governance mechanisms. Securities regulation complements corporate law in reducing management agency cost. First, by restricting insider trading, securities regulation avoids entrusting the role of providing efficiency and liquidity to insiders, and thereby prevents the risk of self-monitoring by insiders. Second, by facilitating a competitive market for analysts, securities regulation provides shareholders with a market-monitoring mechanism that supplements the internal monitoring provided by the board of directors. Indeed, analysts’ reports provide the board with valuable signals about the performance of the management. Third, a competitive analysts market provides valuable feedback as to the quality of management, and thereby may directly affect the value of management’s

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125 See Jensen & Meckling, supra note 13, at 354-355.

126 See Kraakman et al., supra note 124.

127 See Kee H. Chung & Hoje Jo, The Impact of Security Analysts’ Monitoring and Marketing Functions on the Market Value of Firms, 31 J. FIN. & QUANT. ANAL. 493 (1996) (showing that analysts’ monitoring and marketing exert a significant and positive effect on firms’ market value); R. Charles Moyer, Robert E. Chatfield, & Phillip M. Sisneros, Security Analyst Monitoring Activity: Agency Costs and Information Demands, 24 J. FIN. & QUANT. ANAL. 503 (1989) (supplying empirical support for analysts’ monitoring role); Doukas et al., supra note 19 (supplying empirical evidence showing that security analysis acts as a monitor to reduce the agency costs associated with separation of ownership and control); Jeffrey N. Gordon, Governance Failures of the Enron Board and the New Information Order of Sarbanes-Oxley, 35 CONN. L. REV. 1125, 1132 (2003); Marc J. Epstein & Krishna G. Palepu, What Financial Analysts Want, 80 STRATEGIC FIN. 48, 50 (1999) (showing results from a survey of 140 star, sell-side analysts that found 87% of these analysts believe that boards of directors are doing a poor job monitoring corporate performance).

128 Gordon, supra note 127, at 1132.
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compensation package. Fourth, analysts’ signals about management quality inform shareholders’ votes on corporate resolutions and influence their decision regarding buying, holding, or selling the corporations’ shares. Finally, management quality signals also benefit the market for corporate control and suppliers of corporate credit.

Market monitoring also complements courts’ judicial oversight of agency problems. Management agency costs can take one of two forms. The first is intentional taking: outright stealing, self-dealing, excessive compensation, etc. In corporate law, all cases of intentional takings are lumped under the heading of breach of duty of loyalty. The second category of agency cost is mismanagement: inefficient investments aimed at “empire building,” value-decreasing diversifying mergers and takeovers, distorted business decisions, etc. In corporate law, cases of mismanagement fall under the heading of breach of duty of care.

Courts are competent to address breaches of duty of loyalty. Identifying taking or stealing within the corporate context does not involve second guessing management’s business decisions. Thus, once a taking has been disclosed courts can provide a remedy. Courts, on the other hand, are ill-suited to handle breaches of duty of care, as identifying mismanagement requires second guessing management’s business decisions. Indeed, in dealing with mismanagement cases, courts have adopted the “business judgment rule,” according to which courts abstain from second guessing business decisions except in extreme cases. Moreover, legislators have permitted corporations to exempt directors from monetary damages arising from a breach of their duty of care. Hence, responsibility for handling breaches of duty of care was moved away from courts to the market. As we explained, while cases of intentional takings fascinate the media and the public, mismanagement is in fact a much more acute

130 See Bernard S. Black, Bidder Overpayment in Takeovers, 41 STAN. L. REV. 597, 627 (1989) (“[M]anagers may want to increase the size of their firms and to diversify, even if this reduces the return on the shareholders’ investment . . . . Incentives to increase size include managers’ desire for greater prestige and visibility, the desire of the chief executive officer to leave a legacy and not be a mere caretaker, and compensation structures that reward growth in sales and profits. These incentives for growth may lead managers to overinvest, either by expanding their own business or by buying a new business.”).
131 See supra note 14.
133 See supra note 17 and the accompanying text.
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problem.\textsuperscript{136} Indeed, market mechanisms and institutions are aimed primarily at restricting mismanagement through competition, while regulation of intentional takings is mostly left for courts and social norms.\textsuperscript{137}

Indeed, the more crucial type of agency cost, mismanagement, is reduced through the analysts market. Analysts follow management actions, evaluate managerial decisions, and incorporate this information into stock prices. Even though it is not their primary role, analysts who follow corporations will also detect fraud, intentional taking, and theft by management.\textsuperscript{138} The more developed the analysts market, the more effective it is in reducing agency costs.\textsuperscript{139}

Indeed, the distinction between corporate law, whose goal is to reduce corporate agency costs, and securities regulation, whose goal is to facilitate a competitive market for analysts, is not perfect.\textsuperscript{140} While the essential role of securities regulation is to facilitate a market for analysts, it does contain provisions that aim partially or wholly at improving corporate governance structure.\textsuperscript{141} For instance, the proxy rules that mandate full disclosure before a shareholders’ vote,\textsuperscript{142} the Williams Act that mandates specific procedure for tender offers,\textsuperscript{143} and the Sarbanes-Oxley Act\textsuperscript{144} that mandates certain structures for a board and audit committee and establishes certain procedures to assure the quality of corporate reports,\textsuperscript{145} can all be viewed as establishing corporate governance structures and not facilitating a market for analysts.

There are several reasons for “mixing” roles in securities regulation. First, many of the seemingly corporate governance elements in securities regulation also facilitate a market for analysts. For instance, improved accounting practices reduce analysts’ verification cost,\textsuperscript{146} and limiting potential acquirers to buying no more than 5% of the

\textsuperscript{136} See supra note 16.
\textsuperscript{137} See Rock & Wachter, supra note 18.
\textsuperscript{139} See supra note 127 and the accompanying text.
\textsuperscript{140} See Robert B. Thompson & Hillary A. Sale, Securities Fraud as Corporate Governance: Reflections upon Federalism, 56 VAND. L. REV. 859 (2003)(explaining how securities fraud litigation serves to regulate corporate governance structure).
\textsuperscript{143} Id. at 1136-1140.
\textsuperscript{145} See generally Brian Kim, Sarbanes-Oxley Act, 40 HARV. J. LEGIS. 235 (2003).
shares without disclosing their tender offer intentions protects analysts against a substantial risk of non-public “outsider” information.¹⁴⁷

Second, while in theory the role of providing efficient corporate governance was left for competition among states, in practice the only real competition that the leading incorporation state—Delaware—is facing comes from the Federal Government.¹⁴⁸ The main tool the federal government can employ to intervene in corporate governance issues to avert the threat of a race to the bottom is that of securities regulation. Thus, corporate governance issues that the federal government believes were not adequately handled by the states will likely find their way into securities regulation.¹⁴⁹

This competition illustrates an important tie between securities regulation and corporate law. For capital markets to prosper, shareholders protection is necessary.¹⁵⁰ When shareholders can easily be expropriated it is hard for a market for analysts to develop. Sophisticated analytical work about the future performance of the corporation is useless if the public shareholders are not going to receive any of the future profits. Analysts might try to supply monitoring services to guard shareholders against expropriation, but they are ineffective without substantive rights and effective methods for enforcement. This is especially so in countries where concentrated ownership is coupled with ineffective enforcement in courts.¹⁵¹ From this perspective, the competition from the federal government can be seen as aiming to preserve the analysts market. If state shareholders protections are ineffective, this will eventually harm the analysts market and consequently the capital market.

Moreover, it should be noted that the reduction of agency costs also benefits corporations. Liquidity traders hold portfolios of shares. Agency costs reduce the value of corporations and thus the total return on a market portfolio. Consequently, liquidity traders will discount the shares to reflect the risk of agency costs. This, in turn, would increase the cost of capital for corporations. The greater the agency costs, the greater the discount. Improving disclosure to facilitate a competitive market for analysts leads to lower agency costs. As liquidity traders will apply lower discounts in response to the lower agency costs, the cost of capital will decrease, and the whole market will benefit.

