

# The Audience for Corporate Disclosure

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*ABSTRACT: The Securities and Exchange Commission (“SEC”) faces significant questions in its ongoing review of the scope and purpose of its disclosure requirements. Perhaps the most fundamental question is who should be the intended audience for the disclosures the securities laws mandate? Should regulators design disclosure requirements to inform and protect “ordinary” retail investors, to aid sophisticated professionals, or strike a balance between the two? Answering these questions correctly has grown more urgent as technological developments have driven an ever-widening wedge between the needs and capabilities of sophisticated and ordinary investors. Where once the same disclosure document might have adequately served both potential audiences, now a disclosure document designed for ordinary investors will be woefully inadequate for professionals, imperiling accurate securities pricing.*

*This Article draws on an investigation of the economics and mechanics of securities markets to argue that these markets will become fairer and more efficient if regulators design disclosure requirements to minimize the costs sophisticated professionals face. Not only are ordinary investors ill-equipped to make use of corporate disclosures, it is unnecessary for them to do so. In an efficient market, ordinary investors can safely and fairly participate in the market—and earn a market return—simply by investing in a diversified portfolio of securities. As a result, disclosure requirements that maximize market efficiency by facilitating valuation by sophisticated information traders will necessarily protect ordinary investors in the process. Therefore, the sophisticated investor is the proper audience for disclosures.*

*Focusing on the appropriate audience should guide the SEC’s ongoing Disclosure Effectiveness Initiative in five ways: (1) reducing efforts to encourage “plain English” in disclosure documents; (2) expanding disclosure of the forward-looking information that is central to valuation; (3) moving more completely to standardized machine-readable formats and content;*

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(4) rejecting simultaneous dissemination of information as an independent disclosure goal; and (5) requiring fine-grained disclosure of “pure information” in place of intermediary depictions of reality. Finally, courts should redefine “reasonable investor” to focus the term on sophisticated information traders, as they are the primary guarantors of accurate market prices.

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## I. INTRODUCTION

Who is—or should be—the intended audience of the corporate disclosures securities law requires? As the Securities and Exchange Commission (“SEC”) embarks on its comprehensive review of its public company disclosure requirements, this question has become more urgent than ever.<sup>1</sup> Its answer is crucial for determining both the content and form of the disclosures that lie at the heart of U.S. federal securities law.<sup>2</sup> A clear conception of the intended “audience” for corporate disclosures would help determine the kind of information these disclosures should contain and the way corporations should present and disseminate them to investors. While this question has long been a subject of disagreement, new developments have dramatically upped the stakes. At one time, little may have turned on the answer, making it possible to “strike a balance” among the needs of various potential audiences for corporate disclosure. Developments in financial and information technology, however, have made choice of audience a pressing question demanding a clear answer. This Article argues that highly sophisticated institutional investors are the appropriate audience for corporate disclosures and explores important implications this choice of audience has for the content of disclosure rules.

As a matter of positive law, the dominant answer to the question of audience has long been that disclosures should be designed to be read and understood by a “reasonable investor,” generally understood as a typical retail investor rather than a sophisticated institutional investor. The legislative history of the Securities Act of 1933 (“1933 Act”) strongly suggests that Congress intended corporations to direct disclosures to the “average” investor.<sup>3</sup> Similarly, the SEC has traditionally viewed providing useful

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1. See *SEC Spotlight: Disclosure Effectiveness*, U.S. SEC. & EXCHANGE COMMISSION, <https://www.sec.gov/spotlight/disclosure-effectiveness.shtml> (last visited Mar. 13, 2017) (describing the SEC’s ongoing Disclosure Effectiveness Initiative (“DEI”).

2. See, e.g., LOUIS LOSS & JOEL SELIGMAN, *FUNDAMENTALS OF SECURITIES REGULATION* 8 (5th ed. 2004) (noting “the recurrent theme throughout [the federal securities laws] of disclosure, again disclosure, and still more disclosure”); George J. Benston, *The Effectiveness and Effects of the SEC’s Accounting Disclosure Requirements*, in *ECONOMIC POLICY AND THE REGULATION OF CORPORATE SECURITIES* 23, 23–24 (Henry G. Manne ed., 1969) (“[T]he primary purpose of the Securities Act of 1933 and an important part of the Securities Exchange Act of 1934 is to assure the disclosure of financial accounting information . . . .”); Troy A. Paredes, *Blinded by the Light: Information Overload and its Consequences for Securities Regulation*, 81 *WASH. U. L.Q.* 417, 417–18 (2003) (“A demanding system of mandatory disclosure, which has become more demanding in the aftermath of the Sarbanes-Oxley Act of 2002, makes up the core of the federal securities laws.” (footnote omitted)).

3. See *infra* Part II.B.

information to the “informed layperson” as a primary purpose of disclosure.<sup>4</sup> More recently, the SEC has attempted to serve the “ordinary investor” by requiring issuers to make disclosures in “Plain English.”<sup>5</sup> The SEC and the courts have long acknowledged that disclosure must also meet the needs of sophisticated professional investors, but have said that disclosure must strike a balance between the needs of professionals and the needs of laypeople.<sup>6</sup>

Recently retired SEC Chair Elisse Walter expressed this concern for the ordinary investor in a particularly piquant fashion, frequently personalizing her conception of securities law by referencing her (fictional) “Aunt Millie.” Walter characterized Aunt Millie as “the archetype of the retail investor.”<sup>7</sup> She said that “Aunt Millie is a retail investor, an accredited one, but with a modest portfolio.”<sup>8</sup> She “is not a market expert, but she understands that there are risks to the market and wants to understand those risks and invest her money accordingly,”<sup>9</sup> though she “is not able to analyze public information the way SEC staff or an investment professional might.”<sup>10</sup> Walter consistently advocated gearing corporate disclosures to the Aunt Millies of the world, arguing that the SEC needed to “work to ensure that Aunt Millie has access to the information she needs to make truly informed investment decisions” so that she will be willing and able “to invest her hard-earned dollars in people she has never met and companies she knows only from their filings.”<sup>11</sup> Walter stated that “one of [the SEC’s] critical challenges is to assure that [proxy] document[s], as well as other[] [corporate disclosures, are] accessible enough that retail investors can and, more often than today, will read [them].”<sup>12</sup> Near the end of her tenure at the SEC, Walter even

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4. See Homer Kripke, *The Myth of the Informed Layman*, 28 BUS. LAW. 631, 633 (1973) (explaining that the SEC believes ordinary people should be able to make informed choices between different investments).

5. See generally Plain English Disclosure, Exchange Act Release Nos. 33-7497, 34-39593, 63 Fed. Reg. 6370 (Feb. 6, 1998); Plain English Disclosure, Exchange Act Release Nos. 33-7380, 34-38164, 62 Fed. Reg. 3152 (proposed Jan 21, 1997).

6. See *infra* note 74 and accompanying text.

7. Elisse B. Walter, Comm’r, U.S. Sec. & Exch. Comm’n, Corporate Disclosure: The Stage, the Audience and the Players, Address at the Stanford Directors College (June 25, 2013), <http://www.sec.gov/News/Speech/Detail/Speech/1365171606107>.

8. Elisse B. Walter, Chairman, U.S. Sec. & Exch. Comm’n, Making the Markets Safe for Informed Risk-Taking, Address at the “SEC Speaks” Conference (Feb. 22, 2013), <http://www.sec.gov/News/Speech/Detail/Speech/1365171492364>.

9. *Id.*

10. Elisse B. Walter, Chairman, U.S. Sec. & Exch. Comm’n, Harnessing Tomorrow’s Technology for Today’s Investors and Markets, Address at the American University School of Law (Feb. 19, 2013), <http://www.sec.gov/News/Speech/Detail/Speech/1365171492300>.

11. Walter, *supra* note 8.

12. Elisse B. Walter, Comm’r, U.S. Sec. & Exch. Comm’n, Restoring Investor Trust Through Corporate Governance, Remarks Before the Practising Law Institute (Feb. 18, 2009), <https://www.sec.gov/news/speech/2009/spcho2180gebw.htm>.

worried “that my dear Aunt Millie might just leave this Earth without having ever seen the kind of truly informative and complete [Management Disclosures & Analysis] that I have dreamed of for years.”<sup>13</sup>

Inherent in this focus on the ordinary retail investor is a conception of disclosure requirements as a form of investor protection. Under this conception, corporate disclosures are intended to inform ordinary investors about the nature and value of the business, warn them about the attendant risks of investment, and protect them from frauds and scams. Indeed, the Supreme Court defined “materiality” under the 1934 Act in the landmark case, *TSC Industries*, by considering the question from the perspective of a “reasonable shareholder.”<sup>14</sup> That Court explicitly stated that questions about what disclosure is required should “be resolved in favor of those the statute is designed to protect”—by implication, a “reasonable shareholder.”<sup>15</sup> Viewed in this light, disclosure requirements are a tool for reducing information asymmetries both between investors and corporate insiders and between small investors and sophisticated investment professionals.

This conception of corporate disclosure requirements as a tool of investor protection is intuitive and seductive. It is also entirely misguided. Easily digestible corporate disclosures cannot provide whatever protection retail investors might need. Attempting to structure disclosure around their needs and capabilities is costly, unnecessary, and ultimately counterproductive. Fortunately, and perhaps counter-intuitively, the type of investor least in need of protection is the small retail investor. In a reasonably efficient securities market, retail investors can protect themselves simply by holding a diversified portfolio. Retail investors buy and sell at the same market prices as everyone else and can effectively free ride on accurate pricing generated by the buying and selling of sophisticated investors.<sup>16</sup> Unlike in products markets, where there is far less reason to believe pricing will be efficient, there is no “consumer protection” role for disclosure in securities markets.<sup>17</sup>

Because accurate pricing is the best protection for retail investors, the goal of securities law—at least with respect to disclosure requirements—should be to maximize the ability of capital markets to generate accurate

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13. Walter, *supra* note 7.

14. *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 439 (1976).

15. *Id.* at 448.

16. See Ann M. Lipton, *Halliburton and the Dog That Didn't Bark*, 10 DUKE J. CONST. L. & PUB. POL'Y 1, 16 (2015) (“Passive’ investors, those who rely solely on indices or other broad trading strategies . . . free-ride on the efforts of traders who analyze firm-specific information.”).

17. It bears emphasis that this statement is only true with regard to publicly traded securities. In designing disclosure requirements for *investment services*—such as investment advice, brokerage services, retirement planning, or mutual fund offerings—a focus on small retail investors is entirely appropriate. See Walter, *supra* note 10 (discussing the problem of “scam artist” financial advisers preying on unsophisticated parties).

prices efficiently. Small retail investors play little or no role in generating accurate market prices, so their needs and capabilities are irrelevant and the law should ignore them. Instead, regulators and issuers should tailor the form and content of disclosures to the needs of the sophisticated market participants whose trading activities actually determine the accuracy of market prices. Price efficiency is limited by the costs sophisticated investors bear in gathering and analyzing information, so regulators should design disclosure requirements to minimize these costs.

It is hardly a new insight that the principal goal of securities law is, or ought to be, promoting efficient capital markets to optimize resource allocation in the real economy.<sup>18</sup> Nor is it novel to suggest that courts and regulators should not primarily view securities law in terms of “protecting” ordinary investors—it is very nearly conventional wisdom among securities law scholars.<sup>19</sup> Influential scholars, ranging from William Douglas to Ralph Winter to Frank Easterbrook, have advanced powerful arguments—discussed throughout this piece—in favor of these propositions for at least three decades.<sup>20</sup> What is new is the amount of harm that an inappropriate focus on protecting retail investors threatens. In the early decades of federal disclosure law, and until fairly recently, the difference between a disclosure regime designed to reduce informational disadvantages for ordinary investors and a regime designed to promote market efficiency would not have been particularly stark. This is no longer the case.

Developments in financial and information technology have combined to drive an ever-widening wedge between the type of disclosures ordinary investors would easily comprehend and the type of disclosures that would maximize market efficiency. At one time the two disclosure philosophies could coexist relatively peacefully, but now they are flatly incompatible. The desire to gear disclosures to small investors now serves as an obstacle to developing disclosure requirements that would improve market efficiency, while providing little or no offsetting benefits to small investors themselves.

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18. As Professors Goshen and Parchomovsky put it, “scholarly analysis of securities regulation must proceed on the assumption that the ultimate goal of securities regulation is to attain efficient financial markets and thereby improve the allocation of resources in the economy.” Zohar Goshen & Gideon Parchomovsky, *The Essential Role of Securities Regulation*, 55 DUKE L.J. 711, 713 (2006); see also Ralph K. Winter, *On “Protecting the Ordinary Investor,”* 63 WASH. L. REV. 881, 883 (1988) (setting forth “the assumption that the goal of securities law is to maximize the efficiency of capital markets”).

19. Professors Goshen and Parchomovsky assert, rather dismissively, that “[a]ny serious examination of the role and function of securities regulation must sidestep the widespread, yet misguided, belief that securities regulation aims at protecting the common investor. Securities regulation is not a consumer protection law.” Goshen & Parchomovsky, *supra* note 18, at 713 (footnote omitted); see also Winter, *supra* note 18, at 883 (“[T]he investor least in need of more legal protection is the Ordinary Investor who holds a diversified portfolio and follows a buy-and-hold strategy . . .”).

20. See *infra* notes 36, 64, 134, 220 and accompanying text (citing Easterbrook & Fischel); see also *supra* note 18 and accompanying text (citing Winter).

This increasing mismatch stems from two important changes. The first is the ever-increasing complexity of financial instruments and the firms that employ them. As Professor Henry Hu explains in an influential article inspired by the 2008 financial crisis, financial and legal innovations have resulted in a level of complexity that presses up against the limits of the English language to depict.<sup>21</sup> Hu argues that the bewildering complexity of modern financial instruments poses a challenge to what he calls the “intermediary depiction model” of corporate disclosure, whereby a corporation issuing shares attempts to boil down all of the relevant facts and transmit them to investors in a single, compact document.<sup>22</sup> The boiling-down process inevitably leads to investors seeing only a distorted, simplified version of reality.<sup>23</sup> The distortion may be worse still if even the intermediary—the disclosing firm—does not understand the reality it seeks to depict.<sup>24</sup> The second development is the rise of information technology. Whatever their advantages in experience, expertise, and resources, investment professionals once faced the same fundamental human limitations as their less sophisticated counterparts. Prior to the spread of computers and the internet, investors—no matter how sophisticated—gathered and digested information on paper or orally and carried out calculations by hand (or with relatively crude mechanical assistance), and people executed trades on a trading floor with pencil and paper.<sup>25</sup> No longer. Now, professional investors employ state-of-the-art computers and sophisticated algorithms to gather, analyze, and act on new information, executing trades (on entirely electronic markets) on microsecond timescales, often with no direct human involvement.<sup>26</sup>

These technological developments could help to ameliorate the problems generated by increasing complexity. The massively increased capabilities for gathering, storing, and analyzing data could help ensure accurate pricing, even in the face of increasing financial complexity.<sup>27</sup> As

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21. See generally Henry T.C. Hu, *Too Complex to Depict? Innovation, “Pure Information,” and the SEC Disclosure Paradigm*, 90 TEX. L. REV. 1601 (2012).

22. *Id.* at 1608.

23. *Id.* at 1609 (suggesting that intermediary depiction “may offer little more than coarse outlines of the objective reality, too shadowy relative to what investors need”).

24. See *id.* (noting that “even a well-intentioned intermediary may not truly understand, or may not function as if he understands, the objective reality”).

25. See generally Jerry W. Markham & Daniel J. Harty, *For Whom the Bell Tolls: The Demise of Exchange Trading Floors and the Growth of ECNs*, 33 J. CORP. L. 865 (2008).

26. See Hu, *supra* note 21, at 1702 (discussing the proliferation of automated trading in modern secondary markets); Charles R. Korsmo, *High-Frequency Trading: A Regulatory Strategy*, 48 U. RICH. L. REV. 523, 537–38 (2014) (discussing the impact technology has had on markets).

27. Of course, the rise of information technology has not always been an unalloyed boon to market efficiency. See generally Merritt B. Fox et al., *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191 (2015) (cataloguing the potential efficiency-decreasing effects of several market features and trading practices enabled by modern information technology).

Professor Hu suggested, moving toward a pure information model of disclosure could at least partly overcome the limitations of an intermediary depiction model by presenting investors with “objective reality in its full, gigabyte richness.”<sup>28</sup> Full, gigabyte richness, however, poses obvious problems to those trying to make disclosures comprehensible to the ordinary investor, or trying to put ordinary investors on the same informational footing as sophisticated professionals. As a result, current regulations force investment professionals to deal with disclosures that oversimplify crucial aspects of reality and often come in forms not easily amenable to algorithmic parsing and analysis.

The ironic result is that by deferring to the needs and capabilities of ordinary investors, federal securities law reduces the very market efficiency that is their best protection. The more efficient the market, the better ordinary investors can protect themselves against fraud and information asymmetries by holding a diversified portfolio. As markets incorporate new information into prices faster and more accurately, ordinary investors’ risk of suffering losses from information asymmetries falls. The apparent conflict between the goal of protecting ordinary investors on the one hand and promoting market efficiency on the other is an illusion. A disclosure regime that maximizes market efficiency by tailoring disclosures to the needs of the professional investors who generate it also best protects ordinary investors. As far as disclosure requirements are concerned, regulations can best serve the needs and capabilities of ordinary investors by entirely ignoring them. For the sake of real Aunt Millies everywhere, the SEC should drag the fictional “Aunt Millie” out of the cellar and give her a hasty—if respectful—burial.

