

Information-Dissemination Law: The Regulation of How Market-Moving Information Is Revealed

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INFORMATION-DISSEMINATION LAW: THE REGULATION OF HOW MARKET- MOVING INFORMATION IS REVEALED

Kevin S. Haeberle & M. Todd Henderson†

Corporate information that moves stock-market prices sits at the center of modern securities regulation. The Great Depression-era securities laws at the foundation of the field require much mandatory disclosure of this type of information. They also include a strict anti-fraud regime to ensure the credibility of those disclosures of that information. And for a half century now, that regime has been interpreted to prohibit insiders from trading on the same information.

Today, a new body of securities law is emerging on top of this regulatory structure built around corporate information. That body—which we call “information-dissemination law” (IDL)—focuses on how important information is revealed to the market. The current defining feature of IDL is found in requirements that such information must be disseminated to all investors at the same exact time in the name of ordinary-investor fairness. Yet, using a market-microstructure-based understanding of securities markets, our analysis shows that the ordinary-investor benefits of such equal-timing efforts are far from clear. Indeed, it shows that simultaneity is perversely harming the most vulnerable ordinary investors. Accordingly, the Article defines this nascent area of law, subjects its fairness rhetoric to economic realities, and explores ways in which it might be reformed to further its primary stated goal or those of the field more generally—or even better, both.

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INTRODUCTION

Over the past few years, regulators have repeatedly decreed that they would end what was quickly becoming a routine practice: the release of market-moving information to some investors just prior to the time at which it was being made available to the entire public. The most prominent examples of regulatory efforts in the area during this period involved the New York State Attorney General (NYAG) and the University of Michigan. Michigan had been releasing bimonthly revisions to its *Index of Consumer Sentiment* to high-speed traders just seconds before making them widely available. The famous index contains valuable information on consumers’ views on the direction of the economy. For that reason, media and information giant Thomson Reuters agreed to pay Michigan over \$1 million in return for the right to be the exclusive disseminator of index updates in 2014.¹ Pursuant their contract, Thomson then released index revisions to paying customers before making them widely available to the public. Thus, Thomson was earning revenues in return for providing early access to new market-moving information to those who valued it.

Whether to benefit the robustness of research or that of the football team, there is no doubt that Michigan could have legally traded on its work product two seconds, hours, days, weeks, or months before releasing it to the public. Thomson could have done the same unless the parties’ contract provided a basis for concluding otherwise. But these obvious legal conclusions did not stop the top state-level cop of Wall Street from declaring the early-release practice and 1,200 or so similar ones to constitute “Insider Trading 2.0,” and putting an end to

¹ See Peter Lattman, *Thomson Reuters to Suspend Early Peeks at Key Index*, N.Y. TIMES DEALBOOK (July 7, 2013, 9:06 p.m.), <http://dealbook.nytimes.com/2013/07/07/thomson-reuters-to-suspend-early-peek-at-key-index/> [<https://perma.cc/XRZ4-NUVC>].

them after investigations that resulted in cease and desist agreements.²

This recent initiative (as well as another prominent one by the SEC)³ is not an isolated incident. For just over a decade and a half, the SEC's Regulation Fair Disclosure (commonly known as "Reg FD") has required public companies to make material information available to all investors at the same exact time when first disseminating it beyond the firm. But the issue of informational parity, a central concern of the SEC since the New Deal, is broader than these examples. The SEC continues to be engaged in a years-long review of a controversial practice whereby trading firms "co-locate" their computer servers next to the servers that run securities exchanges. The proximity between servers allows those firms' algorithms to learn of trading activity at exchanges milliseconds before others. The agency is also undergoing a review of a similar issue involving that same trading-activity information, albeit one that centers on distinct brief time lags: the ones between the time at which paying subscribers (whether they co-locate or not) receive the information and that at which the public receives it. Additional behind-the-scenes pressures for equal timing relating to market-moving information undoubtedly exist.

These examples of initiatives to regulate how and when market-moving information is disseminated to the public are not simply political stunts. Rather, they appear to be genuinely

² See A.G. Schneiderman Announces Marketwired Agreement to End Sales of News Feeds to High-Frequency Traders, N.Y. STATE OFF. ATTY GEN. (Mar. 19, 2014), <http://www.ag.ny.gov/press-release/ag-schneiderman-announces-marketwired-agreement-end-sales-news-feeds-high-frequency> [https://perma.cc/3784-NZEF] [hereinafter *Schneiderman Announces*]; A.G. Schneiderman Secures Agreement by Thomson Reuters to Stop Offering Early Access to Market-Moving Information, N.Y. STATE OFF. ATTY GEN. (July 8, 2013), <http://www.ag.ny.gov/press-release/ag-schneiderman-secures-agreement-thomson-reuters-stop-offering-early-access-market> [https://perma.cc/9Q2V-BW84] [hereinafter *Schneiderman Agrees*]. In the former press release, Schneiderman stated that the accord was "part of . . . [his] efforts to end Insider Trading 2.0—the practice of providing preferred, technologically sophisticated traders with early access to market-moving information." *Schneiderman Announces*, *supra*. We know of no entity offering these types of early releases after the publicized investigations that ended in the two agreements and press releases cited in this note.