¹⁴⁷ See Goshen & Parchomovsky, supra note 6, at 1274-1276.
¹⁴⁹ See Roe, supra note 148.
In an important article, Paul Mahoney argued against our position that securities regulations should facilitate a market for analysts.\(^{152}\) In his view, securities regulations’ historic role was to reduce management agency costs, and this should continue to be their appropriate role.\(^{153}\) Accordingly, securities regulations should focus on mandating the disclosure of hard core verifiable information, conservative accounting requirements, management compensation packages, and self-dealings.\(^{154}\) Since, in Mahoney’s view, management agency cost takes the form of either fraud, self-dealing, or excessive compensation, a limited disclosure is sufficient to achieve the goal of reducing management agency cost. Mandating the disclosure of soft, forward looking, information, current values accounting, and other detailed pieces of business information is wasteful because, instead of reducing management agency costs, these requirements aim at the illusive goal of achieving efficient markets through mandatory disclosure.\(^{155}\)

This view, however, is based on an incomplete account of the management agency problem and the role of analysts in reducing it. Mahoney is concerned with breaches of duty of loyalty, and would like to confine mandatory disclosure to this end. However, while it is true that limited disclosure will reduce agency cost of the breach-of-duty-of-loyalty type, it will not reduce agency cost of the breach-of-duty-of-care type. Courts are ineffective in monitoring duty of care breaches. Only analysts can detect and curtail mismanagement. Liquidity traders do not search for information, noise traders are irrational, and insiders are not going to monitor themselves. If disclosure were limited to information concerning stealing and taking, analysts search costs for all other types of information would increase. Higher search cost would result in fewer analysts and fewer analytical works. It is this point that Mahoney did not take into account.

Lowering search costs is crucial to facilitating the development of the analysts market. As analysts are concerned with all aspects of business operation, disclosing only transactions that involve self-dealing, management’s compensation, and hard information would only provide analysts with partial information. Analysts must also know details about business decisions, different lines of business, and soft, forward-looking information.\(^{156}\) Thus, even if one thinks that the role of securities regulation should be to minimize agency costs, it must be recognized that this role, too, can be performed by the analysts market.

\(^{153}\) See id. at 1051-1052.
\(^{154}\) See id. at 1105-1111.
\(^{155}\) See id.
\(^{156}\) For empirical evidence indicating that mandatory disclosure does improve analysts’ forecast accuracy, see, for example, Afshad J. Irani, The Effect of Regulation Fair Disclosure on the Relevance of Conference Calls to Financial Analysts, 22 Rev. Quant. Fin. & Account. 15 (2004).
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F. Positive Externalities

A competitive analysts market generates positive externalities for the information market and the investment banking industry. In the following sections, we discuss these positive externalities and explain how securities regulations enable them.

1. The Information Market

Whereas some analysts—typically those working for large institutional investors—only disclose information indirectly through trading, many others offer their findings and analyses to the public. Of the analysts in the latter group, some disclose information on a regular basis as part of the service they offer to clients, while others disclose only part of the information they possess in order to promote and advertise their services. Through this process of sharing data with the public, analysts support the information market. Thanks to analysts, there exist financial newspapers, television channels, radio stations, and Internet sites, that offer a wide range of accessible financial information either for free or for a low fee.

The information that analysts provide generates still other positive effects. First, the information market improves the efficiency of the capital market. Every analyst who discloses her informational advantage provides other analysts with additional information, which helps them to improve their pricing. This reduces learning cost for all analysts. Second, the information market enhances the level of investment activity in the capital market. The superior information available to investors helps build confidence and trust in the market. In addition, it makes it easier for people to become liquidity traders and stock pickers. Increased investment activity, in turn, increases

157 For instance, the financial papers publish periodic comparisons between analysts’ recommendations and stock prices.
158 See, e.g., Jeffrey A. Busse & T. Clifton Green, Market Efficiency in Real Time, 65 J. Fin. Econ. 415, 416 (2002) (supplying evidence that some players in capital markets trade based on the analysts’ information given by financial news shows, including CNBC TV’s morning and midday calls).
159 For empirical evidence documenting the speed in which trade is influenced by analysts, see Busse & Green, supra note 158. Busse and Green note that stocks discussed positively on CNBC TV’s morning or midday call experience a statistically and economically significant price impact beginning seconds after the stock is first mentioned. Responses to negative reports are more gradual, lasting fifteen minutes.
the demand for analysts and lowers the cost of capital for firms.

2. The Investment Banking Industry

A competitive analysts market also creates positive externalities for the investment banking industries. Investment banks must rely on financial analysis in order to determine the price of shares in an Initial Public Offering (IPO). The analyst employed at the IPO stage can subsequently use the knowledge she accumulated in the process to follow the stock and price it on an ongoing basis. Such efficient, continuous pricing by analysts displays economies of scale and scope. First, the investment made during the IPO does not go to waste afterwards. Analysts can update their pricing more cost-effectively than other market participants as they only need to bear the incremental cost of the update. Second, the knowledge accumulated by analysts may be reused by investment banks that work on a new IPO that shares similar characteristics with an earlier IPO. The service will be offered to investment banks on competitive terms. Third, investment banks will find the process of a secondary offering easier and cheaper when the shares of the corporation are already traded in an efficient market in which prices are determined by analysts.\footnote{See Merritt B. Fox, \textit{Shelf Registration, Integrated Disclosure, and Underwriter Due Diligence: An Economic Analysis}, 70 Va. L. Rev. 1005, 1008 (1984); Gordon & Kornhauser, \textit{supra} note 2, at 810.} Indeed, under certain circumstances, even the SEC relaxes the registration and the disclosure requirements for secondary offerings.\footnote{See Fox, \textit{supra} note 161, at 1008 (showing how the market efficiency rationale explains “shelf” registration under Rule 415 of the Securities Act of 1933); Gordon & Kornhauser, \textit{supra} note 2, at 810 (examining the SEC's use of the efficient market hypothesis in formulating integrated disclosure requirements).} This is a clear example of the reduced costs of a secondary offering generated by the existence of ongoing efficient pricing by analysts.

Furthermore, in a well-developed analysts market, investors who buy shares in an IPO will concern themselves only with the business prospects of the corporation and the quality of its management. Efficiency and liquidity in the secondary market will be provided by the analysts. The existence of the analysts market creates economies of scale in this respect as well. Once the market is in place, it can absorb many new IPOs and secondary offerings. By guaranteeing efficient pricing and liquidity, the analysts market lowers the cost of issuing shares for all corporations, sparing each individual corporation the need to provide efficiency and liquidity on its own.

A well-developed investment banking industry, in turn, attracts firms from countries with less developed markets to issue shares and list them in countries with more developed markets, such as the U.S.\footnote{While non-U.S. companies raised only $7 billion in the American market and “of the 420 non-domestic companies registered with the U.S. SEC, most were Canadian” in 1989, “in 1998 non-U.S.} This process carries with it many benefits: it
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increases the activity and profits of the investment banking industry and its peripheral markets; it provides American investors with a wider range of investment opportunities; and it increases the demand for the services of analysts. All these positive effects stem from the existence of a competitive analysts market.

III. IMPLICATIONS FOR SECURITIES REGULATION

The analysis hitherto provides a powerful tool for resolving policy debates over key issues in securities regulations. In this Part, we discuss in detail the implications of our theory to two such debates.

A. Mandatory Disclosure

Probably the most debated issue in securities regulation is whether disclosure duties should be mandatory. Opponents of mandatory disclosure argue that the market gives corporations sufficient incentives to disclose all material information; otherwise, investors will “assume the worst” and discount the value of their securities.\(^\text{164}\) Mandatory disclosure, they argue, is costly and useless\(^\text{165}\) because markets are efficient and thus already incorporate all the relevant information.\(^\text{166}\) Disclosure, therefore, should be elective.\(^\text{167}\)

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issuers offered more than $200 billion in the United States.” Linda C. Quinn, International Regulation of Cross-Border Offerings and Listings of Securities—A Window of Opportunity, 1141 PLIREF/CORP 7 (1999). In 1999, “more than 1,100 non-U.S. companies from 56 countries [were] registered with the SEC.” Id.