This argument has several policy implications that should inform the SEC as it undertakes its Disclosure Effectiveness Initiative (“DEI”). Most fundamentally, it should purge disclosure law of any lingering notions of protecting small investors or making disclosures comprehensible to them. Achieving this will entail revisiting the “Plain English” rules the SEC promulgated in the late 1990s.<sup>29</sup> While the ideals of clarity and comprehensibility remain equally valid, regulators should consider them from the perspective of the sophisticated professional rather than the novice. Similarly, the SEC should also jettison its assumption that “Plain English” is the best way to achieve them. Often, highly technical language is the best—or only—way to achieve sufficient clarity when dealing with highly technical subjects. Further, the SEC should jettison recent fairness-motivated efforts like Regulation Fair Disclosure (“Reg. FD”), which is designed to

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28. Hu, *supra* note 21, at 1610.

29. See Plain English Disclosure, Exchange Act Release Nos. 33-7497, 34-39593, 63 Fed. Reg. 6370 (Feb. 6, 1998); Plain English Disclosure, Exchange Act Release Nos. 33-7380, 34-38164, 62 Fed. Reg. 3152 (proposed Jan. 21, 1997).



provide information to all investors simultaneously—ordinary and sophisticated alike—because they are unnecessary and perhaps even counter-productive.<sup>30</sup> Setting aside concerns about misleading unsophisticated investors would also allow courts and the SEC to move beyond their tentative steps toward allowing, or even requiring, companies to provide management projections and other forward-looking or “soft” information that could aid sophisticated investors in valuing securities. Courts should also clarify that the “reasonable investor”—that stock character of securities-law jurisprudence—is a sophisticated investor whose activities help make market prices accurate.

Relatedly, the form of disclosure should be designed to minimize the analysis costs of sophisticated investment professionals. In particular, disclosure requirements should reflect the new reality that computers perform much of the most important analysis of new information. To the extent possible, issuers should provide disclosures to investors in a format that easily lends itself to computerized algorithmic analysis. In part, this means that issuers should provide data in a machine-readable format, where possible. It also means that the SEC should consider mandating that issuers use standardized formats for disclosures, making it easier for investors to design algorithms to “read” them and extract the new information. Fears that such proposals would be unfair to ordinary investors are misplaced.

Finally, the SEC should not allow misdirected concerns about the needs of ordinary investors to stand in the way of moving to the type of “pure information” paradigm of disclosure Professor Hu envisions.<sup>31</sup> Filtering information through an intermediary was necessary when it was expensive to transmit large amounts of data. It was also desirable when practical limits made it prohibitively expensive for outside investors to review and analyze large masses of data.<sup>32</sup> Information technology has dramatically reduced both limitations, rendering transmission of rich data possible and desirable. Disclosure of pure information would reduce problems of oversimplification and enable professional investors to get a clearer picture of

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30. For an extended critique of efforts to provide disclosures to all investors simultaneously, see generally Kevin S. Haerberle & M. Todd Henderson, *Information-Dissemination Law: The Regulation of How Market-Moving Information Is Revealed*, 101 CORNELL L. REV. 1373 (2016).

31. See generally Hu, *supra* note 21.

32. See *id.* at 1642–43 (explaining that growing internet bandwidth has made it possible to transmit far greater information to investors than ever before). The ability to store and analyze data has shown similar trends. Compare Tom Coughlin, *The Costs of Storage*, FORBES (July 24, 2016, 5:02 PM), <https://www.forbes.com/sites/tomcoughlin/2016/07/24/the-costs-of-storage/#540b3f0f3239> (explaining that one gigabyte of hard drive space now costs approximately two cents), with Drive to Replace Magnetic Storage, FINANCIAL POST, Apr. 22, 1995, at 22 (“In 1956, IBM unveiled the first commercial disc storage system called Ramac. The size of a large cupboard, it contained 50 24-inch discs, could store 5 megabytes—about 5 [million] characters of text—and cost almost \$50,000.”).

the underlying reality of the issuing firm—sometimes even a clearer picture than the firm’s managers may have. Accordingly, the SEC should put to rest chimerical fears that such a change would be unfair to ordinary investors.

Freeing disclosure law from its traditional concerns with fairness to ordinary investors would enhance the accuracy of securities prices, which would ultimately enhance the welfare of both the overall economy and ordinary investors. This Article proceeds in seven parts. Part II provides a brief introduction to disclosure law and the traditional understanding of this law in terms of fairness to and protection of ordinary investors. Part III introduces a model of securities markets and the various types of investors operating in them. Part IV considers the risks to ordinary investors that are relevant to disclosure law and how efficient markets can ameliorate them. Part V considers the mechanisms by which securities markets are made efficient and the role disclosure plays in these mechanisms, concluding that disclosure should be designed to reduce the costs borne by sophisticated investors in determining accurate prices. Part VI details how changing financial and information technologies have driven a wedge between the types of disclosures that are intelligible to ordinary investors and those that would best protect those investors by enabling sophisticated market actors to produce accurate prices. Part VII sets forth three policy proposals inspired by this analysis: (1) revising “Plain English” rules and Reg. FD; (2) making disclosure documents more amenable to computer analysis; and (3) moving toward a “pure information” disclosure paradigm.

## II. THE TRADITIONAL UNDERSTANDING OF DISCLOSURE LAW

### A. FEDERAL DISCLOSURE LAW

Modern federal securities regulation has three principal components: (1) mandatory disclosure; (2) prohibitions on securities fraud; and (3) restrictions on insider trading.<sup>33</sup> At the core of this triad are the mandatory disclosure requirements, which were the centerpieces of the Securities Act of 1933 and the Securities Exchange Act of 1934.<sup>34</sup> Unlike many of the other measures passed in the wake of the Great Depression, these acts largely forsake direct, substantive governmental regulation in favor of a regime “designed to disseminate information to investors, who in turn use this information in making investment decisions.”<sup>35</sup> The resulting

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33. See Goshen & Parchomovsky, *supra* note 18, at 716 (“The law of securities regulation may be divided into three broad categories: disclosure duties, restrictions on fraud and manipulation, and restrictions on insider trading.”); Haerberle & Henderson, *supra* note 30, at 1377 (describing mandatory-disclosure law, securities-fraud law, and insider-trading law as “the core of modern securities regulation”).

34. See Paredes, *supra* note 2, at 427 (“Disclosure is the SEC’s chief regulatory tool.”).

35. *Id.* at 423; see also William O. Douglas & George E. Bates, *The Federal Securities Act of 1933*, 43 YALE L.J. 171, 172–73 (1933) (arguing that the 1933 Act sought to protect investors

regulations require companies that issue publicly traded securities to file publicly with the SEC quarterly reports, annual reports, proxy statements, and a host of other informational disclosures. While the necessity and efficacy of mandatory disclosure has in many ways generated the most fundamental debate over securities regulation, the long-term trend has consistently been toward greater disclosure.<sup>36</sup>

In the ensuing eight decades, disclosure requirements for public issuers have continually expanded. Debate over mandatory disclosure may persist, but it is unlikely to engender any major rethinking of the general desirability of disclosure requirements.<sup>37</sup> The key source of modern disclosure requirements for public companies is the SEC's Regulation S-K, promulgated under the authority of the 1933 Act.<sup>38</sup> Regulation S-K requires regular disclosure of dozens of items ranging from qualitative descriptions of the firm's business and assets to quantitative financial metrics and executive compensation details. In 1980, the SEC revised Regulation S-K to formally require disclosure of "Management's discussion and analysis of financial condition and results of operations"—usually abbreviated as MD&A<sup>39</sup>—which are textual descriptions of the firm's "liquidity, capital resources, results of operations, and any other information . . . necessary to understand its financial condition and results."<sup>40</sup> Notably, MD&A requires

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without interfering in substantive business decisions); Fred Rodell, *Regulation of Securities by the Federal Trade Commission*, 43 YALE L.J. 272, 273 (1933) (stating that the 1933 Act aimed "to protect before punishing"); Steven L. Schwarcz, *Rethinking the Disclosure Paradigm in a World of Complexity*, 2004 U. ILL. L. REV. 1, 7 n.42 (2004) ("The focus of the congressional debate was on whether to choose disclosure or substantive regulation of the right of companies to issue securities as the policy that would inform the securities laws. President Roosevelt, influenced by the views of Louis D. Brandeis, advocated the disclosure approach.").

36. See Paredes, *supra* note 2, at 417 ("Perhaps the most hotly-contested debate in the history of securities regulation has been over the need for mandatory disclosure."). Several prominent scholars argue that mandatory disclosure is either unnecessary or does more harm than good. See generally HOMER KRIPKE, *THE SEC AND CORPORATE DISCLOSURE: REGULATION IN SEARCH OF A PURPOSE* (1979); Henry G. Manne, *Economic Aspects of Required Disclosure Under Federal Securities Laws*, in WALL STREET IN TRANSITION 21 (Henry G. Manne & Ezra Solomon eds., 1974); Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669 (1984); Paul G. Mahoney, *Technology, Property Rights in Information, and Securities Regulation*, 75 WASH. U. L.Q. 815 (1997); Paul G. Mahoney & Jianping Mei, *Mandatory vs. Contractual Disclosure in Securities Markets: Evidence from the 1930s* (Feb. 2006) (unpublished manuscript), <http://ssrn.com/abstract=883706>.

37. See Paredes, *supra* note 2, at 417 ("[A]s a matter of positive law, the debate has been settled for decades, with mandatory disclosure winning the day.").

38. See generally 17 C.F.R. § 229 (2016).

39. Management's Discussion and Analysis of Financial Condition and Results of Operations, 17 C.F.R. § 229.303 (2016); see also LOSS & SELIGMAN, *supra* note 2, at 177. Some form of MD&A disclosures began as early as the 1960s. See *Guides for Preparation and Filing of Registration Statements*, 33 Fed. Reg. 18,617 (Dec. 17, 1968); see also *Amendments to Annual Report Form, Related Forms, Rules, Regulations, and Guides; Integration of Securities Acts Disclosure Systems*, 45 Fed. Reg. 63,630 (Sept. 25, 1980).

40. Paredes, *supra* note 2, at 425.

issuers to disclose some types of trends and uncertainties and encourages them to disclose additional forward-looking information voluntarily. Congress bolstered this encouragement by providing a safe harbor for forward-looking statements in the Private Securities Litigation Reform Act of 1995.<sup>41</sup> In the wake of the Enron and WorldCom scandals, the Sarbanes–Oxley Act instructed the SEC to require issuers additionally to disclose off-balance sheet transactions, contingent liabilities, and various “good governance” related matters.<sup>42</sup>

In recent years, the SEC has added a new wrinkle to disclosure law by promulgating regulations requiring issuers to disseminate disclosures to all investors simultaneously. Historically, company management frequently provided new information to favored analysts or large investors prior to making it available to the public at large.<sup>43</sup> In 2000, however, the SEC moved to end this practice of selective release by promulgating Reg. FD, which requires issuers to disseminate material disclosures simultaneously market-wide.<sup>44</sup> The requirement of simultaneous release applies equally to formal mandatory disclosures and to informal, voluntary releases of material information.<sup>45</sup>

In practice, achieving simultaneous release has proved more difficult than the SEC anticipated in 2000. In a world of high-frequency and other algorithmic traders,<sup>46</sup> getting access to information even a split second sooner than other investors can be enough to reap large gains from the brief information asymmetry. Much to the embarrassment of the SEC, a *Wall Street Journal* article recently revealed that—due to the time it took the SEC to upload disclosure documents to its Electronic Data Gathering, Analysis, and

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41. See Private Securities Litigation Reform Act of 1995, Pub. L. No. 104-67, 109 Stat. 737, 749–56 (1995) (codified at 15 U.S.C. §§ 77z-2, 78u-5 (2012)).

42. See Sarbanes–Oxley Act of 2002, Pub. L. No. 107-204, §§ 401–409, 116 Stat. 745, 785–91 (codified as amended at 15 U.S.C. §§ 78m, 78p and codified at 15 U.S.C. §§ 7261–7266). See generally Disclosure in Management’s Discussion and Analysis About Off-Balance Sheet Arrangements and Aggregate Contractual Obligations, 68 Fed. Reg. 5982 (Feb. 5, 2003) (codified at 17 C.F.R. §§ 228–229, 249 (2016)).

43. See Selective Disclosure and Insider Trading, Exchange Act Release Nos. 33-7881, 34-43154, 65 Fed. Reg. 51,716, 51,716 (Aug. 24, 2000) (codified at 17 C.F.R. §§ 240, 243, 249 (2016)).

44. See Regulation FD, 17 C.F.R. § 243.100 (2016) (“Whenever [a public company] discloses any material nonpublic information regarding [the company] or its securities . . . , [it] shall make public disclosure of that information . . . [s]imultaneously.”).

45. See Selective Disclosure and Insider Trading, Exchange Act Release Nos. 33-7881, 34-43154, 65 Fed. Reg. at 51,719 (“As a whole, the regulation requires that when an issuer makes an intentional disclosure of material nonpublic information . . . , it must do so in a manner that provides general public disclosure, rather than through a selective disclosure.”); Haerberle & Henderson, *supra* note 30, at 1386 (emphasizing that the “simultaneous-dissemination requirement applies to the disclosure of all material corporate information—whether or not that disclosure was compelled by law in the first place”).

46. See *infra* Part II.A.

Retrieval (“EDGAR”) online disclosure system—public disclosure filings were available on some premium subscription data feeds and on an SEC server a few seconds before they appeared on the public website.<sup>47</sup> As a result, investors with the technological savvy to access the SEC server or the resources to pay large subscription fees had access to information for a few seconds before the information was available to less sophisticated investors. In response to the publicity the “problem”<sup>48</sup> generated, the SEC began “implementing an enhancement to [its] system designed to ensure that Edgar filings are available to the public on the SEC website before such filings are made available to . . . subscribers.”<sup>49</sup>

Relatedly, the New York State Attorney General’s Office—traditionally “the most prominent state-level regulator of Wall Street”<sup>50</sup>—has recently moved to prevent even parties other than the issuers from releasing material information on an unequal basis.<sup>51</sup> In recent years, it had become commonplace for securities analysts and other researchers to release their reports to the market on a tiered basis, providing the information to paying subscribers a few minutes or seconds before making it generally available.<sup>52</sup> Professors Haeberle and Henderson give the example of the University of Michigan’s Index of Consumer Sentiment (“Michigan Index”), an influential survey of consumer sentiment that often moves market prices when it is released.<sup>53</sup> The University of Michigan sold the exclusive right to

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47. Ryan Tracy & Scott Patterson, *Fast Traders Are Getting Data from SEC Seconds Early*, WALL STREET J. (Oct. 29, 2014, 2:18 PM), <http://www.wsj.com/articles/fast-traders-are-getting-data-from-sec-seconds-early-1414539997>; see also Jonathan L. Rogers et al., *Run EDGAR Run: SEC Dissemination in a High-Frequency World* (Chi. Booth Sch. of Bus. Research Paper Series, Paper No. 14-36, 2016), <http://ssrn.com/abstract=2513350> (showing that the “majority of filings are available to paying subscribers of the SEC’s PDS feed before they are posted to the SEC website”). See generally Robert J. Jackson, Jr. & Joshua R. Mitts, *How the SEC Helps Speedy Traders* (Columbia Law Sch. Working Paper Series, Working Paper No. 501, 2014), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2520105](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2520105) (detailing how corporate filings were frequently available to technologically savvy investors and paid subscribers before appearing on the SEC’s EDGAR website).

48. See generally Tracy & Patterson, *supra* note 47.

49. Scott Patterson, *SEC Plans to Fix Flaw in Electronic Distribution System*, WALL STREET J. (Dec. 26, 2014, 4:33 PM), <http://www.wsj.com/articles/sec-plans-to-fix-flaw-in-electronic-distribution-system-1419621428>.

50. Haeberle & Henderson, *supra* note 30, at 1389.

51. *Id.*

52. See, e.g., Brody Mullins et al., *Traders Pay for an Early Peek at Key Data*, WALL STREET J. (June 12, 2013, 8:28 PM), <http://www.wsj.com/articles/SB10001424127887324682204578515963191421602> (stating that “selling early access [to material information] is routine” and citing estimates that subscriptions to such early releases will generate \$75 million in revenue in 2013); Michael Rothfeld & Brody Mullins, *Peeks Are Still Available for Some Key Economic Data*, WALL STREET J. (July 8, 2013, 9:19 PM), <http://www.wsj.com/articles/SB10001424127887324867904578594110309778332> (noting that “high-speed traders and hedge funds pay nongovernmental organizations for early access to economic reports and other data that often affect financial markets”).

53. See Haeberle & Henderson, *supra* note 30, at 1390 (describing the Michigan Index and its dissemination by Thomson Reuters).

distribute index revisions early to Thomson Reuters for approximately \$1.4 million in annual revenue.<sup>54</sup> In turn, Thomson Reuters made the results available two seconds before wider release to subscribers paying approximately \$6,000 per month.<sup>55</sup> The Michigan Index was one of hundreds of pieces of financial information that Thomson Reuters made available in specially designed machine-readable formats intended to facilitate algorithmic review by sophisticated high-speed traders.<sup>56</sup> Under threat of investigation from the New York Attorney General, Thomson Reuters entered into a non-prosecution agreement in which it agreed to stop distributing material information in a staged fashion.<sup>57</sup> This result is striking, given that non-issuer third parties are not normally covered by Reg. FD or other disclosure requirements.<sup>58</sup>

B. *THE INITIAL FOCUS ON ORDINARY INVESTORS*

Despite the relative paucity of the legislative record,<sup>59</sup> there is little doubt that Congress had investor protection in mind when it passed the 1933 Act.<sup>60</sup> In the words of the accompanying senate report, legislators designed the disclosure requirements “to prevent further exploitation of the public by sale of unsound, fraudulent, and worthless securities through misrepresentation[,] . . . to protect honest enterprise, seeking capital by honest presentation against the competition afforded by dishonest securities offered to the public through crooked promotion.”<sup>61</sup>

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54. *Id.* at 1391.