³ Another prominent recent initiative relates to the early release of public-company securities disclosures. In November 2014, academic researchers, the Wall Street Journal, and Congress (in that order) noted that some investors were accessing those filings from the SEC's website or an SEC information-dissemination contractor, or both, in the seconds and sometimes even minutes before they were first posted on the SEC's website. Prodded by Congress, the agency found itself working to ensure the simultaneous revelation of these market-moving disclosures.

aimed at a primary goal that is familiar: making the stock market fairer for ordinary, long-term investors. Banning sophisticated market participants from obtaining early access to information, the argument goes, reduces the asymmetry in valuable information known by pros versus that known by ordinary Joes—thereby making participation in the stock market fairer for the latter. The initiatives thus embody a sacred tenet relating to all these individuals who (in the aggregate) supply so much of the capital that fuels the economy's largest producers. The tenet is that ordinary investors should, within reason, be put on as level of a playing field as possible with sophisticated speculators when it comes to the ability to make a profit in securities markets.⁴

None of the above should surprise us. With regard to the market forces, it is clear that there are benefits to being among the first who are able to obtain, analyze, and trade on information that will lead to changes in market prices. That demand, in turn, triggers supply, as there is thus revenue to be garnered by providing market participants with early access to that information. And with regard to the regulatory action, the mandatory-disclosure, securities-fraud, and insider-trading law that make up the core of modern securities regulation are motivated in large part by a desire among policymakers to reduce these types of information asymmetries.

Against this background, this Article provides something that the literature has failed to consider with respect to these early release practices and the legal effort to stop them: a market-microstructure-based⁵ examination of how information revelation is regulated. In so doing, it makes three main important points.

First, we establish that, taken together, Reg FD and regulatory action from the past few years can be viewed as represen-

⁴ The main ultimate aim of this enhanced fairness appears to be twofold. First, to ensure a specific instance of fairness: that a core American social institution (the stock market) is fair. And second, to encourage investment in the companies that produce so much of the country's goods and services, thereby—among other things—lowering their cost of capital and, in turn, it is hoped, the costs of those goods and services.

⁵ Market microstructure is a branch of economics that studies the forces at play between buyers and sellers in markets. The principles of the field apply beyond sophisticated markets for the trading of financial instruments. But they are mainly applied to those markets—if for no other reason than that relating to the availability of enormous amounts of data relating to those markets. For a seminal treatise on market microstructure authored by a former chief economist of the SEC aimed at a broad audience, see LARRY HARRIS, *TRADING & EXCHANGES: MARKET MICROSTRUCTURE FOR PRACTITIONERS* 6 (2003).

tative of an emerging body of securities law. To date, to the extent this area of law has been thought about at all, the inclination has been to treat it as an aspect of the mandatory-disclosure regime (as seen in Regulation Fair *Disclosure*) or insider-trading law (as demonstrated by the crack down on *Insider Trading 2.0*). But we argue that the efforts described above are emblematic of a larger, nascent body of securities law that can be analytically severed from disclosure and trading rules. We call this still emerging body of law “information-dissemination law” (IDL). By IDL, we mean the set of rules that governs exactly when and how information that will be announced to the public is disseminated.

Second, we argue that the basic fairness premise on which IDL is being built is unsound. We show why policymakers have no basis for claiming that the main simultaneity-based examples of IDL are enhancing ordinary-investor wellbeing. In fact, our analysis reveals that efforts to make securities markets fairer for ordinary-investor trading may be in fact doing the opposite, as at least the many individuals who trade directly through retail-level brokerage houses are likely made worse off by IDL today. We also show how some IDL efforts, like those of the NYAG, harm ordinary investors on the whole.

Third, our review shows that policymakers should think about crafting IDL that entails far more than basic simultaneous-dissemination requirements. By so doing, the law could better achieve the current primary stated policy ends of IDL, while also potentially better furthering the other main end of modern securities law more generally—enhancing stock-price accuracy. To support these points, we offer concrete IDL proposals that would enhance ordinary-investor wellbeing and a broader conclusion as to how they might be used in conjunction with another reform to IDL to improve both fairness and price accuracy at the same time.