\(^\text{167}\) A different argument, which is outside the scope of our discussion, is the claim that the mandatory disclosure rules should not be enacted by the (monopolistic) federal government, but rather by an alternative competitive regime for securities regulation (countries, states, stock exchanges, etc.). Under this argument corporations would be allowed to choose the registration venue that provides them with the preferred level of mandatory disclosure. See Roberta Romano, Empowering Investors: A Market Approach to Securities Regulation, 107 YALE L.J. 2359 (1998); Stephen J. Choi & Andrew T. Guzman,
Proponents of mandatory disclosure have countered by offering various justifications for mandatory disclosure.\footnote{See Kraakman et al., \textit{supra} note 124, at 204-207, for an overview of these justifications.} The gist of these justifications is that information has characteristics that prevent optimal supply: it is a “public good” and thus creates “information externalities.”\footnote{For an excellent analysis of this justification, see Fox, \textit{supra} note 166; Dale A. Oesterle, \textit{The Inexorable March Toward a Continuous Disclosure Requirement: “Are We There Yet?”}, 20 CARDOZO L. REV. 135, 198-201 (1998).} Most justifications focus on the supply-side (the corporation) in explaining why competition will not result in optimal disclosure. First, information disclosed by a corporation provides value to actual or potential competitors, and enables them to evaluate their position vis-à-vis the disclosing corporation and respond to the news (e.g., stop or accelerate R&D, change marketing or pricing strategy, enter or exit a market).\footnote{Oesterle, \textit{supra} note 169, at 198-199; Easterbrook & Fischel, \textit{supra} note 164, at 677.} Second, disclosure provides value to creditors, employees, suppliers, and consumers of the disclosing corporation, allowing them to improve their negotiation position vis-à-vis the corporation.\footnote{See Admati & Pfleiderer, \textit{supra} note 38, at 480.} Third, the information provides value to prospective investors who are not current shareholders of the corporation, allowing them to better compare the corporation with alternative investments in composing a portfolio that might exclude or include the corporation’s securities.\footnote{See Oesterle, \textit{supra} note 169, at 200.} Since the corporation can neither charge for these benefits nor exclude nonpaying parties from using the information, the corporation will under-disclose information.\footnote{See Admati & Pfleiderer, \textit{supra} note 38, at 482 (noting that disclosure decisions of each firm do not take into account the informational spillovers that occur when disclosure is used to value other firms, rendering the equilibrium outcome inefficient).} In fact, each corporation would prefer to free-ride on the benefit generated by the disclosure of other corporations and minimize its own disclosure. In sum, the misalignment/gap between the private and social value of information justifies mandatory disclosure.

Yet, these arguments seem too strong, since they also support mandating disclosure by closely held corporations.\footnote{See Larry E. Ribstein, \textit{Private Ordering and the Securities Laws: The Case of General Partnerships}, 42 CASE W. RES. L. REV. 1, 22-24 (1992) (explaining why federal securities laws need not apply to closely-held firms).} Information regarding non-publicly traded corporations is also a “public good” that will be under-produced by the market. If society gains from closing the gap between social and private values through mandatory disclosure, why limit mandatory disclosure to publicly traded corporations? One possible answer could be that imposing mandatory disclosure on publicly traded corporations provides...
additional benefits such as liquidity, efficient public pricing, and monitoring of management, that are lacking in the case of closely held corporations.\footnote{See, e.g., Manuel A. Utset, \textit{Towards a Bargaining Theory of the Firm}, 80 \textit{Cornell L. Rev.} 540, 598-599 (1995) (arguing that mandatory disclosure can help shareholders overcome a problem of strategic disclosure by managers and improve monitoring); Kin Lo, \textit{Economic Consequences of Regulated Changes in Disclosure: The Case of Executive Compensation}, 35 \textit{J. Acct. \\& Econ.} 285 (2003) (finding that forcing the disclosure of executive compensation has benefitted shareholders by inducing corporate governance improvements).} Given the cost of mandating disclosure, it makes sense to limit the duty to publicly traded corporations where it generates greater benefits. However, if it is the liquidity and efficiency of public markets that tilts the scale toward mandating disclosure, a justification ought to be provided as to why these benefits will not be supplied without mandatory disclosure. Alternatively, a quantitative measure should be supplied to justify the different treatment of publicly traded corporations.

A different justification that supports mandatory disclosure focuses on one element of the demand side—the sell-side analysts. According to this justification, absent mandatory disclosure, there will be both too little and too much investment in securities research.\footnote{See \textit{Coffee, supra} note 77.} On the one hand, since analytical works are also a public good (hard to sell and hard to exclude non-paying parties from reports once they are published), analysts will under-invest in securities research (i.e., too few corporations will be followed).\footnote{\textit{Id.} at 731-732.} On the other hand, many analysts will make duplicative investment in attempting to find the same pieces of (undisclosed) information about the corporation, which leads to social waste.\footnote{\textit{Id.} at 733-734; Oesterle, \textit{supra} note 169, at 210-202; Easterbrook \\& Fischel, \textit{supra} note 164, at 682.} Mandatory disclosure reduces both problems: it subsidizes search and verification efforts and eliminates duplicative investment.

This reasoning is supported by our analysis. It explains why mandatory disclosure is limited to publicly traded corporations, and it elucidates the relationship between disclosure and informed trading. However, our analysis reveals that mandatory disclosure should not be limited to the special case of sell-side analysts. Sell-side analysts normally publish their reports for free and expect to benefit indirectly through other business activities.\footnote{See \textit{supra} note 99.} Most professional investors, however, use buy-side analysts. Buy-side analysts do not publish their research; nor do they try to sell it. Thus, they do not face the public good problem in securities research. On the contrary, these analysts guard the confidentiality of their work as they attempt to profit from trading. Mandatory disclosure, however, is justified from the buy-side perspective as well.
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First, mandatory disclosure reduces search cost because it is cheaper for the corporation to disclose than for an outsider to unearth firm specific information. Indeed, producing firm specific information is an integral byproduct of managing the business and the added cost of disclosing it is marginal. Second, some undisclosed pieces of information could not be discovered even at very high cost. The pricing of such information will be based on estimates as to its existence, nature, and value. Such pricing is bound to be imprecise. Third, here too, disclosure by the corporation will prevent duplicative investments in (undisclosed) corporate information for both sell-side and buy-side analysts. Fourth, here too, mandatory disclosure subsidizes search costs for all analysts. In this case, the public good characteristics of information produce a benefit for the market: the small investment made by the corporation in disclosure of information effects an enormous saving in search costs for all analysts.

Our model provides yet another justification for mandatory disclosure. Mandatory disclosure enables analysts to exploit economies of scale and scope in analyzing information. Just as general market information may be used to price the stocks of many firms, information about any individual firm may be used to price the stocks of other corporations that compete or interact with that corporation. It is the disclosure by all the firms in the market that enables analysts to realize fully economics of scale and scope in analyzing information. Hence, the desirability of mandatory disclosure can best be seen from a general market perspective, not that of the individual firm.

To illustrate this point, assume no mandatory disclosure and a market with 100 firms. One firm fully discloses and the rest only partially disclose. Analysts cannot use the information they have about the disclosing firm and the general market information to price other firms without investing in search costs for the remaining 99 firms. Given high search cost and limited ability to exploit economies of scale and scope, the market will support only very few analysts. With very few analysts, the competition will be low, efficiency and liquidity will be low, and no positive externalities will be generated. Assume now that a second firm fully discloses. The search cost for this firm will be saved, and the information gained about the general market and the first disclosing firm can be applied to the second firm at a small additional cost. Moreover, the knowledge gained about the second firm might improve the knowledge about the first firm. The

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180 For instance, the total sales figure is reported to the top management. To disclose this figure costs very little, whereas this figure is very costly for analysts to obtain otherwise.
181 Admati & Pfleiderer, supra note 38 (showing that positive externalities result from information and liquidity spillovers due to improved disclosures by other firms).
182 Bushee & Leuz, supra note 38 studied a regulatory change, which became effective in 1999, that mandated compliance with the Securities Exchange Act’s reporting requirements for firms on the OTC Bulletin Board. Their study found that firms already filing with the SEC prior to the rule change experienced positive stock returns and permanent increases in market liquidity. This finding is consistent with the positive externalities from disclosure regulation.
more firms disclose fully, the greater will be the savings in search costs and the greater economies of scale and scope will be realized. As disclosure improves, more analysts will enter the market and competition will intensify. Intense competition among analysts, in turn, will generate more efficient and liquid markets as well as significant positive externalities for the economy.