55. *Id.*

56. See Grace Xing Hu et al., *Early Peek Advantage? Efficient Price Discovery with Tiered Information Disclosure* 9 (Oct. 6, 2015) (unpublished manuscript), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2361311](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2361311) (Thomson Reuters’ “low-latency news feed product . . . releases more than 1,200 economic indicators in formats specially designed for algorithm trading.”).

57. See Haerberle & Henderson, *supra* note 30, at 1392 (New York Attorney General “Schneiderman’s office entered into agreements with information-dissemination intermediaries in which those businesses agreed to cease and desist their tiered dissemination practices.”).

58. See *id.* at 1391 (“The school . . . f[e]ll far outside the scope of Reg. FD’s public-company coverage.”).

59. See Robert L. Knauss, *A Reappraisal of the Role of Disclosure*, 62 MICH. L. REV. 607, 613 (1964) (“In the United States, the disclosure device for regulation of issuers of securities was adopted with relatively little discussion as to its merits.”); Kenneth B. Firtel, Note, *Plain English: A Reappraisal of the Intended Audience of Disclosure Under the Securities Act of 1933*, 72 S. CAL. L. REV. 851, 862 (1999) (“[T]he [19]33 Act passed quickly through Congress with little to no debate over its merits.”).

60. For an extended discussion of the legislative purpose behind the 1933 Act, see Firtel, *supra* note 59, at 858 (concluding that “through the ‘33 Act [sic], Congress sought to provide for full and fair disclosure to the average investor”). See also LARRY D. SODERQUIST, UNDERSTANDING THE SECURITIES LAWS 218 (4th ed. 2005) (“The function of a prospectus is to communicate through effective disclosure to the investor.” (footnote omitted)).

61. S. REP. NO. 73-47, at 1 (1933).

Through disclosure, the 1933 Act sought to achieve at least four intertwining objectives. First, it sought to provide fair warning to investors about risky or fraudulent investments. As future Speaker of the House Sam Rayburn put it, “we seek . . . to make available to the prospective purchaser, if he is wise enough to use it, all information that is pertinent that would put him on notice and on guard, and then let him beware.”<sup>62</sup> Second, by requiring full disclosure, it sought to discourage risky and fraudulent schemes in the first place.<sup>63</sup> Third, the 1933 Act sought to reassure jittery investors that it was safe to re-enter the stock market in the wake of the Great Crash.<sup>64</sup> Fourth, it intended mandatory disclosures to reduce information asymmetries between investors and company managers. Representative Rayburn put it most clearly: “The purpose of this bill is to place the owners of securities on a parity, so far as is possible, with the management of the corporations, and to place the buyer on the same plane so far as available information is concerned, with the seller.”<sup>65</sup>

Of these four initial goals, three and a half are primarily concerned with the ordinary, unsophisticated investor. Measures to warn against and deter overly risky or fraudulent schemes are plainly more salient to small retail investors, as are reassurances that the market is safe to invest in. Information asymmetries between management and the market, on the other hand, are concerning for large and small investors alike. Nonetheless, concerns over information asymmetries may be more acute for retail investors who, unlike market professionals, have little or no ability to gather reliable market information absent disclosure. The driving motivation behind all four goals is to protect ordinary investors.<sup>66</sup>

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62. 77 CONG. REC. 2919 (May 5, 1933). *See generally* LOSS & SELIGMAN, *supra* note 2, at 36.

63. In this context, it is obligatory to quote Justice Brandeis that “[s]unlight is said to be the best of disinfectants; electric light the most efficient policeman.” LOUIS D. BRANDEIS, *OTHER PEOPLE’S MONEY AND HOW THE BANKERS USE IT* 92 (Martino Publishing, 2009).

64. *See* Easterbrook & Fischel, *supra* note 36, at 692 (“The justification most commonly offered for mandatory disclosure rules is that they are necessary to ‘preserve confidence’ in the capital markets.”). Forty years after the 1933 Act, then SEC Commissioner A.A. Sommer, Jr. echoed this notion: “I do not believe investor confidence can be measured empirically. It is a matter of subtle psychology. Investors should be assured that they are receiving the information necessary to make informed decisions.” A.A. Sommer, Jr., Comm’r, Sec. & Exch. Comm’n, “Required Disclosure in the Stock Market”: The Other Side, Address to the Conference Board (Sept. 27, 1973).

65. 77 CONG. REC. 2918 (1933).

66. *See* Haerberle & Henderson, *supra* note 30, at 1376–77 (claiming these interrelated laws “appear to be genuinely aimed at a primary goal that is familiar: making the stock market fairer for ordinary, long-term investors”). This focus makes a great deal of sense in the context of overriding concern about fearful investors withdrawing capital from the public markets in the wake of the Great Crash—the same concern that motivated President Roosevelt’s famous assurance “that the only thing we have to fear is fear itself.” President Franklin Delano Roosevelt, First Inaugural Address (Mar. 4, 1933).

## C. THE MODERN "BALANCED" APPROACH

Scholars have critiqued policymakers' focus on ordinary investors almost from the beginning. Perhaps the oldest and most obvious criticism of targeting disclosures to ordinary investors is that it is simply unrealistic because they do not read them and, moreover, would be wasting their time and effort if they did. William Douglas, who would go on to become Chairman of the SEC and a justice of the Supreme Court, made this point at the very outset in 1933, noting that "an [ordinary] investor has neither the time, money, nor intelligence to assimilate the mass of information" in corporate disclosures.<sup>67</sup> Professor Homer Kripke later took this point up and gave it emphatic expression in a series of books and articles criticizing what he called "the myth of the informed layman."<sup>68</sup>

Kripke's critique is twofold. First, he echoes earlier arguments that disclosure documents, no matter how clearly written or simplified, are beyond the understanding of ordinary investors.<sup>69</sup> Second, he argues that efforts to simplify disclosures in order to make them comprehensible to average investors unavoidably made them less useful to the professionals who actually could understand and use them.<sup>70</sup> In Kripke's view, the result of this misguided focus was that company filings had been "converted . . . from disclosure documents to rituals . . . which an intelligent investor would not take seriously."<sup>71</sup> In 1972, Howard Marsh, Jr. took these criticisms to their logical conclusion, arguing that the SEC should design disclosure mandates for "those persons who are capable of understanding the transactions being described."<sup>72</sup>

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67. William O. Douglas, *Protecting the Investor*, 23 *YALE REV.* 521, 523 (1934).

68. See generally KRIPKE, *supra* note 36; Kripke, *supra* note 4; Homer Kripke, *The SEC, the Accountants, Some Myths and Some Realities*, 45 *N.Y.U.L. REV.* 1151 (1970).

69. See KRIPKE, *supra* note 36, at 14 ("[T]he SEC overestimates the average investor's ability to master the complexities of the financial picture of the typical issuer, and therefore has failed . . . to understand that its disclosure documents can be used effectively only by professionals." (citation omitted)); Kripke, *supra* note 4, at 633 (ridiculing the SEC's "theory that in the selection of investments from the numerous offerings of this very intricate merchandise, a simple readable prospectus on one company will enable the man in the street to make a wise choice between one company and the thousands of others about which no one may be telling him anything").

70. See Kripke, *supra* note 4, at 633 ("Th[e] myth that it is the layman to whom the prospectus is addressed permeates the SEC's concept of disclosure. It limits the usefulness of disclosure to those who should be its proper objective, the sophisticated investor and professional through whom information ought to filter down to the layman."); see also *id.* (claiming that "the myth forces the SEC into requiring emphasis on risk features of the offering with a simplicity that is sometimes less than a full picture").

71. KRIPKE, *supra* note 36, at 15.

72. Panel Discussion, *New Approaches to Disclosure in Registered Security Offerings*, 28 *BUS. LAW.* 505, 527 (1973); see also Firtel, *supra* note 59, at 866 ("The SEC should not attempt to disclose to lay investors because they are not able to understand the complexities of transactions, and any attempt to do so only causes inefficiencies within the system.").



As discussed in Parts II and III, developments in economic theory have added new insights to the debate over whether ordinary investors can or should be expected to read and understand disclosure documents.<sup>73</sup> Even before Kripke's criticism, however, the SEC acknowledged questions about the proper audience for disclosures. In the *Wheat Report*, an SEC-appointed committee tasked with re-evaluating its disclosure requirements addressed the question:

At what audience should disclosure be aimed? Is [disclosure] . . . intended primarily to aid the unsophisticated? Is it, on the contrary, designed to assist the assiduous student of finance who searches for every clue to the intrinsic value of securities? . . . A balance must be struck which reflects, to the extent possible, the needs of all who have a stake in the securities markets.<sup>74</sup>

The *Wheat Report* concluded that disclosure should seek to aid both the small investor and the market professional alike, and that "a pragmatic balance must be struck between the needs of the unsophisticated investor and those of the knowledgeable student of finance."<sup>75</sup> An influential judicial decision soon echoed this conclusion, holding that:

Three distinct classes of investors . . . must be informed by the prospectus: (1) the amateur who reads for only the grosser sorts of disclosures; (2) the professional advisor and manager who studies the prospectus closely and makes his decisions based on the insights he gains from it; and (3) the securities analyst who uses the prospectus as one of many sources in an independent investigation of the issuer.<sup>76</sup>

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73. In some ways, the developments in financial theory have demonstrated directly why disclosures are unlikely to be useful to ordinary investors. Even if ordinary investors were capable of understanding the information contained in disclosure documents, they would not be able to put them to any productive use without a thorough understanding of modern financial theory. In order to actually use disclosed information to price a security, an investor would need to understand the Capital Asset Pricing Model, arbitrage pricing theory, the Fama-French Three-Factor Model, how to calculate risk premia, and a host of other financial topics not typically taught outside of graduate programs in finance or economics. See generally RICHARD A. BREALEY ET AL., *PRINCIPLES OF CORPORATE FINANCE* (10th ed. 2011) (providing a basic introduction to methods for pricing securities). I am grateful to Robert T. Miller for this insight.

74. SEC. & EXCH. COMM'N, *DISCLOSURE TO INVESTORS: A REAPPRAISAL OF FEDERAL ADMINISTRATIVE POLICIES UNDER THE '33 AND '34 ACTS* 51-52 (1969) [hereinafter *WHEAT REPORT*].

75. *Id.* at 10.

76. *Feit v. Leasco Data Processing Equip. Corp.*, 332 F. Supp. 544, 565-66 (E.D.N.Y. 1971). The *Feit* court went on to emphasize that

the objectives of full disclosure can be fully achieved only by complete revelation of facts which would be material to the sophisticated investor or the securities professional not just the average common shareholder. But, at the same time, the

This policy of “balancing” the needs of the professional and the amateur continues to guide the SEC.<sup>77</sup>

It is tempting to assume that the SEC’s talk of small investors is merely nice-sounding and politically advantageous but ultimately empty rhetoric—what Senator Daniel Patrick Moynihan once referred to in another context as “boob bait for the Bubbas.”<sup>78</sup> Unfortunately, however, the SEC’s actions suggest that, for the most part, the commissioners actually believe what they have been saying. Over the past 50 years, the SEC has rolled out one initiative after another to render disclosures more accessible to ordinary investors, in the apparent belief that ordinary investors can—and should be expected to—make use of them. As early as the 1950s, the SEC issued Securities Act releases encouraging issuers to make disclosures more concise and “readable.”<sup>79</sup> In 1966, it issued a release admonishing issuers to avoid complicated legal and technical language that would make disclosure documents more difficult for investors to understand.<sup>80</sup> The *Wheat Report* also emphasized the SEC’s consistent efforts to simplify disclosure documents and tried to give them teeth by recommending a rule that would deny an accelerated effective date for prospectuses that were “unnecessarily complex, lengthy or verbose.”<sup>81</sup> In 1971, the SEC began allowing issuers to include pictorial and graphic representations of information, again on the theory that doing so would render the relevant information easier to digest and understand.<sup>82</sup>

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prospectus must not slight the less experienced. They are entitled to have within the four corners of the document an intelligible description of the transaction.

*Id.* at 566.

77. See Firtel, *supra* note 59, at 871 (“Despite the critiques of the disclosure process, the SEC has steadfastly maintained *The Wheat Report’s* view that disclosure is meant for all types of investors.”).

78. Todd S. Purdum, *The Newest Moynihan*, N.Y. TIMES: BOOKS (Aug. 7, 1994), <http://www.nytimes.com/books/98/10/04/specials/moynihan-mag94.html>.

79. See, e.g., Adoption of Amendments to Rules and Forms Under the Securities Act of 1933, the Securities Exchange Act of 1934, and the Investment Company Act of 1940, Exchange Act Release No. 3519, Fed. Sec. L. Rep. (CCH) [1952-1956 Transfer Binder] ¶ 76,312, at 79,344 (Oct. 11, 1954) (requiring the SEC to “consider whether there has been a bona fide effort to make the prospectus reasonably concise and readable” before granting a request for an accelerated effective date).

80. See Clarification of Prospectuses, Exchange Act Release No. 33-4844, 31 Fed. Reg. 10,667 (Aug. 11, 1966) (beginning “[t]he Securities and Exchange Commission requests the cooperation of issuers is improving the clarity of prospectuses” and attributing the lack of clarity to “the use of complex, legal or other technical language”); see also Firtel, *supra* note 59, at 873 (“Recognizing that the chief goal of registration was to provide investors with disclosure that they could readily understand, [Securities Act Release No. 4844] concluded that a ‘[f]ailure to use language that is clear and understandable by the investor may operate to defeat the purpose of the prospectus.’” (second alteration in original)).

81. WHEAT REPORT, *supra* note 74, at 12. This suggestion later became part of Rule 461.

82. See Guide Relating to Pictorial or Graphic Representations in Prospectuses, 36 Fed. Reg. 13,915 (July 28, 1971).

More recently, the SEC has undertaken two concrete measures in an effort to make disclosure more useable by and fairer to ordinary investors: promulgating “Plain English” rules and Reg. FD. The “Plain English” rules grew out of the recommendations of the Task Force on Disclosure Simplification created by SEC Chairman Arthur Levitt in 1995.<sup>83</sup> The agency formally adopted them in 1998 in the form of amendments to a number of pre-existing rules governing disclosure.<sup>84</sup> Many of the goals of the “Plain English” rules are laudable and likely beneficial. Others are more problematic. Of immediate relevance to this Article are amendments to Rule 421 requiring issuers to “[p]resent information in clear, concise sections, paragraphs, and sentences” and encouraging them to “use short explanatory sentences and bullet lists” while “[a]void[ing] legal and highly technical business terminology.”<sup>85</sup> The new rule also cautioned against including in disclosures “[c]omplex information copied directly from legal documents without any clear and concise explanation.”<sup>86</sup> The “Plain English” rules represented a culmination of the SEC’s longstanding concern for the needs of ordinary investors, asking issuers to consider “who is our intended reader? What percentage of the company’s shareholders are retail investors versus institutional investors? What will investors need to know to make informed investment decisions?”<sup>87</sup>

As discussed above, in addition to requiring issuers to craft the contents of disclosures with an eye to the capabilities of ordinary investors, the SEC has also sought to regulate the timing of disclosures through Reg. FD in an effort to make the market fairer. Promulgating the rule in 2000, the SEC intended Reg. FD to prevent issuers from distributing information preferentially to sophisticated professional market actors, instead requiring them to disseminate new material information in a fashion “reasonably designed to provide broad, non-exclusionary distribution of the information to the public.”<sup>88</sup> Influential state regulators like the Attorney General of New York have suggested that such requirements ought also to be enforced, in one manner or another, against even non-issuers—such as securities analysts—who produce market-moving information.<sup>89</sup> These efforts again

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83. See U.S. SEC. & EXCH. COMM’N, REPORT OF THE TASK FORCE ON DISCLOSURE SIMPLIFICATION (1996), <https://www.sec.gov/news/studies/smpl.htm> (making several recommendations as to the use of “plain English” in corporate disclosures).

84. See Plain English Disclosure, Exchange Act Release Nos. 33-7497, 34-39593, 63 Fed. Reg. 6370 (Feb. 6, 1998) (amending Rule 421, Rule 461, and Items 501, 502, and 503 in Regulations C, S-B, and S-K).

85. *Id.* at 6371.

86. *Id.* at 6384.

87. Isaac C. Hunt, Jr., Comm’r, U.S. Sec. & Exch. Comm’n, Remarks at the Plain English Campaign’s 5th International Conference (July 17, 1997).

88. 17 C.F.R. § 243.101(e)(2) (2016).

89. See *supra* notes 54–58 and accompanying text.

demonstrate dedication to the idea that disclosures should be read and used directly by ordinary investors.

### III. A MODEL OF PARTICIPANTS IN THE SECURITIES MARKETS

In evaluating the SEC's approach to disclosure, it is useful to have in mind at least a simplified picture of the securities markets and the various types of investors participating in them. This Part introduces a typology of market participants, grouped by the strategies they employ to pursue financial gain through trading securities. This results in four investor types: (1) sophisticated information traders; (2) noise traders; (3) portfolio traders; and (4) market makers. This characterization is unavoidably somewhat arbitrary, and the types undoubtedly overlap in real life.<sup>90</sup> Other categorizations are possible.<sup>91</sup> In particular, both noise traders and portfolio traders could be lumped under the heading of "ordinary" investors, as most retail investors are one or the other. This model treats them separately, however, because they face very different types of risks and costs, leading to different considerations when evaluating the design of disclosure requirements.

#### A. SOPHISTICATED INFORMATION TRADERS

Information traders seek to profit from buying and selling securities they perceive to be mispriced based on the information they gather and generate. Their goal is to buy securities that are underpriced and sell securities that are overpriced. The "sophisticated" denotation specifies investors with a realistic prospect of doing so successfully.<sup>92</sup> This

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90. Some sophisticated institutional investors may, for example, be information traders at some times and portfolio traders at others. Likewise, many small investors are likely some combination of portfolio traders and noise traders.