To see the main insight of this Article, consider Reg FD, the centerpiece of IDL. Reg FD has two distinct, and opposite, effects on ordinary investors that have been overlooked in the securities-law literature. The regulation prohibits firms from engaging in the once-common practice in which they reveal new information to selective audiences hours, days, or even weeks before announcing it to the entire public. For that reason, throughout sustained periods leading up to the release of new corporate information, it reduces the risk that some select group of traders will have superior information that others lack. The end result is that the wellbeing of ordinary investors

who trade in these relatively long *pre-release periods* is improved. However, that welfare improvement is only slight as a general matter because the ratio of informed trading to all other trading during these periods would generally have likely been quite low for most publicly traded stocks.⁶ Ultimately, then, Reg FD improves ordinary-investor wellbeing during those prolonged *pre-release periods*—but only slightly so because the information asymmetries it eliminates would generally have only imposed a slight negative effect on each member of the enormous herd of ordinary investors in the market during those periods.

But, in brief *post-release periods*, Reg FD does something very different: it dramatically increases and concentrates this same information asymmetry. In the seconds after new information is made publicly available, those who want to capture a trading profit based on this information must trade on it immediately, lest the competition beats them to the punch. Ordinary investors who trade in this period are made markedly worse off as the execution of their orders to buy and sell stock are far more likely to be affected by better-informed pros in those periods than they would be without the legal intervention.

Stepping back, it becomes clear that the issue of whether ordinary investors are helped or harmed by Reg FD's simultaneity mandate depends mainly on whether the small gains from trading in the sustained *pre-release periods* that are slightly safer exceed the large losses from trading in shorter, now far more dangerous *post-release periods*. No empirical study has aimed to quantify these gains and losses, and the SEC has not supported the rule with any analysis other than a plea to "fairness." Indeed, we know of no previous spotting of any of these issues whatsoever, as the law's equal-opportunity approach appears to have precluded an open conversation about its true effects in the market. After all, who could come out against the equally timed dissemination of important information: this approach furthers the least objectionable type of fairness, since it focuses on opportunities, not outcomes—and

⁶ As we explain in the Article, in normal times, trading is dominated by the vast universe of savers who enter and exit positions in order to amass a diversified portfolio of stocks, balance that portfolio, or liquidate it in whole or part so that they can use their capital for consumption purposes. When tiered dissemination takes place over the course of hours, days, or weeks, better-informed traders aim to complete their trading without tipping off the rest of the market throughout those relatively long early-advantage windows. Thus, their trading would likely be composed of a stretched out series of small trades throughout a tiered-release period that is still dominated by portfolio trading.

it revolves around something our society holds sacred (valuable information).

But, this is just the tip of the iceberg. Reg FD, and the present simultaneity focus of IDL more generally, has two additional negative consequences. The regulation gives ordinary investors reason to believe that they should be investing based on changes in firm-specific information (they shouldn't) and are safe to engage in this trading in post-release windows (they aren't). The Efficient Capital Markets Hypothesis and Modern Portfolio Theory demonstrate that ordinary investors can improve their returns for a given level of risk by buying and holding a diversified portfolio of stocks. Yet by focusing on making information dissemination "fair," the SEC implies that ordinary investors should be using information to inform stock trades, despite the proof that this is welfare-decreasing for those investors.

Moreover, even if ordinary investors try to play the information-trading game, the overwhelming majority of them—if not all of them altogether—are hopelessly outgunned by professional investors. Hedge funds, high-speed traders, and other industry pros trade in millisecond intervals using high-tech computer algorithms and specialty networks designed to reduce trading latency to levels unmatchable by the fastest ordinary investors. Thus, even if it were a good idea for everyday investors to trade based on changes in information (and it isn't), no reasonable regulation can level the playing field between an ordinary Jane with an e*Trade account and a high-speed trader. IDL's attempt to make disclosure "fair" and the policymaker reasoning behind it simply do not hold up under close inspection.

Our analysis also demonstrates that related reform efforts, such as that of the NYAG, are unambiguously bad for ordinary investors. The prohibition on the early release of market-moving information (such as in the case of the Michigan Consumer Sentiment Index) does nothing more than move the costs associated with information asymmetry from a seconds-long period just prior to the public release of information to a similar one just after that release. In the end, all the ban has accomplished is a deprivation of the ability of state universities and the like to earn revenue in return for their production of valuable information—while also, like Reg FD, leading the most vulnerable ordinary investors into value-destroying behavior along the way.

Nevertheless, even if we are right about the ambiguous effect of Reg FD on ordinary investors, the perverse effect it has

on the most vulnerable ordinary investors, and the negative effect the NYAG action has on both, IDL might still be sound policy for one of three reasons.

First, fairness and wellbeing are two distinct concepts. Even if Reg FD and its more recent outgrowths now leave ordinary investors worse off, they may still be said to meet the definition of the former difficult-to-define and intellectually challenging term. Although this surely has not been the SEC's view of what constitutes fairness (nor ours), perhaps the world is a "fairer" place when Uncle Bob and Aunt Jane are on a more equal informational footing with Millennium Capital Management LP—no matter what impact that fairness has on the number at the bottom of their 401(k) statement.