Our analysis elucidates why corporations cannot be trusted to provide full disclosure. What will a corporation gain (or lose) from full disclosure? Or, stated differently, what will a corporation gain (or lose) from the existence of a competitive analyst market? The first gain is improved liquidity for the corporation’s securities.\footnote{Id. (finding that mandating firms on the OTC Bulletin Board to comply with the Securities Exchange Act of 1934 caused significant increases in market liquidity for the complying firms).} Improved liquidity reduces investors’ transaction costs and investment risks, thus lowering the corporation’s cost of capital.\footnote{Douglas Diamond & Robert Verrecchia, Disclosure, Liquidity, and the Cost of Capital, 46 J. Fin. 1325 (1991) (noting that increased disclosure leads to increased liquidity and lower cost of capital); David Easley & Maureen O’Hara, Information and the Cost of Capital (presenting a model showing that greater disclosure leads to lower cost of capital), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=300715.} The second gain is efficient pricing of the corporation’s securities. Efficient pricing prevents under-valuation, and hence eliminates the risk of an unjustified takeover.\footnote{See Merritt B. Fox, Required Disclosure and Corporate Governance, 62 L. & CONTEMP. PROBS. 113 (1999).} It also provides an effective mechanism for measuring managerial efforts and compensation.\footnote{Venky Nagar et al., Discretionary Disclosure and Stock-Based Incentives, 34 J. ACCT. & ECON. 283 (2003) studied the relationship between managers’ disclosure activities and their stock price-based compensation incentives. The study found that firms’ disclosures, measured both by management earnings forecast frequency, by and analysts’ subjective ratings of disclosure practice, are positively related to the proportion of CEO compensation affected by stock price and to the value of shares held by the CEO.} The third gain is greater appeal to institutional investors, which reduces agency costs through improved monitoring and project choice\footnote{See Merritt B. Fox, The Political Economy of Statutory Reach: U.S. Disclosure Rules in Globalizing Market for Securities, 97 MICH. L. REV. 696, 732 (1998) (arguing that an appropriate level of issuer disclosure is essential to managerial motivation and to a firm’s choice of real investment projects).} and increased relational investments.\footnote{Diamond & Verrecchia, supra note 184 (noting that increased disclosure leads to increased holdings of large investors).}

However, these effects represent gains only for efficient managements. For inefficient managements full disclosure and a competitive analysts market represent threats. A competitive analysts market will: reflect inefficient management in lower stock prices and thereby render the corporation a more likely target for takeovers;\footnote{See Fox, supra note 185.} expose inefficient management to claims of breach of fiduciary duties;\footnote{Id. note 185.} expose

\begin{enumerate}
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\item \footnote{Id. note 185.}
\end{enumerate}
inefficient management to proxy fights; limit management ability to consume and expropriate value from shareholders; and increase pressure from the board of directors.

For these reasons, not all corporations should be expected to provide full disclosure without a mandatory disclosure rule. Opponents of mandatory disclosure respond to these claims by arguing that under an elective disclosure system, investors will assume the worst about the non-disclosing firms and discount their securities. The assume-the-worst rejoinder fails on several grounds, however. First, because of the public good nature of information, even efficient management may find the gains from full disclosure outweighed by the cost of the disclosure. In such cases, even efficient management will not disclose all available information about the corporation without a mandatory disclosure rule. Second, the ability of management to engage in Management Buyouts (MBO) transforms the market’s reaction to insufficient disclosure (i.e., discounting corporate securities) into a strategic tool that will improve management ability to buyout the corporation for discounted value. Third, management can avoid market discipline even if securities are discounted by relying on retained earnings instead of raising new capital, and adopting anti-takeover defenses.

Although these responses are valid, they all accept the premise that non-disclosing firms will be penalized by the market through excessive discounting of their securities prices. This is the core premise of the “investors will assume the worst” argument. Here, we provide a new response that rejects this premise and sheds new light on the mandatory disclosure debate. A competitive market of analysts cannot penalize non-

191 Id.
192 See Gordon, supra note 127.
193 See W. O. Jung & Young K. Kwon, Disclosure When the Market is Unsure of Information Endowment of Managers, 26 J. ACCT. RES. 146 (1988) (suggesting that managers are more likely to disclose when they possess good news).
194 See Easterbrook & Fischel, supra note 164, at 683; see also Thompson & King, supra note 114 (applying this assumption to another context).
196 It is true that, in response to analyst demands, many managers do disclose much more information voluntarily than mandated by law. Indeed, it might be because managers who want to disclose are not deterred by the externalities or because the basic mandated disclosure has already eroded the cost of externalities for all firms.
fully-disclosing firms by excessively discounting their securities. Excessive discounting requires either asymmetric information that leads to a “lemons market,” or cooperation/collusion among analysts.

For asymmetric information to lead to a “lemons market,” the asymmetry should be between sellers and buyers. However, non-disclosure by publicly traded corporations does not create asymmetric information between sellers and buyers; both sides are in the dark. The corporation may avoid full disclosure for good reasons (e.g., to protect merger negotiations or valuable R&D results) or for bad reasons (e.g., to hide business failures or management abuses). In such a situation, both sides will attempt to find the true value of the corporation, leading to a market price that reflects their best estimate of the corporation’s value. Given the competition among sellers and among buyers, no one can simply “assume the worst,” and thus the market will not collapse into a “lemons market.” In other words, competitive forces negate the ability of the market to induce managements to provide full disclosure by punishing non-disclosure.

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199 See, e.g., R. Verrecchia, Discretionary Disclosure, 1983 J. ACCT. & ECON. 179 (discussing the two competing reasons for non-disclosure); Joshua Ronen & Varda (Lewinstein) Yaari, Incentives For Voluntary Disclosure, 4 J. FIN. MARKETS 309, 311 (2001) (arguing that typically, information with no duty to disclose consists of non-verifiable data, such as a predicted state of the environment; the absence of this type of information cannot be interpreted as bad news).

200 This is the setting of the seminal model showing wasteful information searches that was presented by Jack Hirshleifer, The Private and Social Value of Information and the Reward to Inventive Activity, 61 AM. ECON. REV. 561 (1971).

201 Competition among analysts is most intense with respect to large corporations whose shares are being followed by many analysts. Yet, no individual analyst can discipline a major corporation whose shares are included in many investors’ portfolios by either discounting share prices by more than is necessary or by refusing to follow the shares.

202 Indeed, asymmetric information that can lead to a “lemons market” exists in the IPO market. When the corporation issues securities to the public, non-disclosure creates classic asymmetric information between a seller and buyers. In this case, the ability of the market to discount the price of the securities, and thereby provide the issuer with an adequate incentive to disclose, is high. See Alan Palmeter, Toward Disclosure Choice in Securities Offerings, 1999 COLUM. BUS. L. REV. 1 (noting that despite the range of relaxations in the IPO disclosure requirements, there is strong evidence that investor informational demands in securities offerings often compel issuers to disclose at levels beyond that mandated—as a private, contractual matter). Indeed, issuers attempt to avoid the “lemons market” by using underwriters, and underpricing the IPOs (sometimes heavily). See Seha M. Tinic, Anatomy of Initial Public Offerings of Common Stock, 43 J. FIN. 789, 797-800 (1988) (explaining the use of underpricing as a form of insurance). Why then id disclosure mandated in the IPO stage? The answer that flows out of our model is that disclosure at IPOs helps the secondary market. Immediately after the IPO, there will be trading between sellers and buyers in a competitive market, and until the first duty to disclose will kick-in (which usually happens at the end of the first quarter of operation) there will be a period of time during which the secondary market will be in the dark. See Raghuram Rajan & Henri
The only way analysts could overcome this problem is by collectively agreeing to assume the worst about non-disclosing corporations. However, such an industry-wide agreement to punish corporations for non-disclosure is a blatant violation of antitrust law. In the absence of collusive tactics, if all analysts were to “assume the worst” and discount the shares too much, it would create an incentive for individual analyst to invest in search costs in an attempt to estimate the true value of the corporation. Such individual analysts will be able to buy for a low price (because at the time they buy, all other analysts discount the shares too much) and sell for a high price (because at the time they sell, the true facts will be revealed). Since such analysts will consistently beat other analysts, all other analysts will be forced to respond by adopting a similar strategy and invest in search costs to form their own estimation of the true value of the corporation. Hence, competition among analysts will result in all analysts investing in search costs and forming their own individual estimates as to the true value of non-disclosing corporations. In other words, the market cannot punish corporations for insufficient disclosure and thus cannot spur inefficient management to fully disclose. Instead of getting voluntary optimal disclosure from corporations, we are back to highly duplicative investments in search costs by analysts. Every non-fully disclosing firm is thus impeding the development of a competitive market for analysts, leading to fewer analysts and less securities research.