91. For other approaches to categorizing types of investors, see, e.g., Goshen & Parchomovsky, *supra* note 18, at 714-15, 715 n.8 (dividing market participants into "insiders," "information traders," "liquidity traders," "noise traders," and "market makers"); Tom C.W. Lin, *Reasonable Investor(s)*, 95 B.U. L. REV. 461, 466-76 (2015) (considering "the reasonable investor," "the irrational investor," "the active investor," "the sophisticated investor," and "the entity investor"); and Winter, *supra* note 18, at 883 (dividing investors into "Ordinary Investor[s]," "Speculator[s]," "Institutional Investor[s]," and "Entrepreneur[s] in the Market for Management Control"). My approach most closely follows that of Professors Haerberle and Henderson, who use their model to assess the effects of simultaneous disclosure requirements like Reg. FD. See Haerberle & Henderson, *supra* note 30, at 1397 (grouping investors into "information traders, portfolio traders, noise traders, and professional-liquidity-providing traders").

92. This category largely tracks Haerberle and Henderson's definition of "information traders" and is also similar to Goshen and Parchomovsky's use of the term. See Goshen & Parchomovsky, *supra* note 18, at 723 (defining them as traders who "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"); Haerberle & Henderson, *supra* note 30, at 1398 ("Information traders generally purchase and sell stocks based on information as to companies' fundamental values that is not yet reflected in market prices.").

distinguishes them from noise traders (considered below), who also seek to profit on new information, but do so foolishly with no hope of anything but accidental success. Success as an information trader generally requires a high degree of investment in human expertise, technological capability, or—more and more frequently—both.<sup>93</sup> Archetypical sophisticated information traders include hedge funds and other institutional investors, actively managed mutual funds, private equity funds, and at least some high-frequency traders.

Sophisticated information traders can profit from a combination of two basic types of comparative advantage—speed and analysis.<sup>94</sup> With respect to a speed advantage, an investor can profit from being able to receive, process, and act on new information before prevailing market prices fully reflect it. High-speed algorithmic “news-reader” traders typify this strategy. These traders use computer-readable news feeds, such as those Bloomberg produces, and carefully constructed computer programs to trade on new information as it appears without a human intermediary.<sup>95</sup> The new information can be anything from changes in oil prices to weather reports to terrorist attacks to a chief executive officer’s (“CEO’s”) cancer diagnosis. The profit opportunity stems not primarily from superior analysis of the new information’s detailed ramifications, but rather from the ability to act on the information’s grosser, more obvious implications more quickly than other investors—often within microseconds.<sup>96</sup>

In terms of an analysis advantage, an investor can profit from being better able to deduce the nuanced implications of new information. Fundamental-value money managers typify this strategy, of whom Warren Buffett is perhaps the best-known example.<sup>97</sup> Such managers use sophisticated technology, but may also rely more directly on human brainpower to scrutinize company disclosures and economic data in an attempt to identify mispriced securities. While sophisticated high-speed traders profit primarily from importing relatively obvious information into market prices, sophisticated fundamental-value investors profit primarily

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93. See Haerberle & Henderson, *supra* note 30, at 1398 (noting that “to compete in this game, one must have considerable resources, including access to first-rate analysis and state-of-the-art trade-execution systems”).

94. These can, of course, overlap. I consider them separately because, in practice, they reflect starkly different kinds of approaches.

95. See Peter Gomber et al., High-Frequency Trading 23–24 (Mar. 2011) (unpublished manuscript), [https://papers.ssrn.com/sol3/papers2.cfm?abstract\\_id=1858626](https://papers.ssrn.com/sol3/papers2.cfm?abstract_id=1858626) (describing the use of automated newsreader algorithms by high-frequency traders).

96. See Korsmo, *supra* note 26, at 524–25.

97. See Henry T.C. Hu, *Buffett, Corporate Objectives, and the Nature of Sheep*, 19 CARDOZO L. REV. 379, 400–01 (1997) (“As investors, Warren Buffett and Charlie Munger have made their fortunes through focusing on the difference between the intrinsic value of a security and the security’s trading price.”).

from generating less obvious and higher quality information and importing it into the market.<sup>98</sup>

### B. NOISE TRADERS

Noise traders are what might also be called “unsophisticated information traders.”<sup>99</sup> Like their sophisticated counterparts, they seek to profit from buying and selling securities they perceive to be mispriced, hoping to buy underpriced securities and sell overpriced ones.<sup>100</sup> Unlike their sophisticated counterparts, however, they have no realistic prospect of doing so successfully on a consistent basis. They possess neither the speed advantages necessary to profit from newly released public information before prices reflect it nor the analysis advantages necessary to profit from deducing new and superior information from the sources available to them.<sup>101</sup> Any hot tips they pick up from reading *Heard on the Street* or their E\*TRADE newsfeed will have long since been reflected in stock prices by the activity of higher speed traders. Further, any insights they glean from closely studying corporate disclosures and other public information will be inferior to those the professional analysts working for institutional investors produce.<sup>102</sup> As a result, noise traders “operate on the false premise that they possess a profitable informational advantage.”<sup>103</sup>

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98. See Haerberle & Henderson, *supra* note 30, at 1400 (noting that high-speed traders’ “work merely gets information into stock prices milliseconds before it would otherwise find its way into those prices,” and analysts “get[] more and better information into stock prices after post-information-release analysis that occurs not within milliseconds, but instead over the course of minutes, hours, days, or even weeks”).

99. See Goshen & Parchomovsky, *supra* note 18, at 724 (“Noise traders often believe that they are in possession of valuable information, and invest *as if* they are information traders.”).

100. *Id.* (noting that many noise traders “collect and evaluate information similarly to information traders and attempt to make economically rational and informed investment decisions”).

101. *Id.* at 724–25 (noting that noise traders “are less efficient than information traders” in gathering and analyzing information, and concluding that they will “lose more frequently to informed traders and incur wasteful transaction costs” as a result).

102. A popular misconception is that an investor does not need to beat professional analysts to beat the market, and that she need only be better than average to earn better-than-average returns. Intuitively, it seems as though somebody who knows *something* should do better on the market than somebody who knows nothing. Perhaps surprisingly, this is not true in an efficient market. When an investor buys or sells on the market, she is competing with the entire market. It does no good to know better than Aunt Millie if other investors know better than Aunt Millie, too, and—more to the point—also know better than you. If Aunt Millie’s noise trading causes a stock to be mispriced, the traders working the proprietary desk at Goldman Sachs are going to notice the mispricing and profit from it far more quickly than an “above average” investor. Economist Burton Malkiel took this insight to “its logical extreme,” saying that perfect efficiency “means that a blindfolded monkey throwing darts at a newspaper’s financial pages could select a portfolio that would do just as well as one carefully selected by the experts.” BURTON G. MALKIEL, *A RANDOM WALK DOWN WALL STREET* 16 (4th ed. 1985). The real world falls short of this extreme, but perhaps not by much.

The *Wall Street Journal* famously tested the proposition in a long-running feature pitting top investment managers against darts. Georgette Jasen, *Journal’s Dartboard Retires After 14 Years of Stock Picks*, WALL STREET J. (Apr. 18, 2002, 12:01 AM),

Noise traders earned their name because their trading activities do not transmit any useful information into the market—in the language of information theory, their activity represents “noise” rather than “signal.”<sup>104</sup> This is not to say that noise traders’ activity is totally random or unpredictable, nor does it suggest that the activity of noise traders will naturally “cancel out.” A growing body of research in behavioral finance suggests that individuals display “irrational” biases in their decision-making that are, to some degree, predictable.<sup>105</sup> This predictability can lead to a herding phenomenon with the potential to affect market prices if sophisticated information traders do not counteract it.<sup>106</sup>

As the above description suggests, any unsophisticated investor who attempts to read and extract useful information from an SEC disclosure document is likely to be a noise trader.<sup>107</sup> Thus, many—if not most—Aunt

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<http://www.wsj.com/articles/SB10190809017144480>. While they did not actually use blindfolded monkeys to throw the darts, they used a suitably close substitute: journalists. The results were equivocal, with the professionals winning 61% of the contests, and the darts winning 39%. *Id.* This narrow win for the professionals, however, ignored the fees they charge clients, as well as the fact that they chose more risky and less tax-efficient portfolios. *Id.* The *Wall Street Journal's* readers squared off against the darts in a subsequent feature, and the darts triumphed “with 30 wins out of 49 contests,” despite the fact that the readers are undoubtedly better informed than the darts (or the monkeys throwing them). Rachel Louise Ensign, *Darts Top Readers in Final Print Contest*, WALL STREET J. (Apr. 14, 2013), <http://www.wsj.com/articles/SB10001424127887324504704578410864000872642>.

103. Haeberle & Henderson, *supra* note 30, at 1403; *see also* Goshen & Parchomovsky, *supra* note 18, at 724 (“Noise traders often believe that they are in possession of valuable information, and invest as if they are information traders.” (emphasis in original)).

104. *See generally* JOHN R. PIERCE, AN INTRODUCTION TO INFORMATION THEORY: SYMBOLS, SIGNALS AND NOISE (2d rev. ed. 1980).

105. *See, e.g.*, DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS 239 (rev. & expanded ed. 2009) (“Our irrational behaviors are neither random nor senseless—they are systematic and predictable.”); Stephen J. Choi & A.C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1, 2 (2003) (“These biases are not merely isolated quirks, rather, they are consistent, deep-rooted, and systematic behavioral patterns.”); Lin, *supra* note 91, at 471 (noting that “the irrational investor typology describes a population of investors that is predictably flawed and cognitively bounded”).

106. *See, e.g.*, J. Bradford De Long et al., *Noise Trader Risk in Financial Markets*, 98 J. POL. ECON. 703, 734–36 (1990) (discussing how “noise trader risk is a cost that an issuer of a security that will be publicly traded must bear”); Haeberle & Henderson, *supra* note 30, at 1404 (“[Noise traders] act as a mob. Until better-informed traders correct it, this mob action causes market prices to go up (based on mob buying) or down (based on mob selling) . . . .”); Rahul Verma et al., *The Impact of Rational and Irrational Sentiments of Individual and Institutional Investors on DJIA and S&P500 Index Returns*, 18 APPLIED FIN. ECON. 1303, 1314 (2008) (concluding that “irrational sentiments have a more rapid and pronounced effect that rational sentiments on stock market returns”).

107. Goshen and Parchomovsky divide noise traders into “irrational traders, who follow fads, rumors, and investment strategies that bear no economic rationale” and “stock pickers, who collect and evaluate information . . . and attempt to make economically rational and informed investment decisions.” Goshen & Parchomovsky, *supra* note 18, at 724 (emphases in original).

Millies are noise traders. As such, noise traders make up at least one species of ordinary investor, though perhaps not a reasonable one.<sup>108</sup>

### C. PORTFOLIO TRADERS

Portfolio traders are those who invest in securities as a method of saving income and accumulating wealth, but who do not seek to exploit any speed or analytical advantage to earn abnormal profits. Instead of seeking to identify mispriced securities, portfolio traders simply buy and hold a diversified portfolio of securities. Rather than trying to time the market, portfolio traders buy securities when they have surplus funds available for investment and sell them when they need funds for consumption.<sup>109</sup> Portfolio traders can assemble a diversified portfolio themselves via any number of low-cost retail brokerages such as Charles Schwab or E\*TRADE. Or they can invest—directly or through a pension plan—in a huge variety of index and mutual funds designed to offer diversified exposure to the market.

Part of the reason for this explosion of diversified index and mutual funds is that the central lesson of Modern Portfolio Theory—which has come to dominate the academic understanding of securities markets over the past half century—is that holding a well-diversified portfolio will be optimal for most ordinary investors, offering them the best possible combination of low risk and high return.<sup>110</sup> By diversifying, an investor can eliminate firm-specific risk while earning a market rate of return.<sup>111</sup> Unless an investor possesses a competitive advantage in identifying mispriced securities, attempts to do so can only cause him to lose out to better-informed market participants.

Ordinary retail investors will almost never possess speed or analytical advantages over sophisticated information investors. As a practical matter,

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108. As Goshen and Parchomovsky point out, while stock pickers may seem to be more reasonable than irrational traders, they are ultimately equally misguided, in that they are attempting to exploit an information advantage that does not exist. *See id.* at 725 (concluding that “although stock pickers seem to be rational in responding to economically relevant information, they are not”).

109. As a result, scholars sometimes classify portfolio traders as liquidity traders. *See id.* at 724 (defining liquidity traders as those that “[do] not collect and evaluate information; rather, investment by this group reflects the allocation of resources between savings and consumption”).

110. Holding a diversified portfolio effectively eliminates firm-specific risk and has provided investors with large long-term returns over the past century. *See* ELROY DIMSON ET AL., TRIUMPH OF THE OPTIMISTS: 101 YEARS OF GLOBAL INVESTMENT RETURNS 42 (2002) (finding an average long-term return to diversified investors of 6.5% annually, after inflation, consistent across large, developed securities markets).

111. *See* Haeberle & Henderson, *supra* note 30, at 1401–02 (“In the end, portfolio traders participate in the market to earn the market-wide risk premium that is available to those who provide their capital to public companies in return for the expected payouts associated with ownership of those equity instruments.”).



the Aunt Millies of the world have a choice between being a portfolio trader or a noise trader, and they would be better off as a portfolio trader.<sup>112</sup> Portfolio traders are thus the second major species of “ordinary” investor—and also the most “reasonable.”

#### D. MARKET MAKERS

The final type of trader, market makers, in this simplified model “are professionals who facilitate trading and maintain a market for securities . . . on a regular basis.”<sup>113</sup> They “buy and sell not for their own directional investment account, but rather as counterparties who stand ready, willing, and able to transact with other traders.”<sup>114</sup> Market makers do this by simultaneously posting an offer to buy a security at a “bid price” just below an offer to sell the same security at an “ask price.”<sup>115</sup> They profit from the difference between the bid price and the ask price (the “bid-ask spread”), typically making a few cents each time they can act as an intermediary between a buyer and seller by buying at the bid price and selling at the ask price.<sup>116</sup> Their actions benefit the market as a whole by providing liquidity, allowing other traders to buy and sell relatively large amounts of stock quickly at any time.<sup>117</sup>

While market makers may make some attempt to analyze disclosures to estimate a security’s fundamental value, their expertise and comparative advantage is in assessing the supply and demand for securities and identifying a market clearing price.<sup>118</sup> Market makers profit whenever they

112. See *id.* at 1403 (noting that “whether or not they have a nuanced familiarity with . . . financial-economic principles and the empirical literature in the area, ordinary investors who assemble portfolios of stock are no fools—unlike [noise traders]”).

113. Goshen & Parchomovsky, *supra* note 18, at 725. This type tracks Goshen and Parchomovsky’s definition of “market makers,” and Haerberle and Henderson’s definition of “Professional Liquidity-Providing Traders.” *Id.* at 725–26; Haerberle & Henderson, *supra* note 30, at 1405–07.

114. Haerberle & Henderson, *supra* note 30, at 1405.

115. See 5 THOMAS LEE HAZEN, TREATISE ON THE LAW OF SECURITIES REGULATION § 14:108 (7th ed. 2016) (“[T]he market maker has the responsibility of quoting both a bid price . . . as well as an asked price . . .”).

116. See *id.* (“The difference between the bid and asked price is known as the spread and represents the market maker’s compensation with respect to transactions executed at the bid and asked price.”).

117. See *id.* (“These professionals allow information traders, portfolio traders, and noise traders to transact stock immediately with certainty . . .”).

118. Goshen & Parchomovsky, *supra* note 18, at 725 (“Market makers are well informed about the demand and supply of a security because they use this information to set the bid and ask prices . . . [b]ut they are not as well informed as information traders regarding firm-specific information because they do not invest as much time and effort in collecting and analyzing this information.”); Haerberle & Henderson, *supra* note 30, at 1405 (Professional liquidity providers “focus not on understanding the fundamental value of the instruments they trade, but rather on creating a two-sided market that allows them to buy stock from some traders at bid prices that are below the ask prices for which they sell the stock to other traders.” (footnote omitted));

serve as intermediaries for portfolio or noise traders, whose trades do not reflect new, superior information about fundamental value. Market makers lose money when they trade against information traders with superior information, whose trades reflect that the prevailing market price was too high or too low.<sup>119</sup> Market makers try to avoid or offset potential losses by increasing the bid-ask spread when the risk of informed trading is high or uncertainty over supply and demand is large.<sup>120</sup>

Historically, specialist individuals at the various stock exchanges largely filled the market-making function.<sup>121</sup> Recently, high-frequency traders able to assess and react to changes in supply and demand on microsecond time scales have supplanted these “specialists.”<sup>122</sup>

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I.R.C. Hirst, *A Model of Market-Making with Imperfect Information*, 1 *MANAGERIAL & DECISION ECON.* 12, 13 (1980) (“Since investors do not have superior information, deals made with them will not typically be followed by subsequent price reappraisals disadvantageous to the jobber. In dealing with investors, then, the jobber’s spread is pure profit.”); *see also* LARRY HARRIS, *TRADING & EXCHANGES: MARKET MICROSTRUCTURE FOR PRACTITIONERS* 401 (2003) (“Market makers simply try to discover the prices that produce balanced two-sided order flows.”).

119. *See, e.g.*, HARRIS, *supra* note 118, at 299 (“[B]etter-informed traders choose the side of the market on which they trade, and the [market makers] end up losing money to them.”); Lawrence R. Glosten & Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 *J. FIN. ECON.* 71, 72 (1985) (“The core idea is that the specialist faces an adverse selection problem, since a customer agreeing to trade at the specialist’s ask or bid price may be trading because he knows something that the specialist does not. In effect, then, the specialist must recoup the losses suffered in trades with the well informed by gains in trades with liquidity traders.”); Haerberle & Henderson, *supra* note 30, at 1408–09 (Market makers “frequently find themselves at an informational disadvantage when they supply their services to information traders—and therefore sustain trading losses to them.”).