Second, perhaps actual fairness is not the true goal here. Regulators often speak of improving ordinary-investor *confidence* in the market in the same breath as improving ordinary-investor fairness. If ordinary-investor perceptions of fairness result in those important market participants having higher levels of confidence in the market, it is possible that society should care more about perception than reality. Although knowingly indulging in incorrect assumptions about what the law does and does not do for ordinary investors may be undesirable (especially for a field like securities law that places much of its focus on deterring false or misleading statements), perhaps our analysis merely leads to the conclusion that the status quo should continue. But if that is the case, discussion of IDL in policymaking and scholarly circles should be open and honest about its approach.

Lastly, Reg FD was also explicitly motivated by a concern about the integrity and competitiveness of the process in which information about public companies' prospects become reflected in their stocks' market prices. Its equal-timing requirement for the release of corporate disclosures is thought to remove the incentive to corruptly provide firms with overly positive analysis in return for early access to their disclosures, thereby enhancing the integrity of that price-discovery process. And that same requirement is also believed to increase the competitiveness of the information-trading business, as anyone who has the ability and capital necessary to participate in the business can indeed do so without fear that he will be competing against other pros who were able to get an early start in the race to trade on new announcements. These pricing benefits might justify even an *unfair, intellectually dishonest* IDL regime in which ordinary investors incur higher trading costs—espe-

cially when those costs are amortized in a relatively even way across hundreds of millions of savers. Notably, IDL for price-accuracy at the expense of fairness is not the stated approach of any simultaneous-dissemination effort today.

But could IDL be reformed to better achieve its stated ends as well as those of securities regulation more broadly? With regard to the concern for ordinary-investor wellbeing alone, our analysis makes clear that there are a number of ways in which IDL could be changed to accomplish this end. For example, the law could add on to existing IDL to require the provision of notice to the market before releasing any potential market-moving information. This notice, which we refer to as “disclosure of disclosure,” would allow ordinary investors—whose assembling, balancing, and liquidating of pieces of their diversified portfolios is generally not time sensitive—to avoid the dangerous trading environment that ensues after the release of such information. Or, the law could tack another overlay on IDL: one that mandates set information-release periods with what we call information-dissemination shot clocks. Firms and other information producers could be required to make any important releases of information in, for example, the first minute of each hour during the middle hours of the trading day. So long as the timing and duration of these windows was made clear to the market, at least the savvy would know to avoid engaging in non-time-sensitive portfolio trading around the top of each of those hours.

Softer approaches are of course possible too. Instead of devoting resources to policing the timing of disclosures, the SEC could aim to inform investors about the peril of trying to beat the pros. Describing the stock market as including two distinct games—a game for professionals trading on information and a game for ordinary investors trading with an eye on a healthy risk premium—with separate rules of the game for each would be a nice start to such a campaign.

But there is a serious downside to these types of reforms: they may reduce the incentive for sophisticated professionals to produce information about stock's fundamental values, and impound it into market prices—thereby harming the other main goal of securities regulation (improving stock-price accuracy). By helping ordinary investors, each of the contemplated changes would take away trading profits from the professionals who analyze new information in order to spot underpriced or overpriced securities. Given the long-standing theories as to the connection between higher levels of stock-price accuracy

and the efficiency with which capital is allocated and quality under which corporations are governed,⁷ society would suffer.

Here, then, is where the real work should begin. Instead of superficial appeals to “fairness,” the SEC and academics should engage in a systematic analysis of the real impact of these rules on the various aspects of securities practice and policy. Intriguing possibilities emerge. For example, perhaps IDL should be reformed to allow firms to sell early-access rights to their disclosures in a well-regulated market for corporate disclosures. 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 IDL thanks to the addition of disclosure of disclosure or the like. Price accuracy may be enhanced even if sophisticated speculators stand to make less. After all, corporate information sits at the center of the modern securities regulation and its attempt to improve price accuracy, so improving disclosure of that information would surely, all else equal, improve price accuracy.

Our analysis also opens the door for other interesting innovations for securities law. For example, it suggests that the general ordinary-investor fairness concern that animates a good amount of legislative, judicial, and prosecutorial thinking on insider-trading law might be better addressed with, for example, set insider trading periods than the current porous enforcement regime. So, it is safe to say that the building blocks we lay down here have import for not just IDL, but for securities law as a whole.