Indeed, once a competitive analysts market is developed, analyst will be able to

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generate the benefits associated with close analyst coverage such as efficient pricing, liquidity, and better monitoring of agency costs. Good management seeking to capture these benefits will have an incentive to voluntarily engage in timely and fine-tuned disclosure. However, even in that stage, mandatory disclosure will remain necessary. First, since analysts face competitive forces, their ability to sanction non-disclosure is very limited. Only good managements that stand to benefit from analyst coverage will elect to disclose voluntarily, while other managements will disclose only if mandated by law. Second, analysts’ ability to obtain additional disclosure is predicated on the basic disclosure requirement embedded in mandatory disclosure and the legal sanctions for incomplete or misleading information. Third, many small corporations do not enjoy sufficient analyst coverage to generate the benefits that justify voluntary disclosure. Disclosure by corporations that lack an inherent incentive to disclose—small corporations and corporations with bad management—is the contribution of mandatory disclosure to the development of an analysts market.

The other claim made by opponents of mandatory disclosure is that capital markets are efficient reflecting all available information in prices, and thus mandatory disclosure is costly and useless. But this claim is baseless. Indeed, when markets attain efficiency prices reflect information. This is the equilibrium stage. However, the process by which markets reach equilibrium requires investment in information: searching, verifying, analyzing, and trading. These are the actions that are performed by analysts. Perfect equilibrium, however, is unattainable. Prices always deviate from value and analysts must continuously act to bring prices back to value. These fluctuations of price around value represent some level of inefficiency. Indeed, it is this level of inefficiency that creates the incentives to invest in information and drives the market towards the efficiency equilibrium. As explained above, the level of efficiency depends on the cost and risk faced by analysts. Reaching the current equilibrium is a result of mandatory disclosure subsidizing analysts’ costs. Abolishing the mandatory disclosure because “the market is already efficient” will increase the cost for analysts and the market will become less efficient.

Finally, mandatory disclosure can be justified from the perspective of liquidity traders as well. Indeed, mandatory disclosure duties, insofar as they pertain to firm

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204 See Mark H. Lang, Karl V. Lins, & Darius P. Miller, Concentrated Control, Analyst Following, and Valuation: Do Analysts Matter Most When Investors Are Protected Least?, 42 J. ACCT. RES. 589 (2003) (reporting empirical findings indicating that analyst coverage is negatively related to the overall level of family management control of a firm and to whether the family/management group is the largest controlling blockholder of a firm); Ravi Bhushan, Firm Characteristics and Analyst Following, 11 J. ACCT. RES. 255, 256-257 (1989) (examining factors that lead to differences in analysts’ following of firms, and concluding that firm size, among other things, influences supply and demand of analysts’ coverage).

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specific information, seem irrelevant to liquidity traders. The buying and selling decisions of liquidity traders are not based on information about individual stocks. Buying and holding a diversified portfolio shields liquidity traders from the risks of mispricing. If in the absence of disclosure duties, some shares will be traded at a discount and others at a premium, then the holder of a diversified portfolio would receive the average price since the two opposing effects will cancel each other out. Even if the absence of disclosure duties were to cause stock prices, in general, to be discounted or inflated, it should have no effect on liquidity traders. In this case, the liquidity trader would buy a portfolio for a discounted/inflated price and sell it for a correspondingly discounted/inflated price. Similarly, if the absence of disclosure duties increases firm-specific fundamental risk or noise risk, then buying and holding a portfolio will diversify away these risks.

However, liquidity traders are concerned with securities regulations insofar as they facilitate liquidity and prevent shareholder expropriation. Mandatory disclosure has a positive effect on liquidity. The less disclosure there is, the higher the risk of asymmetric information. The higher the risk of asymmetric information, the larger is the bid/ask spread, and the lower is the liquidity. Mandatory disclosure also reduces management agency costs and thereby reduces shareholder expropriation. Indeed, both risks—asymmetric information and agency costs—cannot be diversified by liquidity traders, but they can discount overall share prices. This action will increase the cost of capital for all corporations and reduce allocative efficiency. Mandatory disclosure avoids this chain of actions, thereby promoting allocative efficiency.

B. Fraud-on-the-Market Theory Revisited

One of the more important modern developments in securities regulation is the adoption of the fraud-on-the-market (“FOTM”) theory as a rebuttable presumption of reliance in securities fraud cases. In a fraud case the plaintiff must show: that there was a misstatement,206 issued by the defendant with scienter,207 that the plaintiff relied on the misstatement208 and suffered damages.209 To show reliance means to show that the plaintiff read the misstatement and acted based on it.210 Such a showing will of course differ among investors: some read and acted based on the misstatement, some read and

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208 Loss & Seligman, supra note 207, at 1200-1210.
209 See id. at 1210-1219.
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did not act based on it, some did not read it and acted, and some did not even know of the existence of the misstatement. If, in a class action, one will have to show reliance, then the individual issues will predominate over the common issues and the class cannot be certified. To facilitate class actions in fraud cases, courts have adopted the FOTM as a presumption of reliance. Since the market incorporates information it will reflect the misstatement in the price, and thus relying on the integrity of the market price is a substitute to relying on the misstatement. Consequently, even those who did not know about the misstatement but traded during the relevant time of the misstatement are entitled to sue.

While the adoption of the FOTM by the courts was supported by many, it has also been under attack since its inception. First, starting with the minority view in Basic, Inc. v. Levinson, the Supreme Court case that adopted the presumption—it is argued that markets are not efficient enough to justify the presumption. If the market

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212 The requirement that common issues dominate individual issues in a class action lawsuit comes from the Federal Rules of Civil Procedure. FED. R. CIV. P. 23(a)(2), 23(b)(3).
214 See Gebhardt v. ConAgra Foods, Inc., 335 F.3d 824, 831 (8th Cir. 2003) (noting that plaintiffs typically fulfill the transaction causation pleading requirement simply by pleading that defendants perpetrated a fraud on the market as a whole).
215 Nathenso v. Zonagen Inc., 267 F.3d 400, 415 (5th Cir. 2003) (noting that to invoke the presumption a plaintiff need only show that the securities at issue traded on an efficient market).
216 See Julie A. Herzog, Fraud Created the Market: An Unwise and Unwarranted Extension of Section 10(b) and Rule 10b-5, 63 GEO. WASH. L. REV. 359, 369 (1995) (noting the vast extent to which Fraud-On-The-Market theory has been commended).
219 In Basic, the court noted that [W]hile the economists’ theories which underpin the fraud-on-the-market presumption may have the appeal of mathematical exactitude and scientific certainty, they are—in the end—nothing more than theories which may or may not prove accurate upon further consideration . . . . Thus, while the majority states that, for purposes of reaching its result it need only make modest assumptions about the way in which ‘market professionals generally’ do their jobs, and how the conduct of market professionals affects stock prices . . . . I doubt that we are in much of a position to assess which theories aptly describe the functioning of the securities industry.
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is inefficient, and thus does not accurately reflect the misstatement, the justification for substituting reliance with the FOTM presumption is lacking. This attack is revived these days with the growth of behavioral finance and the burst of the high-tech bubble. Second, it was argued that even when markets are efficient the adoption of the presumption is not justified because it creates over-deterrence, it provides damages to non-damaged parties, and it distorts the business productive efficiency.