120. *See* HARRIS, *supra* note 118, at 299 (“If dealers set their spreads to reflect only their normal costs of doing business, their losses to well-informed traders would eventually force them out of business. Dealers must widen their spreads further to cover their losses to informed traders.”); Haerberle & Henderson, *supra* note 30, at 1409 (“[P]rofessional liquidity providers will quote worse prices (i.e., prices further away from current market values) when they expect a higher chance of transacting opposite better-informed traders.”); Albert S. Kyle, *Continuous Auctions and Insider Trading*, 53 *ECONOMETRICA* 1315, 1333–35 (1985) (“We have investigated a model of speculative trading in which an insider maximizes profits by exploiting strategically his monopoly power in a dynamic context. . . . [T]he model demonstrates how the liquidity characteristics of an ‘efficient,’ ‘frictionless’ market can be derived from underlying information asymmetries in a dynamic trading environment which captures some relevant features of trading in organized exchanges.”).

121. *See* Haerberle & Henderson, *supra* note 30, at 1405 (“In the old days—that is, about a decade and a half ago—individuals on the floor of stock exchanges, known as ‘specialists,’ provided this [market making] function for individual stocks.”).

122. *See id.* (Professional liquidity providers “allow information traders, portfolio traders, and noise traders to transact stock immediately with certainty against those quotes.”); Korsmo, *supra* note 26, at 527–28 (“[High-frequency traders] use high-speed computers to execute rapid-fire trades, usually without real-time human involvement, and have, in a matter of only a few years, gone from non-existent to conducting perhaps a majority of all trades on public securities markets.”).

## IV. MARKET EFFICIENCY AND THE RISKS TO ORDINARY INVESTORS

This model of the various market participants enables a clear assessment of the risks and potential costs ordinary investors face from participating in public securities markets. For these purposes, this Article will treat both noise traders and portfolio traders as “ordinary” investors, though the risks faced by the two types of traders are somewhat different. For the sake of clarity, this Part divides potential risks and costs into three categories: (1) misleading or fraudulent disclosures; (2) information asymmetries; and (3) transaction costs.

Fortunately, a highly efficient securities market—one that is liquid with new information rapidly and accurately incorporated into prices—sharply reduces each of these risks and costs. This Part thus proceeds in two sections, first introducing the concept of market efficiency and second considering each of the types of risks and costs ordinary investors face, together with how market efficiency might ameliorate them.

## A. MARKET EFFICIENCY

Most broadly, a securities market is “efficient” when “the price of [a security] at a given time is the best estimate of what the price will be in the future.”<sup>123</sup> In practice, a security’s existing price will be the best estimate of its future price when the existing price fully reflects all available information about the security.<sup>124</sup> Inherent in this definition is that a market is more efficient if prices react quickly (and at the limit, instantaneously) to new information, and trading is highly liquid, such that traders can buy or sell even large amounts quickly without moving prices through supply-and-demand effects.<sup>125</sup>

Scholars often distinguish among three forms of market efficiency—weak, semi-strong, or strong—depending on the types of “information” market prices “fully reflect.”<sup>126</sup> “Weak” efficiency suggests that prices fully reflect all the information contained in past prices, so that no one can predict future price movements by analyzing trends or patterns in past

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123. Daniel R. Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS. LAW. 1, 4 (1982).

124. See Charles R. Korsmo, *Mismatch: The Misuse of Market Efficiency in Market Manipulation Class Actions*, 52 WM. & MARY L. REV. 1111, 1126 (2011) (explaining that “when the current price of a stock is the best estimate of the future price of the stock, it means that the price reflects all available ‘information’ about that stock”). See generally Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970).

125. See *West v. Prudential Sec., Inc.*, 282 F.3d 935, 939 (7th Cir. 2002) (characterizing an efficient market as one where demand is infinitely elastic, such “that the effective demand curve is horizontal[,] . . . not sloped like the demand curve for physical products”); *id.* (“One fundamental attribute of efficient markets is that *information*, not demand in the abstract, determines stock prices.”); see also Francis A. Longstaff, *Optimal Portfolio Choice and the Valuation of Illiquid Securities*, 14 REV. FIN. STUD. 407, 407–08 (2001) (noting the importance of liquidity to efficiency).

126. Fama, *supra* note 124, at 383–84.

prices.<sup>127</sup> “Semi-strong” efficiency requires prices to reflect all publicly available information fully and implies that they quickly adjust to any newly available information.<sup>128</sup> “Strong” efficiency implies that market prices will fully and quickly reflect *all* information any market participant knows—including non-public information.<sup>129</sup>

Economists hotly contest the extent of market efficiency in modern securities markets, and it undoubtedly varies from security to security and moment to moment. The current consensus, so far as one exists, is that securities markets are not strong-form efficient and that they must necessarily fall somewhat short of semi-strong efficiency.<sup>130</sup> How short they fall is a matter of spirited debate.<sup>131</sup> This Part will consider the effects of semi-strong market efficiency on the risks and costs ordinary investors face. The next Part considers the mechanisms by which market participants make markets efficient and the conditions necessary for these mechanisms to function.<sup>132</sup>

### B. RISKS TO ORDINARY INVESTORS

This Subpart examines three types of risks or costs ordinary investors face—fraudulent or misleading disclosures, information asymmetries, and transaction costs—and the extent to which market efficiency reduces them.

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127. *Id.* at 388; *see also* JAMES H. LORIE ET AL., *THE STOCK MARKET: THEORIES AND EVIDENCE* 56 (2d ed. 1985) (noting that in a weakly efficient market “an investor cannot enhance his/her ability to select stocks by knowing the history of successive prices and the results of analyzing them in all possible ways”). Scholars sometimes refer to this type of efficiency as the “random walk” hypothesis, because it implies that successive price movements are statistically independent of each other and will thus appear random. Fama, *supra* note 124, at 386–87. If a market is weakly efficient, charting and other forms of technical analysis are doomed to fail.

128. Fama, *supra* note 124, at 388, 404–09. At its limit, in a semi-strong efficient market, “efforts to acquire and analyze [public] knowledge cannot be expected to produce superior investment results” because that knowledge will already be reflected in prices. LORIE ET AL., *supra* note 127, at 56.

129. *See* Jonathan R. Macey & Geoffrey P. Miller, *Good Finance, Bad Economics: An Analysis of the Fraud-on-the-Market Theory*, 42 STAN. L. REV. 1059, 1077 (1990) (“[T]he strong form [of the ECMH] takes the market idea to its limit and asserts that both public and private information are fully reflected in the price of a stock.”). At its limit, strong form efficiency would suggest that even insider trading would not produce superior investment results.

130. *See* BREALEY ET AL., *supra* note 73, at 312–36 (summarizing the evidence on market efficiency). *See generally* Sanford J. Grossman & Joseph E. Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 AM. ECON. REV. 393 (1980) (discussing why markets must retain an equilibrium level of inefficiency).

131. Exactly how spirited can be gleaned from the fact that Eugene Fama, the foremost defender of the so-called Efficient Capital Market Hypothesis (“Hypothesis”), and Robert Shiller, the foremost critic of the Hypothesis, were jointly awarded the 2013 Nobel Prize in Economics. *See* Rich Miller et al., *Fama, Shiller, Hansen Win Nobel Prize for Asset-Price Work*, BLOOMBERG NEWS (Oct. 14, 2013, 5:14 PM), <https://www.bloomberg.com/news/articles/2013-10-14/fama-hansen-shiller-share-nobel-economics-prize-academy-says> (“Eugene F. Fama, Robert J. Shiller and Lars Peter Hansen shared the 2013 Nobel Prize in Economic Sciences for at times conflicting research on how financial markets work and assets such as stocks are priced.”).

132. *See infra* Part V.

## 1. Misleading or Fraudulent Disclosures

Perhaps the most obvious type of risk ordinary investors face is being defrauded or misled, causing them to overpay for securities (or undersell them). The typical scenario is that an issuer's management will present fraudulent or misleading information giving a deceptively rosy picture of the firm's prospects, either in terms of higher expected earnings or lower expected risk. As a result, investors will be fooled into thinking that the issuer's securities are more valuable than they really are. Until the truth comes to light, the price of the securities will be inflated. When the truth comes out, the price of the securities will drop, and any investor who was fooled into paying too much will be harmed.

Perhaps counterintuitively, a diversified portfolio trader has little to fear from fraud. A portfolio trader does not attempt to identify under- or over-valued securities by scrutinizing disclosures in the first place, so most fraudulent or misleading information will not directly influence her. Moreover, savings, cash flow, and portfolio-rebalancing needs prompt a portfolio trader's trades rather than any changes in available information. Over the long run, the portfolio trader is as likely to benefit from inflated prices (by selling at them) as she is for them to injure her (if she buys at them). In this sense, fraud is a risk that portfolio traders can diversify away.<sup>133</sup> To the extent that fraud constitutes a systematic risk that they cannot diversify away, higher returns will generally compensate portfolio traders for bearing that risk.<sup>134</sup>

The risk of fraudulent or misleading disclosures is more acute for noise traders. Unlike portfolio traders, noise traders do not hold a diversified portfolio.<sup>135</sup> Instead, they seek to use new information to identify mispriced securities and are thus susceptible to being fooled into acting on a mistaken belief that a security is worth more than it really is. Nonetheless, the fact that noise traders always buy and sell at the market price sharply limits their risk in an efficient market. No matter how inflated their value estimation becomes, they cannot be seriously injured unless the market price itself is

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133. See Winter, *supra* note 18, at 891 ("Fraud is a species of unsystematic risk against which diversification provides protection . . .").

134. This is not to say that portfolio traders do not suffer from fraud, just that they do not suffer as traders. Increased fraud could, among other things, lead to misallocation of resources in the real economy and—by increasing the risk premium on the market and the costs of information verification faced by sophisticated information traders—increase the cost of capital to businesses. See W. Beaver, *The Nature of Mandated Disclosure*, in SEC ADVISORY COMMITTEE ON CORPORATE DISCLOSURE, REPORT OF RECOMMENDATIONS 618, 637–39 (1977); Easterbrook & Fischel, *supra* note 36, at 677 (comparing the cost of a legal rule against fraud to other methods for credibly conveying information to investors). These deleterious effects on the economy as a whole would affect portfolio traders along with everyone else.

135. See *supra* Part III.B.

distorted by the misleading statements.<sup>136</sup> As the next Part discusses further, the beliefs and actions of sophisticated information traders determine prices in an efficient market. As a result, gullible or unsophisticated noise traders will not be injured just because a disclosure misleads or confuses them; the disclosure must also mislead or confuse sophisticated information traders. At the extreme, if the market were so efficient it could not be fooled or confused, noise traders would be fully protected.

In addition to fraud in securities offerings, ordinary investors can also face fraud in unscrupulous investment advisers offering investment services. In such cases, an efficient securities market obviously offers no protection and a consumer-protection model of regulation is likely appropriate. The problem is that commentators and regulators often speak of the risks ordinary investors face in choosing investment services in the same breath as the risks they face in choosing investments, with the consumer-protection concerns appropriate for the former bleeding over into the discussion of the latter.<sup>137</sup>

## 2. Information Asymmetries

Another related risk ordinary investors face is that better informed parties will be able to take advantage of them. These parties fall into two main categories: insiders and sophisticated information traders. Insiders at the issuer have direct access to non-public information about their firms, but restrictions on insider trading generally bar them from exploiting this information asymmetry. Thus, the primary legal avenue for insiders to exploit information asymmetries is in an initial securities offering where insider promoters could potentially have the firm offer for sale low-quality securities to gullible, ill-informed, ordinary investors.

Sophisticated information traders may also enjoy informational advantages over ordinary investors. These advantages can come either from preferential access to information from issuers and other purveyors of material information or from a superior ability to assimilate and analyze information that is technically available to everyone on an equal basis. While an information asymmetry persists, the better informed trader could scoop up shares he knows are undervalued and unload shares he knows are overvalued.

For the portfolio trader, information asymmetries are of little direct importance. Portfolio traders do not typically participate in initial public

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136. At some extreme, of course, this claim fails. One can imagine, for example, a foolish noise trader taking out usurious loans from a loan shark in order to take advantage of what appears to be a juicy opportunity.

137. See, e.g., Walter, *supra* note 10 (segueing from Aunt Millie falling prey to “scam artist” financial advisers to a discussion of disclosure); Elisse B. Walter, Comm’r, U.S. Sec. & Exch. Comm’n, Remarks at “The SEC Speaks in 2009” (Feb. 6, 2009), <https://www.sec.gov/news/speech/2009/spcho2060gebw.htm> (same).

offerings,<sup>138</sup> and information about the “correct” value of individual issuers does not motivate them to trade. They will lose when they trade, but they only trade infrequently and any losses will be small in a liquid market.

Noise traders potentially do face real risks from information asymmetries. Believing incorrectly that they have an ability to identify mispriced securities, noise traders will constantly find themselves trading at an informational disadvantage to sophisticated information traders. In particular, when new information is disclosed to the public, they may rush to trade on it, only to find that high-speed sophisticated information traders have beaten them to the punch.

Nonetheless, a highly efficient market would greatly reduce the danger to noise traders because prices would never depart significantly from the best available estimates of fair value. Even if a noise trader were willing to trade at a different price, he would not have to—and in conditions of high liquidity, would not be able to. He would instead receive fair value whether he wanted to or not. Similarly, if prices incorporate newly disclosed information extremely rapidly—instantaneously, at the limit of perfect efficiency—the accuracy of the market price will again protect the noise trader coming late to the table. To be sure, he will not succeed in his goal of earning superior profits and will rack up unnecessary trading commissions in the process, but he will also not suffer unduly at the hands of better informed traders.

### 3. Transaction Costs

The primary concern with transaction costs is the cost of trading across the bid–ask spread market makers set.<sup>139</sup> As noted above, market makers generally protect themselves against sophisticated information traders by increasing the spread between the price at which they offer to sell and the price at which they offer to buy.<sup>140</sup> Anytime an ordinary investor enters a market order, she will always end up paying a little more (or receiving a little less) than the best estimate of fundamental value. Over the life cycle of an investment—buying a stock and eventually selling it—an ordinary investor using market orders will ultimately pay the spread twice, once in each direction. For thinly traded or highly uncertain stocks, the spread can be quite significant.

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138. See Sean J. Griffith, *Spinning and Underpricing: A Legal and Economic Analysis of the Preferential Allocation of Shares in Initial Public Offerings*, 69 BROOK. L. REV. 583, 586 (2004) (noting that institutional investors “receive the lion’s share” of IPO allocations with much of the rest going to managers of the underwriter’s clients).

139. I do not consider the costs of brokerage fees or investment advisers and managers for these purposes, as they have little relevance to the design of disclosures by issuers.

140. See *supra* note 120 and accompanying text; see also Goshen & Parchomovsky, *supra* note 18, at 728 (“[M]arket makers, who face the undiversifiable risk of trading with, and losing to, more informed traders, will protect themselves by increasing the bid–ask spread.”).

Portfolio traders are typically “buy-and-hold” investors with long holding periods.<sup>141</sup> While they will still pay a spread when they buy or sell stocks, they will do so relatively infrequently. Moreover, their trades are rarely time sensitive on a short timescale, so they can avoid trading when spreads are unusually high.<sup>142</sup> Noise traders, however, are especially prone to the spread whittling away the value of their investments. Trading often, and trading in a hurry—in an attempt to take advantage of a chimerical information advantage—even small spreads can add up. Moreover, noise traders are apt to trade immediately after the release of new information, precisely when bid-ask spreads are highest as market makers attempt to compensate for unusually high information asymmetries.

Nonetheless, the more efficient and liquid the market, the lower spreads will be. With the advent of high-frequency trading, average trade-execution times have fallen dramatically, and average bid-ask spreads have fallen with them. As recently as the late 1990s, bid-ask spreads for even relatively prominent stocks were often as high as a quarter; now they are often only a penny.<sup>143</sup> Moreover, the more quickly market prices adjust to new information, the shorter the period of heightened information asymmetry and the accompanying widened bid-ask spread. The more efficient the market, the more likely the bid-ask spread will return to normal before noise traders have time to log on to their E\*TRADE accounts.

## V. DISCLOSURE AND THE MECHANISMS OF MARKET EFFICIENCY

Part IV observed that market efficiency largely protects ordinary investors from their own ignorance. Portfolio traders can earn a market rate of return while knowing little or nothing about the issuing firms they invest in.<sup>144</sup> An efficient market also effectively limits the harm noise traders can do to themselves to wasted time and unnecessary transaction costs.

This Part examines the implications of this conclusion insofar as the design of disclosure requirements is concerned. First, it considers the mechanisms that make securities markets efficient. Second, it examines the role of disclosure in these mechanisms. Third, it argues that disclosure can best help generate market efficiency by minimizing the costs sophisticated investors bear in determining accurate prices.

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141. See Winter, *supra* note 18, at 883–85; see also Goshen & Parchomovsky, *supra* note 18, at 724 (referring to portfolio traders as “liquidity traders”).

142. See Haerberle & Henderson, *supra* note 30, at 1402 (noting that “portfolio traders place a relatively low value on execution speed and timing” and that “whether their orders to buy and sell pieces of their portfolios are executed in a fraction of a millisecond, a second, a minute, an hour, or even perhaps several days is largely irrelevant to them”).

143. See Korsmo, *supra* note 26, at 550.

144. See Goshen & Parchomovsky, *supra* note 18, at 727 (“On average [portfolio traders] earn the market return for the period of their holding.”).