The detailed version of the story unfolds as follows. Part I identifies and describes IDL as an emerging area of securities law—animated primarily by the desire to promote ordinary-investor fairness, but also one to improve the quality of the price-discovery process. Part II then provides an overview of four species of market participants, using principles from market microstructure to show how they interact in ways that implicate the design of any regulatory effort to increase ordinary-investor wellbeing. Part III considers how these two parts interact, concluding that Reg FD affects ordinary investors ambigu-

⁷ See generally Merritt B. Fox, *Shelf Registration, Integrated Disclosure, and Underwriter Due Diligence: An Economic Analysis*, 70 VA. L. REV. 1005, 1013–14 (1984) (providing an overview of the social benefits of enhanced stock-price accuracy); Marcel Kahan, *Securities Laws and the Social Cost of “Inaccurate” Stock Prices*, 41 DUKE L.J. 977, 979 (1992) (providing another overview of the social benefits of enhanced stock-price accuracy).

ously, that the NYAG's recent action in the area harms ordinary investors, and that the SEC's 2014–2015 initiative has an impact that falls somewhere between that of these two other initiatives (albeit closer to that of the NYAG's one). Part IV discusses these theory's implications for IDL by thinking about how our reforms would enhance ordinary-investor wellbeing, but also whether that end is desirable in this context given likely trade-offs (namely, those relating to the accuracy of public companies' stock prices). Finally, the conclusion discusses why this Article's analysis of how the revelation of new information is regulated opens the door for intriguing innovations for the field, including the one IDL reform alluded to above that could perhaps enhance both ordinary-investor fairness and stock-price accuracy.

I

AN EMERGING AREA OF SECURITIES REGULATION AND ITS PURPOSE

Modern federal securities regulation is mostly about information (namely, material corporate information). But it is composed of several interconnected, yet discrete parts. The main foundation comes in the form of the well-known mandatory-disclosure regime for public companies. This regime, which dates to the early 1930s, is designed to ensure that these important players in the economy produce a wide variety of important information, and share it with outsiders. Sitting on top of the mandatory-disclosure regime are two main overlays: a far-ranging set of laws that prohibit fraud in connection with securities transactions⁸ as well as a number of doctrines to circumscribe trading by insiders.⁹ All of these laws are said to be designed to make markets fairer for ordinary investors¹⁰ as well as to help generate stock prices that better reflect firms' fundamental values.¹¹

⁸ See, e.g., Securities Act of 1933 § 11, 15 U.S.C. § 77k (2012); *id.* § 17, 15 U.S.C. § 77l; Securities Exchange Act of 1934 § 10(b), 15 U.S.C. § 78j.

⁹ See Securities Exchange Act of 1934 § 10(b), 15 U.S.C. § 77j(b) (2012); Rule 10b-5, 17 C.F.R. § 240.10b-5 (2016); *Chiarella v. United States*, 445 U.S. 222, 240–41 (1980) (interpreting Section 10(b) and Rule 10b-5 to prohibit “fraudulent” trading on the basis of material, non-public information by corporate insiders); *United States v. O’Hagan*, 521 U.S. 642 (1997) (outlawing the deceitful misappropriation of material, non-public information for both insiders and outsiders); *Dirks v. SEC*, 463 U.S. 646 (1983) (outlawing tipping-related behavior).

¹⁰ See JOHN C. COFFEE, JR., HILLARY A. SALE & M. TODD HENDERSON, *SECURITIES REGULATION: CASES AND MATERIALS* 235–36, 1209–11, 1035–37, 1039–42 (6th ed. 2015)

¹¹ See, e.g., Kahan, *supra* note 7, at 979 (noting that this “vast legal framework” is motivated “by one principal goal of securities laws: . . . creat[ing] stock

As we show in this Part, in recent years, another one of these distinct layers that sits on top of the mandatory-disclosure regime has been forming: what we have labeled “information-dissemination law.” IDL seeks to ensure that an ever-increasing range of market-moving information¹² is made available to all investors at the same exact time when first being shared with the public. Like mandatory-disclosure, securities-fraud, and insider-trading law, IDL is focused on ordinary-investor fairness. In fact, to date, it has been primarily focused on fairness. But like those more traditional areas of regulation in the securities area, at least the main example of IDL (Reg FD) also focuses on enhancing the accuracy of stocks’ prices. In this Part, we discern this relatively new area of the law from the securities law that neighbors it by describing both rules and legal efforts that compose parts of IDL today, and then by providing an overview of these policy rationales that drive them.

A. The Law

The defining—indeed almost exclusive—attribute of IDL today is found in its various simultaneous-dissemination requirements. The main equal-timing requirement of IDL is found in Reg FD.¹³ Promulgated in 2000, that SEC regulation bars public companies from making disclosures of material information in a non-simultaneous manner.¹⁴ Regulators have recently expanded on the regulation to cover some instances in which information was being provided to select groups of market participants shortly before it was being more widely re-

markets in which the market price of a stock corresponds to its fundamental value.” (footnote omitted)).