1. The Inefficient Market Claim

The first criticism of the FOTM is flawed in two important ways. First, it relies on an incorrect reading of the ruling in Basic. Second, our analysis indicates that when markets are effective, yet deviate from efficient pricing, the FOTM is especially important. We will start with the first flaw. The majority in Basic famously stated that one must show “reliance on the integrity of the market price” as a precondition for


See Jonathan R. Macey & Geoffrey P. Miller, The Fraud-on-the-Market Theory Revisited, 77 VA. L. REV. 1001, 1015 (1991) (arguing that securities fraud liability may destroy company’s property interest in information); Marcel Kahan, Games, Lies, and Securities Fraud, 67 N.Y.U. L. REV. 750, 761 (1992) (noting that the Fraud-On-the-market presumption allows companies to be subjected to liability for competitive and negotiatory lies); Charles H. Steen, The Econometrics of Fraud-On-The-Market Securities Fraud, 4 J.L. ECON. 11, 36-37 (1994) (arguing against the effect of withholding investors from placing their capital at risk, which in turn would induce the market’s process of efficiently allocating resources to their best use).
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invoking the FOTM presumption. There are two ways to interpret this statement. The first, putting the premium on the term “price,” requires that a plaintiff who seeks to invoke the presumption must show that she accepted the market price as an accurate reflection of value. Under this interpretation, integrity of market price is synonymous with accurate pricing. The second interpretation, emphasizing the term “market,” does not require the plaintiff to show reliance on the accuracy of the price, but rather on the integrity of the process by which the market sets prices. That is, the second interpretation requires a showing of, what we call, an effective market—a market with a corrective price mechanism. To understand the difference between the two interpretations, consider a case of short selling. Under the first interpretation, a plaintiff who sold short cannot invoke the FOTM presumption, since the act of selling short, by definition, indicates that she did not consider the market price an accurate reflection of value. The second interpretation leads to a radically different result. Although selling short indicates that the seller was of the opinion that the security was overpriced, the decision to sell does not demonstrate that the seller deemed the market ineffective. On the contrary, a short seller must rely on the effectiveness of the market as the profitability of selling short is premised on the belief that the price would eventually revert to value. A careful reading of the majority’s opinion in Basic, reveals that the second interpretation is the correct one. The second interpretation is the

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224 See Basic, 485 U.S. at 226 (“We must also determine whether a person who traded a corporation’s shares on a securities exchange after the issuance of a materially misleading statement by the corporation may invoke a rebuttable presumption that, in trading, he relied on the integrity of the price set by the market”); id. at 250 (“In summary ... [I]t is not inappropriate to apply a presumption of reliance supported by the fraud-on-the-market theory”).


226 The short seller example was provided by the minority judge in Basic, 485 U.S. at 251, and ruled on in Zlotnick v. TIE Communications, 836 F.2d 818 (3d Cir. 1988) (a short-seller is not entitled to the presumption of reliance).

227 This conclusion is apparent from the example that the majority in Basic provides for rebutting the presumption of reliance:

For example, a plaintiff who believed that Basic’s statements were false and that Basic was indeed enmeshed in merger discussions, and who consequently believed that Basic stock was artificially underpriced, but sold his shares nevertheless because of other unrelated concerns, e.g., potential antitrust problems, or political pressures to divest from shares of certain businesses, could not be said to have relied on the integrity of a price he knew had been manipulated. Basic, 485 U.S. at 249. Clearly, this is a unique example. It requires that the investor knew of the true facts and was forced to trade due to very rare reasons (“potential antitrust problems, or political
product of substituting a direct reading of the Basic majority view with the minority’s misreading of the majority view.228

If one accepts the first interpretation, the question of whether markets are efficient is relevant to the adoption of the FOTM presumption. Indeed, those attacking the presumption on the grounds of market inefficiency contend that Basic supports the first interpretation.229 If, however, the correct reading of Basic is as we argue, then the issue of efficiency does not affect the validity of the presumption.230 For the presumption only requires a showing of an effective, not efficient, market.231

As for the second flaw, and more importantly, our model shows that when markets are effective but inefficient it is especially desirable to provide optimal conditions to analysts, because analysts constitute the best mechanism for correcting market inefficiencies. When markets are effective and efficient, it implies that there exists a sufficiently competitive market for analysts, which is winning over noise traders and capable of producing accurate pricing. In such a market, the probability of profiting from misstatements is low because analysts are highly likely to detect such misstatements. On the other hand, when markets are effective and inefficient it implies that due to increased noise trading and limitations on arbitrage, analysts cannot...
effectively correct market prices. In such a market, the probability of profiting from misstatements is high because noise traders would amplify the effect of misstatements on price and analysts would not be able to prevent price fluctuations. Under these conditions, analysts are exposed to high risk (low likelihood of capturing price/value deviations and large potential damages) and must bear very high verification cost, leading to limited price correction activity. Abolishing the FOTM presumption would further increase the probability of fraudulent statements, making it even harder for analysts to spot and correct deviations of price from value. Thus, in an effective but inefficient market, it is imperative to employ the FOTM presumption in order to increase analysts’ activity and thereby improving the speed and quality of reverting to efficiency.

2. The Efficient Market Claims

The second attack on the FOTM presumption is based on a very different argument. It stems from the assumption that markets are efficient. Assume, therefore, that the market is efficient and does reflect misstatements in price. To deter misstatements, the offender must pay the damage created by the misstatement multiplied by a factor that takes account of the fact that the probability of capture is lower than one. The argument is that the only damage from misstatements is precaution costs, and if so, the use of the FOTM presumption excessively penalizes violators.\(^232\) Indeed, if one assumes that the only relevant damage from misstatements comes in the form of precaution costs, then the argument is correct. The overcompensation is due to the fact that compensation is awarded to all investors who traded in the market, including liquidity traders who randomly traded while prices reflected the misstatement. Liquidity traders, however, do not invest in precautionary measures since they do not invest in information; nor do they suffer directly from misstatements. If fraud randomly distorts prices then buying and selling a portfolio should cancel out the effects of fraud.\(^233\) Moreover, even if fraud leads to an overall inflated or deflated market, liquidity traders will not be harmed because they will buy and sell portfolios for similarly inflated or deflated prices.\(^234\) Thus, the argument goes, compensating liquidity traders gives them a windfall and over-charges the offender.

Moreover, the argument posits that due to the over-deterrence management will reduce the amount of voluntary disclosure it provides to the market, thereby decreasing the free information available to analysts.\(^235\) Instead of releasing information to the

\(^{232}\) See Mahoney, \textit{supra} note 28, at 625, 626-641.

\(^{233}\) \textit{Id.}

\(^{234}\) \textit{Id.}

\(^{235}\) \textit{Id.} at 650-655.
market as management receives it without verification, management will release only a limited amount of verified information. The substitution between reducing search costs (disclosing large amount of unverified information) and reducing verification costs (disclosing limited amount of verified information) is harmful to analysts. The argument is that it is much more costly for analysts to discover new pieces of firm specific information than it is to verify disclosed pieces of information. Over-deterrence leading to a limited amount of voluntary information will thus increase the costs for analysts because they will have to invest in search rather than in verification.

a. The Current Responses

Several responses have been offered to this argument. The first response is that sometimes fraud increases the risk of buying a portfolio in an inflated market and selling it in a deflated market. This is a risk that cannot be diversified and liquidity traders will respond to it by reducing the amount of their trading or by discounting stock prices in general.\textsuperscript{236} Both actions are harmful. Reduced liquidity is harmful to liquidity traders, and discounted prices are harmful to corporations raising capital.\textsuperscript{237} Although this argument is theoretically solid, in practice it is highly unlikely that the cumulative effect of individual frauds will affect markets in a way that will increase the probability of buying in an inflated market and selling in a deflated market.\textsuperscript{238}

A variation on this response does not focus on fraud increasing undiversifiable risk. Rather, it argues that, although liquidity traders do not invest based on information, they care about information as much as it affects liquidity.\textsuperscript{239} That is, liquidity traders care about transaction costs in the form of high bid/ask spreads. The presence of misstatements creates opportunities for asymmetric information, as analysts investing in precautions will have greater likelihood of discovering misstatements. Greater information asymmetries will cause market makers and specialists to increase bid/ask spreads. Accordingly, even if liquidity traders buy and hold a portfolio they will still bear the cost of high bid/ask spreads. Although this argument has merit, it does not explain why liquidity traders receive compensation in FOTM cases. Compensating analysts alone will reduce analysts’ incentive to invest in precautions, thereby reducing asymmetric information. In other words, if it is the behavior of analysts that can either amplify or diminish the problem, why not compensate only analysts? Indeed, the conclusion of this argument is that private enforcement relying on the FOTM should be

\textsuperscript{236} See A.C. Pritchard, Markets as Monitors: A Proposal to Replace Class Actions with Exchanges as Securities Fraud Enforcers, 85 Va. L. Rev. 925, 938-940 (1999); Georgakopoulos, supra note 49, at 702-711.

\textsuperscript{237} See Pritchard, supra note 236, at 945; Georgakopoulos, supra note 49.

\textsuperscript{238} See Pritchard, supra note 236, at 940-941; Georgakopoulos, supra note 49.