## A. THE MARKET MECHANISM

Markets are not made efficient by magic. They must be made efficient by the actions of market participants. Broadly speaking, traders make markets efficient when they detect departures from fundamental value and profit from trading against them. When a security is underpriced or overpriced, informed traders will buy or sell it until it is accurately priced. In this fashion, they continually drive prices back toward the best estimate of fundamental value.<sup>145</sup>

In the model presented here, it is clear that sophisticated information traders must play the crucial role of driving the market toward accurate pricing. Market makers and portfolio traders make little or no attempt to gather and analyze the information necessary to identify mispriced securities. While noise traders may try to identify them, they are incapable of doing so. Only sophisticated information traders possess the capabilities necessary to identify and counteract mispricing successfully.<sup>146</sup>

This is not to say that sophisticated information traders will, or can, make a market perfectly efficient. Indeed, a perfectly efficient market would represent an unstable equilibrium.<sup>147</sup> It is the prospect of profiting from mispricing that gives information traders an incentive to invest in gathering and analyzing information to identify deviations from fundamental value.<sup>148</sup>

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145. For a more comprehensive explanation of the mechanisms that make markets efficient, see generally Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549 (1984).

146. Professors Goshen and Parchomovsky suggest that corporate insiders, with their ability to access and analyze detailed information about their firms, offer a potential alternative to sophisticated information traders as drivers of market efficiency. See Goshen & Parchomovsky, *supra* note 18, at 732 (“[I]t is clear that either information traders or insiders should be entrusted with providing efficient pricing and liquidity to financial markets.”). See generally HENRY G. MANNE, *INSIDER TRADING* (1966). They argue that by banning insider trading, securities law has “chosen” sophisticated information traders for this “role.” Goshen & Parchomovsky, *supra* note 18, at 733. They further argue that this is a normatively appealing choice, in that information traders have numerous advantages over insiders in fulfilling this role, including economies of scale, a competitive environment, and the avoidance of serious agency costs. See *id.* at 715–16.

147. See Gilson & Kraakman, *supra* note 145, at 622–23 (“If market efficiency with respect to particular information means that one cannot earn a normal return on its acquisition, then information acquisition will cease when the market becomes efficient. No one will invest in costly information if he cannot earn a return on it, and the market will become inefficient again. The result will be constant disequilibrium . . . .”); Goshen & Parchomovsky, *supra* note 18, at 730 (“A perfectly efficient equilibrium, however, is unattainable.”); Grossman & Stiglitz, *supra* note 130, at 393, 405 (The authors “propose[d] a model in which there is an equilibrium degree of disequilibrium,” and argued that “because information is costly, prices cannot perfectly reflect the information which is available, since if it did, those who spent resources to obtain it would receive no compensation.”).

148. As Ralph Winter argues, identifying mispricing is “a critically important function” for two reasons: (1) “the more accurately share price corresponds to intrinsic value, the less risk there will be for the Ordinary Investor”; and (2) accurate prices “tend to move corporate assets to their most highly valued use.” Winter, *supra* note 18, at 886. As a result, Winter suggests:

In a perfectly efficient market, deviations from fundamental value would not exist, so this incentive would dissipate. Yet it is these efforts that continually drive prices toward fundamental value in the first place. The result is an equilibrium level of disequilibrium—the market mechanisms that drive efficiency kick in only when markets are sufficiently inefficient.<sup>149</sup> The costs faced by the sophisticated information traders who make prices accurate set the limits of price accuracy. Such traders will only find it worthwhile to invest in additional information gathering, analysis, and trading when they can expect profits from exploiting mispriced securities to outweigh the marginal costs of these activities. The lower the costs sophisticated information traders face, the smaller the inefficiency they can profitably exploit and, as a result, the more efficient the market price.<sup>150</sup>

From this, it is clear that “market efficiency” is not an on–off switch—and that a market is neither “efficient” nor “inefficient.”<sup>151</sup> Instead, market efficiency functions more like a dimmer switch with the degree of efficiency varying over time<sup>152</sup> and from security to security.<sup>153</sup> For the stock of large firms, for example, we might expect relatively high efficiency, due to high liquidity and the widespread availability of reliable information and analysis due to intense scrutiny from large numbers of market participants. At the same time, the stock of very small firms may be significantly mispriced, due to the difficulty and expense of gathering and evaluating reliable information about their operations and prospects.

### B. THE ROLE OF DISCLOSURE

Greater price efficiency has a number of salutary effects. Chief among them—and the driving utilitarian logic in favor of a market economy—is greater efficiency in allocating the use of scarce productive resources in the

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The goal of corporate or securities law with regard to [information traders] should be to allow those who are best . . . to profit and to allow those who do the worst to suffer losses [sic]. The law should view [them] as competitors in a free market and allow those investing in the production of accurate information to keep their profits so that further investment in wealth generating information is made.

*Id.*

149. As Goshen and Parchomovsky put it, “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.” Goshen & Parchomovsky, *supra* note 18, at 730.

150. *See id.* at 737 (noting that information traders face costs when they “search for information, verify its accuracy and then analyze and price the information” and that “[l]owering these costs improves the ability of information traders to counter price deviations”).

151. *See id.* at 730 (“[I]t is clear that efficient pricing is a matter of degree.”).

152. *Id.* (“Markets can be efficient at times and inefficient at others . . .”).

153. *See* Benjamin C. Ayers & Robert N. Freeman, *Evidence That Analyst Following and Institutional Ownership Accelerate the Pricing of Future Earnings*, 8 REV. ACCT. STUD. 47, 63 (2003) (finding that the stock prices of firms with greater analyst coverage reflect future earnings more quickly).

overall economy.<sup>154</sup> As Part IV shows, efficient markets also serve to reduce dramatically the risks to ordinary investors—portfolio and noise traders alike—from investing in publicly traded securities. Protecting ordinary investors in this fashion allows and encourages them to invest in the markets, both increasing the amount of productive resources available for allocation via highly efficient market processes and increasing the ability of ordinary people to share in the resulting economic growth.

Greater price efficiency results from reducing the costs and risks sophisticated information traders face, allowing them to exploit smaller deviations profitably. Disclosures play a key role in reducing these costs and risks. Most importantly, they dramatically reduce sophisticated information traders' costs of searching for and gathering information about individual firms and securities.<sup>155</sup> Disclosures provide all market participants with information they could otherwise obtain only—if at all—by extremely costly and duplicative efforts, but that issuers typically generate as a matter of course in the process of managing their firms.<sup>156</sup> Mandating full disclosure and punishing fraud also saves information traders from having to expend resources verifying disclosed information or searching for or estimating the value of information they suspect that management possesses but has not disclosed.<sup>157</sup> In sum, the role of disclosure in promoting market efficiency is to reduce the costs faced by sophisticated information traders.<sup>158</sup>

### C. THE DESIGN OF DISCLOSURE

The clear conclusion is that regulators should design disclosure requirements to reduce the search and analysis costs of sophisticated information traders. This stands in stark contrast to the historical SEC goal of designing disclosures for the ordinary investor. By minimizing costs for sophisticated traders, disclosure can help maximize market efficiency. By

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154. See Goshen & Parchomovsky, *supra* note 18, at 713 (arguing that “the ultimate goal of securities regulation is to attain efficient financial markets and thereby improve the allocation of resources in the economy”). See generally Friedrich A. Hayek, *The Use of Knowledge in Society*, 4 AM. ECON. REV. 519 (1945).

155. Goshen & Parchomovsky, *supra* note 18, at 738 (“Mandatory disclosure duties reduce the cost of searching for information.”).

156. *Id.* (“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 by-product of managing the firm.”); see also Douglas W. Diamond, *Optimal Release of Information by Firms*, 40 J. FIN. 1071, 1083–89 (1985) (demonstrating the efficiency gains from disclosure when the cost to the firm is less than the aggregate search costs of market participants in the absence of disclosure).

157. See Goshen & Parchomovsky, *supra* note 18, at 738–39.

158. See *id.* at 737–40. A number of studies have argued that issuer disclosures reduce the cost of financial analysis. See generally, e.g., Christine A. Botosan & Mary S. Harris, *Motivations for a Change in Disclosure Frequency and Its Consequences: An Examination of Voluntary Quarterly Segment Disclosures*, 38 J. ACCT. RES. 329 (2000); Brian J. Bushee & Christopher F. Noe, *Corporate Disclosure Practices, Institutional Investors, and Stock Return Volatility*, 38 J. ACCT. RES. 171 (2000); Mark H. Lang & Russell J. Lundholm, *Corporate Disclosure Policy and Analyst Behavior*, 71 ACCT. REV. 467 (1996).

maximizing market efficiency, it can both protect ordinary investors and improve the productivity of the real economy.<sup>159</sup> As the next Part details, the SEC can best meet its stated goal of “balancing” the needs of ordinary and sophisticated investors in its disclosure requirements by recognizing that ordinary investors *have no needs* with regard to disclosure independent from the needs of sophisticated investors. As far as disclosure requirements are concerned, the needs of ordinary investors can best be met by ignoring ordinary investors altogether.

If regulators aim disclosure at sophisticated information traders, they can alter both the form and the content from current practice. In terms of form, issuers should present information in computer-readable format so sophisticated information traders can import it quickly and accurately into prices. For the same reason, issuers should present routine information in standardized formats, to the extent possible. Together, these measures—which track the dissemination practices of financial information firms like Bloomberg and Thomson Reuters—would reduce the difficulty and expense of creating algorithms to read and analyze disclosures.

In terms of content, casting aside misplaced concern for ordinary investors expands the information that issuers can disclose, both in type and amount. Historically, concerned that ordinary investors would be misled by puffery or over-optimism, the SEC has placed limits on the types of “speculative” information—such as management projections—that issuers can disclose. Sophisticated information traders require no such protections, allowing disclosure of far more speculative forward-looking material. Issuers can also provide sophisticated information traders with far more voluminous, technical, and fine-grained information, without fear that the sheer mass of information will overwhelm them or that legal, financial, or technical jargon will confuse them. Ideally, issuers would provide the market with the same information their managers use to manage them in order to facilitate their valuations. Focus on sophisticated investors would allow disclosure to approach this ideal more closely.

## VI. THE GROWING INADEQUACY OF DISCLOSURES AIMED AT THE ORDINARY INVESTOR

Designing disclosures around the capabilities of ordinary investors is a mistake, but for most of the past 80 years it was probably not a particularly

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159. The Director of the SEC's Division of Corporation Finance, Keith Higgins, has recently gestured toward this conclusion. *See* Keith F. Higgins, Dir., Div. of Corp. Fin., U.S. Sec. & Exch. Comm'n, Shaping Company Disclosure: Remarks Before the George A. Leet Business Law Conference (Oct. 3, 2014), <https://www.sec.gov/News/Speech/Detail/Speech/1370543104412> (“[D]isclosure for the masses is not the answer. Rather, we ought to make sure that sophisticated securities analysts on both the buy and the sell side have the information that they need to determine whether a company's stock is trading at the right price. The efficient market hypothesis would then tell us that all investors—retail and institutional—will benefit from those efforts.”).

costly mistake. Retail and professional investors may have differed in experience, resources, intelligence, or sophistication, but both received and analyzed information the same basic way—with a human being reading paper documents. The same physical and cognitive limits that applied to ordinary investors applied in large part to professionals as well, and skill or scale could only partially offset them. As a result, features that made disclosures more comprehensible and useful to ordinary investors by and large also made them more comprehensible and useful to sophisticated information traders. Nobody benefits from muddled disclosures or buried information. Even if sophisticated investors would have benefited from more in-depth information, the basic disclosure format would largely remain the same regardless of its audience.

Things have changed. The types of disclosures that would minimize the search and analysis costs for sophisticated professionals are now entirely unsuitable to ordinary investors. This Part outlines two particularly significant changes. First, firms, the information they possess, and the securities they issue have all increased dramatically in complexity. Firms can only accomplish the compression and simplification necessary to depict themselves and their securities in a relatively concise and comprehensible document at the cost of serious information loss. As firms and securities have become more complex, this loss has grown ever greater. Second, continuing technological development—particularly the increasing sophistication of computers and other information technology—has widened the gap between the capabilities of institutional and retail investors into a yawning chasm. The manner in which sophisticated information traders gather, analyze, and act on market information now bears almost no resemblance to that of the ordinary investor. As a result of these changes, misguided disclosure design decisions that may have once been tolerable have now become seriously destructive. The gap between the form and function of disclosure is greater than ever.

#### A. *THE INCREASING COMPLEXITY OF FIRMS AND SECURITIES*

The substantive information that disclosures ostensibly convey to investors has steadily increased in complexity in recent decades, which is rooted in the increasingly sophisticated legal and financial alchemy employed in structuring firms and the assets they hold. This complexity has at least two negative consequences of immediate relevance. First, it has strained the traditional tools of disclosure to the breaking point and beyond, potentially exacerbating information asymmetries between firm managers and investors. Second, and perhaps more fundamentally, firms and assets have become so complex that their managers may not understand the firm's own expected returns and risks. As the next Part explains, a move away from what Professor Hu terms an "intermediary depiction" model of disclosure toward a "pure information" model of disclosure could reduce both of these

negative consequences.<sup>160</sup> Such a move can only occur, however, by abandoning the traditional notion of designing disclosure requirements with an eye towards the capabilities of ordinary investors.

Firm structures have become increasingly complex. To give a single high-profile example, prior to its collapse Enron managed its cash flow, debt, and balance sheet by holding assets and liabilities in a complicated array of special-purpose entities. The resulting structure was in some sense “disclosed.”<sup>161</sup> But the raw complexity was such that the traditional disclosure tools necessarily required Enron’s management to condense and simplify their description of reality.<sup>162</sup> The official report of the Special Investigative Committee formed by Enron’s board in the wake of the company’s collapse runs to more than 200 pages, despite the fact that it only attempts to describe “the substance of the most significant [of the relevant] transactions.”<sup>163</sup> Deliberately or otherwise, the sheer intricacy of the firm’s structure helped mask the financial risks it faced, which contributed to its catastrophic collapse. Of course, one potential solution would be to reduce the complexity of firms. But mind-bending complexity is not limited to “bad actors” like Enron; it is endemic to major corporations and likely unavoidable in a developed, global economy.<sup>164</sup>

The acme of complexity is in major banks and other companies holding large quantities of financial assets. The traditional disclosure documents

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160. Hu, *supra* note 21, at 1601–02. At least one SEC commissioner has referred to Professor Hu’s article as “absolutely terrifying.” Statement by James R. Doty, Chairman, Pub. Co. Accounting Oversight Bd., Auditor Independence and Audit Firm Rotation, PCAOB Rulemaking Docket Matter No. 37, at 127 (Oct. 18, 2012), [https://pcaobus.org/Rulemaking/Docketo37/2012-10-18\\_Transcript\\_Houston.pdf](https://pcaobus.org/Rulemaking/Docketo37/2012-10-18_Transcript_Houston.pdf).

161. See Schwarcz, *supra* note 35, at 5 (noting that “there is no dispute that the existence of the [special purpose entities]-transactions was generally disclosed to Enron’s investors”).

162. *Id.* at 6 (“Enron’s structured transactions were so complex that disclosure either would have had to oversimplify the transactions or else provide detail and sophistication beyond the level of both ordinary and otherwise savvy institutional investors in Enron securities.”).

163. WILLIAM C. POWERS ET AL., SPECIAL INVESTIGATIVE COMM. OF THE BD. OF DIRS. OF ENRON CORP., REPORT OF INVESTIGATION 1 (2002), <http://news.findlaw.com/hdocs/docs/enron/specinv020102rpt1.pdf>.

164. See Schwarcz, *supra* note 35, at 13 (“[C]omplexity goes far beyond Enron, involving, for example, such mainstream companies as IBM, Coca-Cola, General Electric, and American International Group.”). One hundred years ago, for example, the Ford Motor Company consisted almost entirely of several factories in and around Detroit making several products for sale almost entirely in the United States under a bare-bones regulatory regime. See generally MARIE CAHILL, A HISTORY OF FORD MOTOR COMPANY (1992). Ford now has hundreds of facilities and an enormous supply chain on every continent except Antarctica, sells hundreds of products (including financial products), and is subject to scores of overlapping state, national, and international regulators. See FORD MOTOR CO., ANNUAL REPORT ON FORM 10-K 2 (2016) (listing the regions where Ford Motor Co. operates and the scale of operations). I am grateful to Robert T. Miller for suggesting this example.

from such firms typically run into the hundreds of pages,<sup>165</sup> and yet the chief problem is not that they contain too much information, it is that they leave too much out. Consider asset-backed securities, which are emblematic of the new complexity of structured finance. Asset-backed securities are pools of hundreds or thousands of individual income-generating assets, such as mortgages or student loans, transferred into a special-purpose entity.<sup>166</sup> The firm then divides the rights to the cash flows these assets generate into tranches with different claim priorities and sells them off to investors.<sup>167</sup> The most senior tranches—those at the top of the payment “waterfall”—only suffer losses if a high proportion of the underlying assets default.<sup>168</sup> The most junior tranches at the bottom of the waterfall suffer losses immediately if the underlying assets’ cash flows prove insufficient. This tranching process is the key to securitization, allowing the firm to pool and sell off risky assets as investment-grade securities, with the credit-ratings agencies typically rating the senior tranches “AAA.”<sup>169</sup>

Asset-backed securities pose obvious disclosure difficulties. “Full” disclosure would entail providing detailed information on each of the thousands of underlying assets, together with the details of the waterfall design. The conventional wisdom was that such granular disclosure would be overly cumbersome and of little benefit to investors. Until recently, the SEC instead required only that firms disclose aggregate characteristics of the pooled assets, leaving investors to rely on the credit-ratings agencies for an informed estimate of the detailed risks.<sup>170</sup>

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165. See Hu, *supra* note 21, at 1651 (“The 2011 annual reports of JPMorgan Chase & Co., The Goldman Sachs Group, Inc., and Credit Suisse Group AG run 316, 224, and 395 pages, respectively—and that is with extensive use of microscopic fonts.”). The firms’ most recent annual reports are each longer than in 2011. CREDIT SUISSE GROUP AG, ANNUAL REPORT 2015 (2016), <https://www.creditsuisse.com/media/assets/corporate/docs/about-us/investor-relations/financial-disclosures/financial-reports/csg-ar-2015-en.pdf>; JPMORGAN CHASE & CO., ANNUAL REPORT 2015 (2016), <https://www.jpmorganchase.com/corporate/investor-relations/document/2015-annualreport.pdf>; THE GOLDMAN SACHS GROUP, INC., 2015 ANNUAL REPORT (2016), <http://www.goldmansachs.com/investor-relations/financials/current/annual-reports/2015-annual-report/annual-report-2015.pdf>.