¹² Our primary focus is on *market-moving* information as opposed to *material* information. Information “moves markets” when it results in changes to prices upon being learned by certain market participants. Information is said to be material when there is a substantial likelihood that a reasonable investor would consider it important in deciding whether to purchase, hold, or sell. See *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 449 (1976). For many, the terms market-moving and material are interchangeable. But it is worth noting that some market-moving information may not be of import to “a reasonable investor.” For example, a large increase in the number of shares posted at the best (highest) bid prices in the market for IBM stock might move market prices up. Yet information about that change is unlikely to be considered important to a reasonable investor. Likewise, some material information may not move market prices. For example, some surely consider information about corporate political spending to be material—even if particular political spending at issue is likely to have no impact on market prices whatsoever.

¹³ Regulation FD, 17 C.F.R. § 243.100 (2016).

¹⁴ *Id.*

leased to the public. We consider Reg FD and these recent related legal efforts in turn here.

1. *Reg FD*

Prior to 2000, firms often revealed information to favored investors or analysts before disseminating it to the market as a whole.¹⁵ But in that year, the SEC promulgated Reg FD, which ended this practice by requiring public companies to make their disclosures of material, not-yet-public information available to all potential investors at the same exact time.¹⁶

Importantly, this 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. So, firms must make everything from a mandated formal quarterly report with earnings information (a 10-Q), on the one hand, to a voluntary press release on the CEO's asthma (which may or may not be required by the law), on the other, available to all members of the public at the exact same time.

Firms can satisfy this equal-timing requirement in a variety of ways. For example, they can meet it by providing their information in: a filing made with the SEC; a press release through a far-reaching public-relations service; a well-publicized conference call with broad call-in access; or even a posting on social media (including Twitter or Facebook).¹⁷ Any method that “is reasonably designed to effect broad, non-exclusionary distribution of the information to the public” will do.¹⁸

2. *Recent Expansions*

Over the past few years, both the SEC and the most prominent state-level regulator of Wall Street have pursued initiatives to ensure the simultaneous dissemination of market-moving information in a broader way than that required under Reg FD.

¹⁵ See Selective Disclosure and Insider Trading, Exchange Act Release No. 33-7881, 65 Fed. Reg. 51,716 (Aug. 24, 2000) [hereinafter Reg FD Adopting Release].

¹⁶ See § 243.100 (“Whenever . . . [a public firm] discloses any material non-public information regarding . . . [itself] or its securities . . . [, it] shall make public disclosure of that information . . . [s]imultaneously”); Reg FD Adopting Release, *supra* note 15, 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.”).

¹⁷ See Reg FD Adopting Release, *supra* note 15, at 51,723–24.

¹⁸ *Id.* at 51,716.

a. *2014–2015 SEC EDGAR Initiative*

Public firms generally file their required disclosures with the SEC. As such, the agency serves as a central repository for the well over 100,000 disclosures of corporate information that are made each year.¹⁹ Although companies are not required to make 10-Ks, 10-Qs, 8-Ks, Form 4s, Form 13Ds, and so on available to the public for the first time through this public-filing mechanism, they often do. And that makes sense given that the SEC has expressly blessed public filing with it as a means of disclosure that comports with its equal-timing mandate.²⁰

As securities lawyers know all too well, the process in which these carefully reviewed statements are made available to the public by the SEC begins when they are uploaded by firms and their counsel to the back end of the agency's Electronic Data Gathering, Analysis and Retrieval (EDGAR) website.²¹ Less well known—at least until recently—is what happens behind the scenes between the time at which corporate disclosures are submitted to EDGAR, and that at which they become available on the front end of the SEC's public EDGAR website. In November 2014, an academic paper shined light on that process.²²

That academic study, along with another contemporaneous one,²³ exposed what appears to be an embarrassing glitch in the handling of all types of disclosures in this time period between uploading and public availability. During that gap, the SEC contractors responsible for disseminating public fil-

¹⁹ See, e.g., Robert J. Jackson, Jr., Wei Jiang & Joshua Mitts, *How Quickly Do Markets Learn? Private Information Dissemination in a Natural Experiment* 9 (Apr. 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2544128 [perma.cc/5HBW-EHMH] (examining a data set of 42,619 filings by public companies in just a 16-week period in middle of 2014).

²⁰ See *supra* note 17 and accompanying text.

²¹ According to the SEC's website, "EDGAR . . . performs automated collection, validation, indexing, acceptance, and forwarding of submissions by companies and others who are required by law to file forms with the U.S. Securities and Exchange Commission." *Important Information About EDGAR*, U.S. SEC. & EXCHANGE COMMISSION (Feb. 16, 2010), <http://www.sec.gov/edgar/aboutedgar.htm> [<https://perma.cc/V6ZN-533C>].

²² See 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 [<https://perma.cc/5YTZ-JKXZ>].