\textsuperscript{239} See Georgakopoulos, supra note 49, at 703-707.
replaced with public enforcement by the stock exchanges.\footnote{240 See Pritchard, supra note 236.}

A different response admits that the FOTM presumption creates a windfall for liquidity traders but argues that nevertheless it does not over-deter.\footnote{241 See Jennifer H. Arlen & William J. Carrey, Vicarious Liability for Fraud on Securities Markets: Theory and Evidence, 1992 U. ILL L. REV. 691, 692 (arguing that over-deterrence is not an issue because fraud is optimally deterred when agents are induced to refrain altogether from fraud rather than induced to take optimal level of care).} Since fraud requires scienter, and is therefore a willful offense, there is nothing wrong with imposing punitive damages on offenders. Indeed, the compensation awarded to liquidity traders is the equivalent of punitive damages.\footnote{242 See Marilyn F. Johnson, Karen K. Nelson, & A.C. Pritchard, In re Silicon Graphics Inc.: Shareholder Wealth Effects Resulting From the Interpretation of the Private Litigation Reform Act's Pleading Standards, 73 S. CAL. L. REV. 773, 781 (2000) ("[T]he corporation being sued neither bought nor sold its securities and, accordingly, did not gain from the fraud. Nonetheless, fraud on the market suits allow investors to recover their losses from the corporation based on its managers’ misstatements . . . . Thus, class actions are a potential punitive sanction that should provide a substantial deterrent to fraud.").} This response was criticized for failing to recognize that in practice the class-action mechanism employed in securities cases does not distinguish between negligent and fraudulent misstatements.\footnote{243 See, e.g., Johnson et al., supra note 242, at 782-83 (noting the vagueness of the scenter criterion); Kevin R. Johnson, Liability for Reckless Misrepresentations and Omissions under Section 10(b) of the Securities Exchange Act of 1934, 59 U. CIN. L. REV. 667 (1991) ("courts have been less than precise in defining what exactly constitutes a reckless misrepresentation . . . . The result is that actual and potential parties to Section 10(b) and Rule 10b-5 actions cannot predict with any degree of certainty how a trier of fact will characterize challenged conduct and thus whether it may serve as the basis for liability. Nor can actors in securities transactions ensure that they take the steps necessary to minimize the potential for liability.").} As a result, vis-à-vis potentially negligent offenders, the use of FOTM does result in over-deterrence. It should be noted, however, that some argue that the Private Securities Litigation Reform Act of 1995 has improved the functioning of class actions, resulting in better correlation between fraud and liability both in courts and in private settlements.\footnote{244 See, e.g., Elliott J. Weiss, Complex Litigation At the Millennium: Pleading Securities Fraud, 64 L. & CONTEMP. PROB. 5 (2001) (describing the positive effects of the Act upon the filing of frivolous class action lawsuits); Michael A. Perino, Did the Private Securities Litigation Reform Act Work?, 2003 U. ILL. L. REV. 913, 947-950 (noting that there is statistically significant evidence, however, that suggests that the Act improved overall case quality at least in the circuit that most strictly interprets one of the Act’s key provisions); Jeffrey L. Oldham, Taking “Efficient Markets” Out of the “Fraud-On-The-Market” Doctrine After the Private Securities Litigation Reform Act, 97 NW. U. L. REV. 995, 1030 (2003) (discussing the effects of the Act on FOTM presumption); David S. Escoffery, Note, A Winning Approach to Loss Causation Under Rule 10B-5 in Light of the Private Securities Litigation Act of 1995, 68 FORDHAM L. REV. 1781 (2000).}

Indeed, if courts could accurately identify all cases of fraud and award accurate compensation in all those cases, the problem of over-deterrence would disappear.
b. The Proposed Model’s Responses

i. Full Range of Damages

Our model offers a superior justification for the FOTM by focusing on the pricing process of the market. As a starting point, it should be emphasized that without the FOTM presumption, a plaintiff in a fraud case must show: (a) reliance on the misstatement; and (b) actual trading in shares affected by the manipulation. Not all analysts trade, however. Some analysts trade directly, through institutional investors or money management entities. Some analysts sell investment advice to stock pickers, who then trade based on the analytical work of the analysts. Some analysts disclose their work to the market for free, and some stock pickers and noise traders might trade based on this information. Putting aside the problem of inappropriate incentives to sue when the plaintiff’s holding is not large, indeed, analysts who trade can potentially sue and prove reliance. On the other hand, analysts who did not directly traded will not satisfy the precondition of a trade and thus will be barred from bringing a suit. Moreover, all other investors who relied on the analysts’ work and traded will, as well, be barred from bringing a suit because they will not be able to show reliance on the misstatement—even though the analytical work was affected by it. This implies that, in order to protect the value of the analyst’s work, the FOTM must be afforded to all traders who relied on analytical work. Indeed, putting aside the difficulty of distinguishing one group from the others, it remains puzzling why liquidity traders receive compensation. To resolve this puzzle, it is imperative to realize that the harm from fraud is not restricted to precaution costs. Fraud inflicts additional harms in the form of higher liquidity costs and increased management agency costs.

Consider liquidity costs first. Fraud engenders asymmetric information and thus increases precaution costs for analysts. As a result, when fraud is pervasive, the number of analysts will drop, and the competition among them will diminish. Reduced competition among analysts increases the risk faced by market makers. In response, market makers will increase the bid/ask spread to reflect the higher probability of frauds. The FOTM presumption helps market makers and liquidity traders recover their losses. Market makers are compensated for the losses they sustained while providing liquidity during a misstatement and its revelation. Liquidity traders are compensated for the increased bid/ask spread to prevent them from reducing the amount of their trading and discounting overall prices. Neglecting to compensate for these damages will not adequately deter misstatements. Moreover, even if analysts and those who relied on their analytical works are compensated, analysts will still be damaged if liquidity traders are not compensated. Analysts’ potential profits will be eroded due to high bid/ask spreads and reduced trading by liquidity traders.

Fraud inflicts yet another harm in the form of increased management agency costs...
The incentives to issue misstatements by management are related to the quality of the corporate business operation and/or management pursuit of personal benefits. Management might lie to avoid disclosing mismanagement or stealing, to increase their compensation through manipulation of share prices, to generate profits through insider trading, or to facilitate issuing new shares for inflated prices. These activities create substantial management agency costs: decreasing and dissipating corporate assets and value, distorting efficient allocation of capital, and frustrating efficient operation of markets due to damaging analysts and liquidity traders. The greater the likelihood of fraud the greater the potential for management agency costs. The management agency costs are borne by all outside participants in the market: informed traders, liquidity traders, and noise traders. All investors will discount overall prices to reflect the risk of management agency costs, thereby increasing the cost of capital for all corporations. Moreover, increased likelihood of fraud will further decrease the effectiveness of analysts monitoring management, which in turn, will reduce the efficiency of the market and further increase the cost of capital. Applying the FOTM facilitates the filing of class actions, increases the likelihood of detection, and provides compensation for the whole range of damages resulting from fraud. Improved deterrence boosts analysts’ activity, which in turn, further reduces management agency costs.

ii. Verification Cost Versus Search Cost?

Our analysis also demonstrates why the argument that the over-deterrence caused by the FOTM presumption will lead management to decrease voluntary disclosure and thereby raise analysts’ search costs is incorrect. Management disclosure decisions are shaped by two competing threats: liability for inaccurate disclosure and liability for non-disclosure. There is no reason to assume, therefore, that managements will respond to the FOTM doctrine by reducing disclosure. Since the risk of over-deterrence relates to honest (although potentially negligent) management and not to dishonest management, it is an empirical question whether management will resort to defensive over-disclosure or under-disclosure. An honest disclosure may be perceived by a court as a misstatement on account of incomplete or ambiguous information, or mistake. For the same reasons, non-disclosure may also be construed as a misstatement in light of publicly available information. The question is, therefore: Which of the two alternatives is more defensible in court? Is it easier to prove good faith in cases of complete silence (non-disclosure) or imprecise disclosure? Indeed, an empirical study of the effects of the endorsement of the FOTM doctrine found both an increase in the voluntary disclosure of bad news and that companies with bad news warn investors on a

\[245\] See Pritchard, supra note 236, at 937-938.
more timely basis.\textsuperscript{246}

Moreover, management discloses more information than mandated by securities regulation because there is a demand for such information by analysts. The more effective are the analysts, the stronger is the pressure for more fine-tuned and timely disclosure. True, analysts cannot prevent management from reducing the level of disclosure. Over-deterrence is irrelevant to inefficient managements that lack incentives to disclose in the first place; it only applies to efficient management that wishes to disclose information. However, efficient management that chooses to reduce disclosure runs the risk of losing all the benefits accruing from analyst coverage of its firm, such as efficient pricing, liquidity, and reduced agency costs. Again, it is an empirical question whether the loss of these benefits would outweigh the over-deterrence effect, thus negating the incentive to under-disclose.\textsuperscript{247}

iii. The Appropriate Standard of Review under Class Action

A different over-deterrence argument maintains that although, in theory, courts are supposed to apply a scienter analysis in cases of fraud, in practice they apply a negligence analysis.\textsuperscript{248} Consequently, plaintiffs can collect damages even from corporations that are not guilty of fraud or recklessness.\textsuperscript{249} In response to the overcompensation problem, some scholars have argued for the abolition of the FOTM presumption, and with it the class action mechanism.