166. See Joshua Coval et al., *The Economics of Structured Finance*, 23 J. ECON. PERSP. 3, 3 (2009) (describing tranches and the process of securitization).

167. *Id.* (“The essence of structured finance activities is the pooling of economic assets like loans, bonds, and mortgages, and the subsequent issuance of a prioritized capital structure of claims, known as tranches, against these collateral pools.”).

168. See *id.* at 6 (“[S]enior tranches only absorb losses after the junior claims have been exhausted, which allows senior tranches to obtain credit ratings in excess of the average rating on the average for the collateral pool as a whole.”); Hu, *supra* note 21, at 1628 (“Because of the prioritization of the claims, known as tranches, the cash flows directed to the more senior tranches may be more assured than the cash flows associated with the average asset in the underlying asset pool.”).

169. See Hu, *supra* note 21, at 1628–29 (describing the process of securitization).

170. See generally 17 C.F.R. § 229.1113 (2011); Hu, *supra* note 21, at 1636 (“Regarding pool assets, the depiction is at a highly diffuse level: the depiction is required only for the pool

As a result, investors get only a fuzzy and incomplete view of complex assets like asset-backed securities and the firms that hold them. This generates two serious problems. First, issuers will not fully and accurately disclose information they actually possess to the market, leading to asset-backed-securities mispricing and, by extension, mispricing of the firms that hold them.<sup>171</sup> As Professor Hu emphasizes, not only are the details of the underlying assets omitted in the case of asset-backed securities, but the disclosure only partially conveys even the crucial waterfall structure itself.<sup>172</sup> The need to “[d]raft[] the disclosure in Plain English increases the possibility of inconsistency between the depiction and the waterfall[,]” which is actually embodied in complex contractual language and generally implemented through an even more complex computer program.<sup>173</sup> Professor Hu concludes that “it is difficult to capture a highly complex objective reality with very rudimentary English language and accounting, visual, and other tools on which depictions must primarily rely.”<sup>174</sup> The result is that “[s]ome important money managers largely shun investing in major banks because, among other things, they believe that current reporting makes it hard for them to evaluate bank assets and how they will fare under different economic scenarios.”<sup>175</sup>

The even more troubling consequence of this complexity is that the disclosing firm *itself* will not understand its own assets or business. Indeed, the recent financial crisis provided numerous examples of sophisticated financial firms apparently failing to assess their own exposures accurately.<sup>176</sup> In such a situation, any disclosure regime built around the issuer as an explaining intermediary is bound to be inadequate. An issuer cannot explain what it does not understand. A fascinating colloquy at the 2013 World Economic Forum between Paul Singer, a sophisticated investor and hedge fund manager at Elliott Associates, and Jamie Dimon, CEO of J.P. Morgan Chase, highlights both sides of the problem:

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assets in the aggregate. No depictions whatsoever are required at the level of the individual assets that make up the pool.” (footnote omitted)). This finally changed in 2014 when the SEC promulgated amendments to Regulation AB, governing disclosure for asset-backed securities. See generally 17 C.F.R. § 229.1113 (2014). These changes are discussed *infra* Part VII.

171. See Hu, *supra* note 21, at 1634-36 (describing the information asymmetries in the offering of asset-backed securities).

172. See *id.* at 1640 (explaining that “the depictions of the waterfall in the prospectus have in fact departed from the actual waterfall prescribed in the pooling and servicing agreement”).

173. *Id.* at 1640.

174. *Id.* at 1653.

175. *Id.* at 1652.

176. See *id.* at 1655 (“During the [financial crisis], there was ample evidence of financial institutions misunderstanding their own risk exposures. Many of the models used by financial institutions with respect to individual financial products, as well as with respect to the institutions themselves, failed during the [crisis].”).



Singer: One doesn't know from disclosures, or one can't find out from disclosures, whether global financial institutions are actually risky or sound, and I think that is something which needs to be fixed by global cooperation.

Dimon: You've made this comment publicly before. I called you up and asked you what you'd like to know. You probably have not read our Form 10-K. It is 400 pages long . . . .

Singer: What 2008 showed was that many financial institutions didn't actually have a handle on—nor did their regulators on—the nature of their risks, and risk models which were being used were not adequate to describe transmission mechanisms.<sup>177</sup>

In short, many firms do not understand their own operations or risk exposures, and their disclosures—despite their length—do not contain rich enough information for outside investors to assess them for themselves.

### B. THE RISE OF INFORMATION TECHNOLOGY

Increasing computing power and data-storage capacity, coupled with the rise of the internet, have increased by several orders of magnitude the quantity of data that technologically sophisticated investors can productively gather, store, and analyze. At the same time, it has also radically increased the speed at which they can gather, process, and use information to guide trading decisions.

At the extreme are high-speed algorithmic traders who use pre-designed computer programs running on state-of-the-art supercomputers to take in and act on new market information almost instantaneously.<sup>178</sup> Recent studies have shown that when firms make market data available to such traders in machine-readable formats, market prices reflect the information it contains in as little as 200 milliseconds after its release.<sup>179</sup> High-speed traders' computers are able to analyze and act on the data so quickly that the

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177. The exchange between Paul Singer and Jamie Dimon occurred at the Discussion at the World Economics Forum on January 23, 2013. The exchange can be viewed at *Davos 2013—The Global Financial Context*, YOUTUBE (Feb. 10, 2013), <https://www.youtube.com/watch?v=kR7qATj9gm4> (beginning at 15:56).

178. One group of researchers has identified the following “common characteristics” of algorithmic and high-frequency trading: (1) pre-designed trading decisions; (2) used by professional traders; (3) observing market data in real-time; (4) automated order submission; (5) automated order management; (6) without human involvement; and (7) use of direct market access. Peter Gomber et al., *High-Frequency Trading* 14 tbl.1 (Mar. 2011) (unpublished manuscript), <http://ssrn.com/abstract=1858626>; see also Korsmo, *supra* note 26, at 538–49 (discussing the “common characteristics” and the impact of the growth of high-frequency trading).

179. See Xing Hu et al., *supra* note 56, at 7.

speed of light down fiber-optic transmission lines becomes a material factor in the time it takes them to react to new information.<sup>180</sup>

Specialist high-speed traders primarily profit from their ability to react fastest to information that market prices would reflect seconds, minutes, or hours later anyway.<sup>181</sup> Even more traditional fundamental-value investors, however, now use highly sophisticated information technology to gather, store, and analyze huge volumes of information and to execute trading strategies. Unlike the high-speed specialists, they seek to use this information-processing power to dig beneath the surface, better understand the relevant firms and securities, and arrive at a better fundamental-value estimate than other market participants.<sup>182</sup> Using powerful computers and custom algorithms expands the ability of sophisticated information traders to do so. State-of-the-art computing allows traders to process information on a far greater scale than was previously possible and to handle complexity and perform analyses that exceed the capabilities of any individual human, or even any group of humans coordinating by traditional means. There is every reason to believe that these changes are only just beginning and that attempts to exploit new technological developments are in their infancy. Further developments in cloud computing, data analytics, and artificial intelligence could prove revolutionary.

For present purposes, the significance of this explosive increase in analytical capacity—both the increase that has already occurred, and that which may be still to come—is three-fold. First, the disclosure format that will minimize the costs of sophisticated information traders is no longer that which a human can most easily understand, but rather that which a computer can. Second, the sheer quantity of information that a sophisticated investor can absorb and subject to useful analysis has dramatically increased. Third, investors can subject this information to increasingly sophisticated analysis, potentially leading to a greater depth of understanding and more accurate pricing of firms and securities.

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180. At the speed of light, each additional foot of wire through which a signal must travel entails a delay of approximately one-billionth of a second. Being a single crosstown block closer to the exchange can shave more than two microseconds off of reaction times. *See* Korsmo, *supra* note 26, at 540 n.93 (“The rapidity of [high-speed trading] is such that the reduction of data-transmission time from co-location—even by a few microseconds, as compared to a computer located a block or more away from the exchange—can often confer an important competitive edge.”).

181. *See* Haeberle & Henderson, *supra* note 30, at 1400 (noting that some high speed traders’ “work merely gets information into stock prices milliseconds before it would otherwise find its way into those prices”).

182. *See id.* (arguing that the work of such traders “gets more and better information into stock prices after postinformation-release analysis that occurs not within milliseconds, but instead over the course of minutes, hours, days, or even weeks”). Prominent “quant funds,” as they are often called, include Renaissance Technologies, Two Sigma, and DE Shaw. *See* Nathan Vardi, *Top Quant Hedge Funds Stand Out with Good* 2015, *FORBES* (Jan. 13, 2016, 8:33 AM), <https://www.forbes.com/sites/nathanvardi/2016/01/13/top-quant-hedge-funds-stand-out-with-good-2015/#5b980b725c60>.

Taken together, these developments hold out the hope of at least partially addressing the challenges the increasing complexity of firms and securities poses. Information technology facilitates gathering and disseminating rich, fine-grained data on a scale that would have previously been impossible. Data-storage technology allows firms to hold information in a format where investors can use it productively, and computing technology allows market participants to subject it to analyses far more sophisticated than what was possible even a decade ago. Firms can potentially address problems of over-simplification by simply not simplifying. Teams of humans developing software that can achieve “understanding” of systems too complex for any one individual to understand can at least reduce problems of over-complexity. Moreover, the specialization and economies of scale sophisticated information traders possess may occasionally result in them achieving a better understanding of some firms and securities than the issuers’ management could.<sup>183</sup> Not only would this promote securities market efficiency, it would also improve the efficiency of the market for corporate control and potentially help to avoid bubbles and crashes of the type exemplified by mortgage-backed securities in the financial crisis of 2007 to 2008.

The market can only achieve these benefits, however, if corporate disclosures appropriately serve the needs of technologically advanced sophisticated information traders. The next Part addresses these needs, and changes in the SEC’s disclosure regime that would help to meet them.

## VII. DISCLOSURE FOR SOPHISTICATED INFORMATION TRADERS

This Part considers some of the policy implications of the preceding argument that regulators should free disclosure law from its traditional concerns with fairness to ordinary investors in favor of an overriding priority of minimizing the costs and maximizing the ability of sophisticated information investors to value securities. Doing so would enhance the accuracy of securities prices and ultimately be welfare enhancing for the broad economy and for ordinary investors themselves. Such a change

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183. Peter Brown, co-head of Renaissance Technologies—likely the most successful quant fund in history—has stated that

if there were signals that made a lot of sense that were very strong, they would have long ago been traded out. . . . What we do is look for lots and lots, and we have, I don’t know, like 90 Ph.D.s in math and physics, who just sit there looking for these signals all day long. We have 10,000 processors in there that are constantly grinding away looking for signals.

Katherine Burton, *Inside a Moneymaking Machine Like No Other*, BLOOMBERG MARKETS (Nov. 25, 2016, 10:50 AM), <https://www.bloomberg.com/news/articles/2016-11-21/how-renaissance-s-medallion-fund-became-finance-s-blackest-box>. It is certainly plausible that a hedge fund like Renaissance could be better than a company’s management at assessing a company’s information and placing it in the context of other market information in order to value the company.

requires: (1) revisiting “Plain English” as a goal in disclosure; (2) refocusing the “reasonable investor” in securities jurisprudence; (3) increasing disclosure of forward-looking information; (4) standardizing disclosure in machine-readable formats; (5) moving toward a “pure-information” model of disclosure; and (6) giving up on efforts to ensure simultaneous dissemination of information.

The arguments behind these recommendations are at their strongest where markets are most efficient, and weaken in less efficient markets. Where markets are predictably less efficient—such as for penny stocks<sup>184</sup> or initial public offerings<sup>185</sup>—an investor-protection function for disclosure requirements may be appropriate, in the form of warnings to unsophisticated investors of the risks of investing in such markets.

#### A. REVISITING “PLAIN ENGLISH”

The SEC’s most direct attempt to tailor disclosures to ordinary investors is the “Plain English” rules promulgated in 1998.<sup>186</sup> Many of the goals of “Plain English” are sensible—clarity and comprehensibility can be useful to even sophisticated information traders. But instructions to take into account the capabilities of “retail investors” are misguided. Even more problematic are admonitions to “[a]void legal and highly technical business terminology” and to avoid including in disclosures “[c]omplex information copied directly from legal documents without any clear and concise explanation.”<sup>187</sup> This call for simplification—out of concern that ordinary investors will be confused and overwhelmed—necessarily leads to firms omitting or oversimplifying important information, impairing the ability of sophisticated information traders to value the relevant security.<sup>188</sup> Technical and legal jargon exists for a reason. It allows clear, concise, and unambiguous communication within a community of experts. When dealing with a technical subject, technical language will often be the best way—or only

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184. See Jonathan R. Macey, *Administrative Agency Obsolescence and Interest Group Formation: A Case Study of the SEC at Sixty*, 15 CARDOZO L. REV. 909, 947 (1994) (describing the inefficiency of the market for penny stocks). A penny stock is one with a price under five dollars per share, usually trading in an over-the-counter market and characterized by low liquidity. For a full definition, see Definition of “penny stock”, 17 C.F.R. § 240.3a51-1 (2016).

185. See *In re Initial Pub. Offerings Sec. Litig.*, 471 F.3d 24, 42 (2d Cir. 2006) (holding that “the market for IPO shares is not efficient”); *Berwecky v. Bear, Stearns & Co.*, 197 F.R.D. 65, 68 n.5 (S.D.N.Y. 2000) (noting that “in an IPO there is no well-developed market in the offered securities”).

186. See Plain English Disclosure, Exchange Act Release Nos. 33-7497, 34-39593, 63 Fed. Reg. 6370 (Feb. 6, 1998) (“We believe that using plain English in prospectuses will lead to a better informed securities market—a market in which investors can more easily understand the disclosure required by the federal securities laws.”).

187. *Id.* at 6371.

188. See Firtel, *supra* note 59, at 895 (“If the issuer is forced to use simplified language in order to appeal to the average investor, it is inevitable that important information will be left out or glossed over. The professional will not be able to as accurately analyze the information, and, in the end, the average investor will suffer.”).

way—to achieve genuine clarity. Far from discouraging the inclusion of passages from relevant legal documents, regulators should encourage, or even require, issuers to provide primary legal documents, allowing investors to evaluate them for themselves rather than relying on a partial description from the issuer.<sup>189</sup>

In addition to encouraging over-simplification, the “Plain English” rules also encourage an inappropriate *form* of disclosure. They instruct issuers to disclose information in short, “concise . . . paragraphs, and sentences[,]” and to “use short explanatory sentences and bullet lists[,]” together with visual display of data.<sup>190</sup> As Part VII.D discusses further, while these formatting suggestions might make disclosures easier for humans to digest, they are not ideal for the computer algorithms sophisticated information traders use.

In sum, regulators need not scrap the “Plain English” rules entirely, but three changes are needed. First, the rules should make clear that the target of disclosure is the sophisticated information trader, removing any gestures towards the capabilities of retail investors. Second, the rules should encourage, rather than forbid, issuers to provide technical detail, including primary legal documents and other technical information that will better allow sophisticated investors to value the firm and its assets. Third, the “Plain English” rules should not stand in the way of providing disclosures in a format that is amenable to computer analysis.

#### B. THE “REASONABLE” INVESTOR AS A SOPHISTICATED INVESTOR

Courts faced with the issue should make clear that the “reasonable investor”—that stock character of securities-law jurisprudence, and the benchmark by which courts measure materiality<sup>191</sup>—is the sophisticated information trader. After all, such traders’ activities play the dominant role in generating market prices in any relatively efficient market.<sup>192</sup> If a fraud does not fool or mislead sophisticated information traders—whether in the form of a misstatement or an omission—it will leave the market price largely

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189. *See id.* (“[I]f the SEC adopts the view that disclosure should be geared toward sophisticated professionals then the need to remove legal jargon is alleviated because the professionals are able to understand and assimilate the legal and financial terms used throughout the disclosure documents.”).

190. *Id.* at 884 (quoting Plain English Disclosure, Securities Act Release No. 33-7497, 63 Fed. Reg. 6371 (1998)).

191. The Supreme Court has stated that “[a]n omitted fact is material if there is a substantial likelihood that a reasonable shareholder would consider it important in deciding how to vote.” *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 449 (1976) (adopting the rule for 14a-9 proxy actions); *see also* *Basic Inc. v. Levinson*, 485 U.S. 224, 232 (1988) (adopting the same materiality standard for securities fraud actions under 10(b) and 10b-5).

192. In inefficient markets, this may not be true, and a different focus may be appropriate. *See generally* Margaret V. Sachs, *Materiality and Social Change: The Case for Replacing “the Reasonable Investor” with “the Least Sophisticated Investor” in Inefficient Markets*, 81 TUL. L. REV. 473 (2006).

undisturbed and injury avoided. As a result, the appropriate definition of materiality should refer to the effect the relevant information would have on a sophisticated information trader's opinions and decisions.

Substantively, courts tend to already do fairly well on this score. They assume the reasonable investor to be, at the very least, one that has a firm understanding of market fundamentals.<sup>193</sup> As a Seventh Circuit opinion colorfully put it, courts should not consider reasonable investors to be “nitwits,” “babes in the woods,” or “rubes” possessed of “a child-like simplicity, an inability to grasp the probabilistic significance of negotiations . . . .”<sup>194</sup> Likewise, many common-law defenses to materiality—such as “mere puffery,”<sup>195</sup> “truth-on-the-market,”<sup>196</sup> “bespeaks caution,”<sup>197</sup> and simple math<sup>198</sup>—all assume “that the usual ‘sophisticated’ investor is—and should be—wary and vigilant.”<sup>199</sup>

Nonetheless, courts still frequently include the adjective “ordinary” before “reasonable investor.” The Supreme Court also suggested, in its seminal *TSC Industries* opinion defining materiality under the 1934 Act, that it should resolve questions about what disclosure the law requires “in favor of those the statute is designed to protect,” which some have taken to refer to ordinary retail investors.<sup>200</sup> Courts—starting with the Supreme Court—should make clear that the relevant audience for disclosure will almost always be the sophisticated information traders who promote pricing accuracy.