²³ See Jonathan L. Rogers, Douglas J. Skinner & Sarah L.C. Zechman, *Run EDGAR Run: SEC Dissemination in a High-Frequency World* (Chicago Booth Paper No. 14-36, 2015), <http://ssrn.com/abstract=2513350> [<https://perma.cc/7K3L-ET8Y>].

ings in premium-quality formats were routinely distributing them to a handful of paying subscribers just moments after they were first uploaded to the SEC website, yet *before* they were posted publicly on it.²⁴ At the median, it took about ten seconds longer for those filings to be available on the SEC's public website than through this feed.²⁵ The disparity was apparently due to the time that it took the SEC to format and transfer uploaded files from that upload location over to the public website.²⁶

Given the well-publicized rise in high-speed trading, it should come as little surprise that some of the premium subscribers were traders who were profiting based on their seconds-early look at material information found in these disclosures. Those intervals between the time at which the disclosures became available to them and the time at which they became available to the general public were characterized by abnormally high trading volume—and sharp price movements in the direction that the public disclosure would soon indicate to the market more generally.²⁷

In response, the SEC ironically found itself engaging in an effort to ensure that the disclosures that it requires firms themselves to make available to all investors at the same time were actually disseminated in that manner when filed “publicly” with the agency. Indeed, soon after the academic works sum-

²⁴ See Jackson & Mitts, *supra* note 22, at 4; Rogers et al., *supra* note 23, at 17. Forty or so clients subscribed to this feed, each paying about \$15,000 annually for it. See Ryan Tracy & Scott Patterson, *Fast Traders Are Getting Data from SEC Seconds Early*, WALL ST. J. (Oct. 29, 2014, 2:18 p.m.), <http://www.wsj.com/articles/fast-traders-are-getting-data-from-sec-seconds-early-1414539997> [<https://perma.cc/XG2G-U86Q>]; see also Jackson & Mitts, *supra* note 22, at app. A (showing that they paid approximately \$1,500 per month for the service).

²⁵ See Jackson & Mitts, *supra* note 22, at 1, 2, 8 (finding that the median early release was 10.3 seconds early); Rogers et al., *supra* note 23, at 28. Interestingly, even after outliers were disregarded, lag times varied greatly. Some feeds came a few seconds early, and others well over a minute. See Jackson et al., *supra* note 19, at 19.

²⁶ See Jackson & Mitts, *supra* note 22, at 9. The SEC itself was also making these filings available to investors moments before they were made public. When disclosures were uploaded to EDGAR, they were immediately posted to an SEC file-transfer-protocol server. See *id.* at 4. Any tech savvy investor who had access to that server could access the disclosures on it. At the median, those documents were not available on EDGAR's front-end website until eleven seconds after they became available on the server. *Id.* at 8. However, because the early releases provided by subscription were accessible in a far more consistent and broader way than these early releases, we focus on the former.

²⁷ See *id.* at 13; Rogers et al., *supra* note 23, at 2 (“[P]rices, volumes, and spreads move [in the direction of the news] 15–30 seconds in *advance* of when the news is posted to the [public] SEC EDGAR site.”).

marized here led to a *Wall Street Journal* article,²⁸ the Commission appeared to have imposed a delay on the premium-subscriber feed. After that article, most filings on the feed went out only *after* they were first posted on EDGAR's front-end website—meaning that the subscribers received the information after it was already in the public domain.²⁹ Thus, the SEC engaged in an initiative to stop a practice in which public-company disclosures were being disseminated to high-speed traders anywhere from a handful of minutes to a few seconds before they were first made available to the public.

b. *New York State Attorney General's Action*

Corporate disclosures are not the only source of material information that is disclosed to the public. Each year, an array of private and public entities likewise generates new information that moves markets, and makes it broadly available to the public. Some of these entities that produce this valuable information—such as securities-analysis firms—specifically gear their information production toward investors who are looking to buy underpriced securities and sell overpriced ones. Others—such as universities, government agencies, and trade associations—primarily direct their generation of information toward furthering their own, non-securities-based ends.

No matter what the primary motivation of its creator, there has traditionally been no bar on the tiered dissemination of this type of information. After all, the production of this information has considerable benefits (namely, those arising out of more accurate stock prices)³⁰—and the ability to produce your own information about at least other entities and profit from trading on it yourself has long been unquestioned. Nevertheless, last summer, New York State Attorney General Eric Schneiderman, the most prominent state-level regulator of Wall Street, put a halt to a practice in which entities were disseminating this type of information with unequal timing.³¹

As you might imagine, in a world of high-speed trading, these types of early-release practices were becoming common-

²⁸ See Scott Patterson, *SEC to Close Gap in Filings' Release*, WALL ST. J., Dec. 27–28, 2014, at B1.

²⁹ See Jackson & Mitts, *supra* note 22, at 14.

³⁰ See *supra* note 7 and accompanying text (discussing the concept of stock-price accuracy and the social benefits of more accurate stock prices); *infra* section I.B.1 (same).