While we do not dispute that courts sometime apply a negligence standard in fraud cases, we argue that negligence may in fact be the appropriate standard in this case. Relative to a scienter rule, a negligence rule: (a) increases the number of lawsuits filed; (b) increases verification costs for the corporation; (c) reduces verification costs for analysts; (d) delays disclosure of information to the market; and (e) lowers the cost of

\textsuperscript{246} Given that the study found no change in the behavior of companies with good news, the findings support the view that FOTM doctrine did not reduce voluntary disclosure, but the other way around. See Sunil Dutta & Jacob Nelson, \textit{Shareholder Litigation and Market Information: Effects of the Endorsement of the Fraud-on-the-Market Doctrine on Market Information}, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=69036. Other studies support the same conclusion. See D. Skinner, \textit{Why Firms Voluntarily Disclose Bad News}, 1994 J. ACCT. RES. 38 (finding that firms facing large negative earnings surprises are more likely to make preemptive earnings-related disclosures); J. Francis, D. Philbrick, & K. Schipper, \textit{Shareholder Litigation and Corporate Disclosure}, 1994 J. ACCT. RES. 137 (finding that while disclosure does not deter litigation it may reduce the severity of litigation).

\textsuperscript{247} Id.

\textsuperscript{248} See Johnson, Nelson & Pritchard, supra note 242, at 782-783 (noting that the scienter standard is notoriously amorphous. Although somewhat more stringent than negligence, even in theory it is difficult to say how much more, and it is nearly impossible in practice).

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judicial decisionmaking. We next elaborate on each effect.

Begin with the number of lawsuits. Since a scienter rule sets a higher bar for successful suits relative to negligence, one should expect an increase in the number of filings under a negligence regime. Furthermore, a negligence rule also lowers the cost of litigation as it requires plaintiffs to prove one less element than they need to prove under a scienter rule—namely, willfulness or recklessness.

Insofar as verification costs are concerned, a negligence regime embodies a tradeoff between expenditures on verification by firms and investment in verification by analysts. From the standpoint of corporations, a negligence rule raises verification costs. Relative to scienter, negligence forces management to take more precautions to verify the accuracy of the information it discloses to the market. Accordingly, management will spend more resources on verifying information before releasing it to the market. By contrast, a negligence regime will effect a cost savings for analysts. Naturally, the added investment in verification by corporations will eliminate some of the verification efforts undertaken by analysts. Yet, it is important to note that the two effects will not necessarily cancel each other out. The added verification costs for the corporation should be expected to be lower than the savings on the analysts’ side. First, as we explained, managers, as insiders, can verify information more cost-effectively than analysts can. Second, since all analysts invest in verification costs, the added investment by the corporation eliminates duplicative investment for the analysts.

As for the timing of disclosure, a negligence regime should be expected to cause some delay in the release of information to the market. The delay is due to the fact that management might need to spend more time on verifying the information before it releases it to the public. However, the delay in disclosure on the corporations’ side will likely be offset by speedier pricing on the analysts’ side since the information analysts receive from firms will be more accurate and the verification process will be shorter.

Finally, judicial decisionmaking costs should be lower under a negligence regime relative to a scienter regime because courts have one less element they need to consider. In addition to all the elements of negligence, scienter also requires a showing of willfulness or recklessness. The elimination of this requirement should shorten litigation time and lower the cost of judicial decision making.

How do these effects net out? It seems that the benefits from imposing additional verification duties on corporations outweigh the costs associated with a negligence regime. A negligence rule substitutes duplicative verification investments by analysts for a single and cheaper verification investment by the corporation. Given that between the corporation and the analysts, the corporation is the least cost avoider, efficiency prescribes imposing the cost of avoidance on the corporation.

But if a negligence standard is indeed superior to scienter, why not modify the Securities Exchange Act to specifically provide for a negligence standard? In fact, we
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do not support such a change. Since experience teaches that courts under-enforce the statutory standard (sometimes they apply negligence instead of scienter) lowering the statutory standard to negligence may generate a tidal wave of strike suits. The enactment of a negligence standard coupled with the retaining of the class action mechanism may cause a slide toward a strict liability standard. In theory, a strict liability regime will force corporations to invest in precautions that eliminate all misstatements, while relieving analysts of the need to take any precautions whatsoever. Since some misstatements may be detected more cost efficiently by analysts, such a one-sided regime is clearly excessive. Moreover, the imposition of a strict liability regime will not completely eliminate all verification costs in practice, as some analysts may wish to spearhead class actions against corporations that failed to meet the heightened standard. Worst of all, the number of frivolous suits under a strict liability regime will be very high, and both corporations and the courts will incur significant expenses dealing with such suits.

The balance achieved is efficient: setting the standard of review too high (at scienter), while recognizing that due to the agency cost problems embodied in the class action mechanism the actual standard will slide to the appropriate level (negligence). First, this balance preserves the use of private enforcement and its deterrent effects without over-burdening the corporations. Indeed, one empirical study shows that the most important element in a successful system of securities regulation is the existence of private enforcement. Second, although the legal enforcement achieved by blurring the distinction between scienter and negligence under-deters fraud, on the one hand, and occasionally awards undeserved damages, on the other, the market provides the additional sanction needed for appropriately deterring fraud. Apart from the settlement payment, corporations guilty of fraud must also bear the more important sanction of a drop in share price. Indeed, the market “judges” the merits of private law suits against corporations by adjusting share prices and thereby provides more fine-tuned deterrence against fraud.

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252 Dale Cloninger & Edward Waller, Corporate Fraud, Systematic Risk, and Shareholder Enrichment, 29 J. SOCIO-ECON. 189 (2000) (noting that the size of the share price reactions following the disclosure of illegal activity generally exceeds the actual fines, fees and penalties that the firms eventually experience).
253 An examination of 290 lawsuits filed under Rule 10(b)-5 in the 1996-1998 period found that, although, in the aggregate, stocks of the defendant companies experience significant declines around the time of the first filing of lawsuits, not all cases have the same merit. Among the reasons that prompted the filing of class action litigation, only four groups—those that involve accounting irregularities, fraud, making overly optimistic statements, and failure to disclose negative news—result in the most significant
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In sum, the FOTM presumption is an essential legal tool that facilitates the development of a market for analysts and reduces precaution costs, liquidity costs, and management agency costs. The FOTM presumption improves the effectiveness of the market and leads to improved efficiency and liquidity.

SUMMARY

In this Article we explained what we consider to be the essential role of securities regulations: facilitating a competitive market for analysts in order to achieve efficient and liquid capital markets. For markets to be efficient and liquid two main tasks must be performed: incorporating information into prices and providing liquidity in trading. From among the various players operating in the market—insiders, analysts, liquidity traders, and noise traders—securities regulations entrusted these tasks to analysts through the prohibition on insider trading. To encourage further the development of analysts market, securities regulations reduce the costs involved in incorporating information and trading, through disclosure duties and restrictions on fraud and manipulation. Consequently, through the analysts market, securities regulations promote the incorporation of information into prices and increased liquidity in trading, with the final goal of achieving efficient and liquid capital markets.

This model provided powerful tools for many policy issues regarding securities regulation. First, in order to reduce management agency costs disclosure duties should include soft information as well as hard information. This will facilitate a competitive market for analysts that will provide efficient monitoring of total agency costs (duty of loyalty as well as duty of care). Second, mandatory disclosure is justified because a competitive market of analysts cannot provide sufficient incentives for full disclosure to all listed corporations. Third, the fraud on the market theory is justified not just within an efficient market, but also in an inefficient market, because the development of an effective market will be promoted through increased analyst coverage.

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