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193. See *id.* at 475–76 (“The bar is high because the reasonable investor grasps market fundamentals—for example, the time value of money, the peril of trusting assumptions, and the potential for unpredictable difficulties to derail new products.” (citations omitted)).

194. *Flamm v. Eberstadt*, 814 F.2d 1169, 1175 (7th Cir. 1987).

195. Stephen M. Bainbridge & G. Mitu Gulati, *How Do Judges Maximize? (The Same Way Everybody Else Does—Boundedly): Rules of Thumb in Securities Fraud Opinions*, 51 EMORY L.J. 83, 93–95 (2002) (describing judicial use of the “mere puffery” doctrine in securities fraud cases).

196. *Ganino v. Citizens Utils. Co.* 228 F.3d 154, 167–68 (2d Cir. 2000).

197. See generally Donald C. Langevoort, *Disclosures that “Bespeak Caution,”* 49 BUS. LAW. 481 (1993–1994).

198. See *In re Merck & Co., Inc. Sec. Litig.*, 432 F.3d 261, 270 (3d Cir. 2005) (“The issue is whether needing this amount of mathematical proficiency to make sense of the disclosure negates the disclosure itself.”); *Ash v. LFE Corp.*, 525 F.2d 215, 219 (3d Cir. 1975) (“We decline to hold that those responsible for the preparation of [disclosures] must assume that stockholders cannot perform simple [math].”). See generally Stefan J. Padfield, *Who Should Do the Math? Materiality Issues in Disclosures that Require Investors to Calculate the Bottom Line*, 34 PEPP. L. REV. 927 (2007).

199. Donald C. Langevoort, *Selling Hope, Selling Risk: Some Lessons for Law from Behavioral Economics About Stockbrokers and Sophisticated Customers*, 84 CALIF. L. REV. 627, 671 (1996); see also Joan MacLeod Heminway, *Female Investors and Securities Fraud: Is the Reasonable Investor a Woman?*, 15 WM. & MARY J. WOMEN & L. 291, 302 (2009) (“Both decisional law and statutory law strongly suggest that the reasonable investor is sophisticated.”).

200. *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 448 (1976). See generally Walter, *supra* note

*C. INCREASE DISCLOSURE OF FORWARD-LOOKING INFORMATION*

The historical reluctance to require firms to disclose forward-looking information—such as projections of revenues, sales, and expenditures, or management plans for future operations<sup>201</sup>—is entirely misguided. Indeed, from the perspective of an investor trying to value a security, the *only* thing that typically matters is forward-looking information. The value of a security is generally the risk-adjusted net present value of all *future* cash flows from the security.<sup>202</sup> The past results and present state of the issuer—almost the exclusive focus of disclosure requirements—is only relevant to value insofar as it allows investors to predict future cash flows.<sup>203</sup> When firms engage in merger negotiations, they disclose management projections to their bankers and potential counterparties as a matter of course in order to allow them to estimate the value of the firm. They should also provide investors with this information in the merger proxy whenever possible to facilitate their valuation efforts. While sophisticated investors will no doubt second-guess management’s projections and prepare their own, there is no reason to deny them the estimates of the people who actually run the firm and have the lowest cost of acquiring information about it.

As the Council of Financial Advisers recently pointed out, issuers already routinely include a tremendous amount of implicitly forward-looking information in disclosures.<sup>204</sup> Any time a firm carries an asset on its books at “fair value,” calculating that fair value necessarily requires managers to estimate future cash flows and risks.<sup>205</sup> The failure to include the projections behind the fair-value calculation, however, makes it difficult or impossible for sophisticated investors to replicate the firm’s calculations and understand the consequences of changing key assumptions and inputs. This poses obvious problems where the firm actively seeks to mislead investors or embeds overly optimistic (or pessimistic) projections in its fair value calculations. Another risk, however, is that the issuer will simply fail to understand its own assets, as appears to have been the case for many asset-backed securities during the financial crisis.

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201. For a fuller definition of “forward-looking information,” see Private Securities Litigation Reform Act of 1995, Pub. L. No. 104-67, § 27A(g), 109 Stat. 737, 751 (codified at 15 U.S.C. 77z-2 (2012)).

202. See BREALEY ET AL., *supra* note 73, at 94 (“The value of a stock is equal to the stream of cash payments discounted at the rate of return that investors expect to receive on other securities with equivalent risk.”).

203. See *id.* at 475–79 (explaining how a firm is valued by predicting future cash flows and discounting to present value).

204. See generally CFA INST., FORWARD-LOOKING INFORMATION: A NECESSARY CONSIDERATION IN THE SEC’S REVIEW ON DISCLOSURE EFFECTIVENESS (2014).

205. *Id.* at 14 (noting that “fair value” may be “based on management’s own estimates of the future”).

Congress and the SEC have already provided several “safe harbors” to encourage companies to disclose forward-looking information voluntarily.<sup>206</sup> But setting aside concerns about misleading unsophisticated investors should allow courts and the SEC to move beyond these tentative steps toward requiring companies to provide management projections and other forward-looking or “soft” information.

#### D. STANDARDIZED MACHINE-READABLE FORMATS

Firms’ disclosure should come in a form that minimizes the analysis costs of sophisticated investment professionals. Because computers perform much of the detailed analysis of new information, providing disclosures in machine-readable formats, such as eXtensible Markup Language (“XML”), can reduce these costs. Machine-readable formats allow sophisticated investors to access and analyze information directly using off-the-shelf commercial software or relatively simple proprietary algorithms, rather than having to either laboriously input data manually or develop sophisticated software for converting regular formats into machine-readable data.<sup>207</sup> Financial-data firms already distribute information from non-governmental sources in machine-readable formats to paying customers, and government-mandated disclosures following suit would facilitate analysis.<sup>208</sup>

The SEC has made some moves toward making machine-readable information available on EDGAR,<sup>209</sup> its online filing database, though it could go much further. In particular, the SEC’s new loan-level disclosure requirements for asset-backed securities—discussed further below—require issuers to format information in XML for easy analysis.<sup>210</sup> In the summer of 2015 SEC Chair Mary Jo White stated in a letter to two senators that “SEC staff currently is developing recommendations for the Commission’s consideration to allow filers to submit [machine-readable] data inline as part of their core filings.”<sup>211</sup> The agency should accelerate this review and mandate disclosure in machine-readable format, rather than permitting it to be simply an option for filers.

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206. See *supra* note 41 and accompanying text.

207. See *Asset-Backed Securities*, 17 C.F.R. § 229.1100 (2016).

208. See Brody Mullins et al., *Traders Pay for an Early Peek at Key Data*, WALL STREET J. (June 12, 2013, 8:28 PM), <http://www.wsj.com/articles/SB10001424127887324682204578515963191421602> (describing dissemination of the Michigan Index to paying subscribers in a machine-readable format).

209. For a description of EDGAR (Electronic Data Gathering, Analysis, and Retrieval), see William W. Barker, *SEC Registration of Public Offerings Under the Securities Act of 1933*, 52 BUS. LAW. 65, 69–70 (1996).

210. *Asset-Backed Securities Disclosure and Registration*, 79 Fed. Reg. 57,184 (Sept. 24, 2014) (codified at 17 C.F.R. § 229 (2016)).

211. Letter from Mary Jo White, Chair, Sec. & Exch. Comm’n, to Mark R. Warner, U.S. Senator (Aug. 19, 2015), <http://www.datacoalition.org/wp-content/uploads/2015/08/WARNER-XBRL-ES153568-Response-1.pdf>.



Just as importantly, the SEC should move to consider greater standardization in the presentation of quantitative data. Variable formatting increases the difficulty of designing algorithms to recognize and pull relevant data from disclosures and hampers easy comparison of assets and firms. Standardized formatting would make it easier and cheaper for investors to develop algorithms capable of recognizing and analyzing data and facilitate their ability to perform comparisons across assets and firms. Again, the SEC has made some tentative moves in this direction. For example, the new asset-backed securities disclosure rules mandate standardized formatting and definitions.<sup>212</sup> These new rules, however, apply only to a subset of asset-backed securities. The SEC should, as part of its DEI, consider the potential for standardized formatting across the full spectrum of quantitative data contained in disclosures.

#### E. DISCLOSURE OF PURE INFORMATION

Perhaps most fundamentally, the SEC should not allow misplaced concerns about the needs of ordinary investors to stand in the way of moving to the type of “pure-information” paradigm of disclosure Professor Hu describes.<sup>213</sup> Filtering information through an intermediary was necessary when the inability to easily transmit large amounts of data placed limits on disclosure. It was also desirable when practical limits made it prohibitively expensive for outside investors to review and analyze large masses of data. Information technology has dramatically reduced both limitations, rendering it possible and desirable to transmit rich data. Disclosing pure information would reduce problems of over-simplification and enable professional investors to get a clearer picture of the underlying reality of the issuing firm, or at least some of its underlying assets—sometimes even a clearer picture than its managers may have. Fears that such a change would render disclosures unintelligible to ordinary investors—while true—are wholly misguided.

The SEC has made tentative steps towards requiring issuers to disclose relatively “pure” information, at least in the realm of asset-backed securities. Its 2014 amendments to Regulation Asset-Backed (“Reg. AB”) require firms to disclose scores of specified attributes for individual loans bundled into asset-backed securities.<sup>214</sup> As SEC Chair White stated when she announced the final rules, these new requirements “mak[e] it easier for investors to review and access the information they need to make informed investment

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212. See Hu, *supra* note 21, at 1646 (noting that information about asset-backed securities “must follow standardized definitions of material loan, obligor, and collateral characteristics, thus facilitating the comparability of information across different asset-backed securities”); see also generally 17 C.F.R. § 229 (2016).

213. Hu, *supra* note 21, at 1642–47.

214. See generally Asset-Backed Securities Disclosure and Registration, Exchange Act Release Nos. 33-9638, 34-72982, 79 Fed. Reg. 57,184 (Sept. 24, 2014) (codified at 17 C.F.R. § 229 (2016)).

decisions . . . . Unlike during the financial crisis, investors will now be able to independently conduct due diligence to better assess the credit risk of asset-backed securities[,]” rather than having to rely on the (perhaps faulty) understanding of issuers and credit rating agencies.<sup>215</sup>

Somewhat dispiriting, however, is the fact that the SEC instituted these rather narrow reforms more than six years after the financial crisis made clear the grave problems with disclosure, and that the reforms narrowly focus on the single asset class—asset-backed securities—where those problems were most glaring and highly publicized. The SEC should take far bolder steps to provide investors with pure information, rather than the necessarily sketchy descriptions of reality they currently receive. As Professor Hu notes, “thanks to continuing computer and Internet advances, it is conceivable that even objective realities far more complex than those associated with [asset-backed securities] are or will soon be susceptible to, in effect, being transmitted and downloaded with full, multi-gigabyte richness and granularity.”<sup>216</sup> Professor Hu compares the situation to Plato’s “Allegory of the Cave.”<sup>217</sup> While disclosure requirements have hitherto restricted investors’ view of reality to “the shadows cast by the depictions of reality crafted by the issuers,” disclosing pure information will enable them to observe reality in the full light of day.<sup>218</sup>

Ideally, if accurate prices were the only consideration, issuers would convey to investors *all* of the detailed information in their possession, in all its granular glory. Investors would thereby be able to value the company on the same informational basis possessed by the best-informed insiders—perhaps even a better basis, given economies of scale and superior analysis of information from outside the issuer. The true limits on disclosure may not be technical limitations, but competitive and intellectual property concerns. While disclosing Colonel Sanders’ secret blend of 11 herbs and spices might allow analysts to value Kentucky Fried Chicken stock more accurately, it would have an obvious deleterious effect on the business. In order to preserve productive incentives, there must be limits on disclosing trade secrets and other forms of valuable intellectual property belonging to the issuer.<sup>219</sup> More broadly, issuers must have the ability to shield

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215. Press Release, U.S. Sec. and Exch. Comm’n, SEC Adopts Asset-Backed Securities Reform Rules (Aug. 27, 2014), <https://www.sec.gov/News/PressRelease/Detail/PressRelease/1370542776577>; see also Hu, *supra* note 21, at 1646 (noting that the proposed changes would allow the investor to “see with his own eyes the reality that the intermediary had previously only described to him”).

216. Hu, *supra* note 21, at 1643.

217. PLATO, THE REPUBLIC bk. VII (B. Jowett trans., Vintage Books 1960) (c. 380 B.C.E.).

218. Hu, *supra* note 21, at 1643.

219. These difficulties could perhaps be overcome by the suggestion offered by Professors Haeberle and Henderson to allow firms to sell their disclosure. See Haeberle & Henderson, *supra* note 30, at 1383 (“[P]erhaps [information-dissemination law] should be reformed to allow firms to sell early-access rights to their disclosures in a well-regulated market for corporate disclosures.

competitively sensitive information.<sup>220</sup> Regulators need not be concerned, however, that ordinary investors will be blinded by the daylight outside the cave or drowned in the torrent of information.<sup>221</sup>

F. *JETTISON REG. FD AND THE GOAL OF SIMULTANEITY*

Finally, the SEC should jettison recent fairness-motivated efforts like Reg. FD, designed to provide information to all investors simultaneously, ordinary and sophisticated alike, as unnecessary and perhaps even counterproductive.<sup>222</sup> Simultaneously releasing information does nothing to “level the playing field” between sophisticated information traders and ordinary investors. Even when firms make disclosures available on an equal basis, high-speed traders will be able to process and act on the new information while Aunt Millie is still waiting for her Toshiba to boot up. If anything, efforts like Reg. FD serve to fool noise traders into believing they have a realistic chance to compete with sophisticated information traders.<sup>223</sup> Further, simultaneity and other fairness requirements foreclose developing markets for financial information, impairing the accuracy of securities prices. The SEC should scrap Reg. FD and its kin.

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Such an innovative approach may provide firms with the incentive to produce more robust disclosure products to meet market demand for them, while also leaving ordinary investors better off than they are today under existing [information-dissemination law] . . . .”). Allowing a market for disclosures would allow firms themselves to optimize the trade-offs involved in the disclosure of valuable secrets.

220. Cf. Easterbrook & Fischel, *supra* note 36, at 708 (“A new product might be profitable if built in secrecy, stealing a march on rivals; if the rules require advance disclosure, rivals’ responses make the project less attractive.”).

221. Some commenters have speculated that there is such a thing as “too much” disclosure, and that investors may make worse decisions under conditions of “information overload.” See, e.g., Paredes, *supra* note 2, at 419 (“[T]he provocative implication of information overload is that the federal mandatory disclosure system might be more effective if it were scaled back—that is to say, if less were disclosed, not more.”). Paredes cites an extensive literature on information overload. *Id.* at 441 n.111. It is not altogether clear that the empirical findings highlighted by Paredes are applicable to the new breed of sophisticated information trader with modern information technology. At any rate, it appears that many actual hedge fund managers are of the opinion that there can never be too much disclosure. See *supra* note 177 and accompanying text.

222. See *supra* notes 44–45 and accompanying text. For an extended critique of efforts to provide disclosures to all investors simultaneously, see generally Haerberle & Henderson, *supra* note 30.

223. See Haerberle & Henderson, *supra* note 30, at 1411 (arguing that, despite the desire to reduce information asymmetries in a manner that helps ordinary investors, Reg. FD and related efforts are “perversely making things worse for the ordinary investors who stand in the most precarious position in the market (those who trade directly through brokerage accounts rather than indirectly through funds)”; see also *id.* at 1417 (noting how Reg. FD “creates these bursts of information asymmetry by preventing new information and much (or even any) of its import from seeping out through earlier tiered dissemination, and then leaves information traders without the luxury of time to complete their trading in an under-the-radar fashion”).

## VIII. CONCLUSION

At the outset, this Article posed the question: Who should be the intended audience for disclosures that securities laws mandate? In particular, should firms gear disclosure to the needs of the “ordinary” retail investor or the sophisticated professional, or attempt to strike a balance between the two? With technological developments creating a vast gulf between the processes and capabilities of sophisticated information traders and ordinary investors, the compromises of the past are no longer tenable.

This Article provides an argument that the SEC can make securities markets more efficient and fairer if it designs disclosure requirements to minimize the costs sophisticated investors face. Not only are ordinary investors ill equipped to make use of corporate disclosures, it is unnecessary for them to do so. In an efficient market, ordinary investors can safely and fairly participate in the market—and earn a market return—simply by investing in a diversified portfolio of securities. Disclosure requirements that maximize market efficiency by facilitating valuation by sophisticated information traders will necessarily protect ordinary investors in the process. Who should be the intended audience for disclosure? The answer is unequivocal: the sophisticated information trader.

This answer has sweeping consequences for the design of disclosure requirements—consequences the SEC should consider in its ongoing review of the effectiveness of disclosure requirements. First, it should reconsider efforts to encourage the use of “Plain English” in disclosure documents and to avoid technical and legal jargon. Second, the SEC should expand disclosure of forward-looking information, as such information is central to valuation. Third, the SEC should look to move more completely to machine-readable formats and to standardized disclosures to the extent possible. Fourth, regulators should abandon simultaneous dissemination of information as an independent goal of disclosure. Fifth, the SEC should require more fine-grained disclosure of “pure information,” rather than the intermediary depictions of reality favored in the past. Finally, courts should refocus the judicial definition of “reasonable investor” on the sophisticated information traders who are the primary drivers of market prices.