³¹ See *supra* Introduction.

place over the past few years.³² Perhaps thousands of such informational work products were routinely being released early to speedy traders.³³ More technically, the entities who were making these disclosures were selling the right to distribute them to news-related businesses or other information-dissemination services. These intermediaries, in turn, would pass along the information to their clients before it was made available to the public—including by sending out a computer-readable early release specifically designed for high-speed traders.³⁴ Thus, the sale of early-access rights was emerging as a not-insignificant business for both the entities that created this information as well as the intermediaries that purchased the right to disseminate it early.

A salient example of both the information and types of early-release practices at issue is found in the dissemination of the University of Michigan's Index of Consumer Sentiment.³⁵ Since just after World War II, the state university has produced this index that measures the sentiment of American consumers—assembling the work via nationwide telephone surveys that inquire into individuals' views as to the current state of the economy.³⁶ The end product that results from the surveys is widely thought to provide key insights into how much American consumers will spend in the near future. And the amount

³² See, e.g., Brody Mullins, Michael Rothfeld, Tom McGinty & Jenny Strasburg, *Traders Pay for an Early Peek at Key Data*, WALL ST. J., June 13, 2013, at A1 (“[S]elling early access [to non-governmental, market-moving information] is routine.”); Michael Rothfeld & Brody Mullins, *Peeks Are Still Available for Some Key Economic Data*, WALL ST. J. (July 8, 2013, 9:19 p.m.), <http://www.wsj.com/articles/SB10001424127887324867904578594110309778332> [<https://perma.cc/3NHN-HF28>] (“Many high-speed traders and hedge funds pay nongovernmental organizations for early access to economic reports and other data that often affect financial markets . . .”).

³³ See Grace Xing Hu, Jun Pan & Jiang Wang, *Early Peek Advantage?* 8 (Oct. 6, 2014), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2361311 [<https://perma.cc/4HJM-TFRG>] (“Thomson Reuters[s] . . . low-latency news feed product . . . releases more than 1200 economic indicators in formats specially designed for algorithm trading.”).

³⁴ See, e.g., *Rosenblum v. Thomson Reuters (Markets) LLC*, 984 F. Supp. 2d 141, 143 (S.D.N.Y. 2013) (stating that Thomson Reuters purchases the right to distribute information from various non-governmental sources, and that the company uses those rights to get high-speed feeds of that information in computer-readable forms to paying customers).

³⁵ Other prominent examples include the information contained in the Chicago Business Barometer (a monthly index that measures economic activity based on surveys of Chicago-area businesses) and the manufacturing index produced by the Institute for Supply Management, an index “regarded by many as the single most important economic report coming from the private sector.” See Mullins et al., *supra* note 32.

³⁶ See Hu et al., *supra* note 33, at 7.

that Americans will soon consume of course has serious implications for the value of thousands upon thousands of securities. As such, at around 10:00 a.m. on the second and fourth Fridays of each month when Michigan publicly releases revisions to its index, securities prices regularly change.³⁷

Although Michigan provided its twice-a-month index revisions via a conference call beginning at 9:55 a.m. and on its website soon after, these revisions reached many before then.³⁸ The school, like so many other entities that fall far outside the scope of Reg FD's public-company coverage, sold the exclusive right to disseminate its work product early to Thomson Reuters—garnering approximately \$1.4 million in annual revenue in return.³⁹ Thomson Reuters, in turn, used its early-distribution rights to sell its own feed of the results at 9:55 a.m. sharp as well as a premium release at exactly 9:54:58 a.m.⁴⁰ That premium release—going out just two seconds prior to the index's broader 9:55 a.m. subscriber-only and conference-call releases—came in the form of a computer-readable feed that was specifically designed for high-speed traders.⁴¹ Although anyone who paid the approximately \$6,000-per-month subscription fee⁴² could receive that two-second advantage, the group of subscribers presumably consisted solely of the only traders that could obtain a time-based advantage in such a short period (high-speed ones).

But, Attorney General Schneiderman began putting a halt to these increasingly common practices in the summer of 2013.⁴³ The prosecutor did not bring formal charges against

³⁷ See, e.g., *id.* (“[T]he public release of . . . [the Michigan Index of Consumer Sentiment] can often move financial markets, in ways similar to the release of official government data such as GDP, inflation and unemployment numbers.”).

³⁸ *Id.* at 7–8.

³⁹ See Mullins et al., *supra* note 32.

⁴⁰ *Id.*

⁴¹ See *id.* (“Thomson Reuters’s marketing materials say the firm offers paying clients an ‘exclusive 2-second advanced feed of results . . . designed specifically for algorithmic trading.’” (ellipsis in original)); Hu et al., *supra* note 33, at 7 (“The earliest wave of release happens at 9:54:58 a.m. . . . [EST], when Thomson Reuters sends out . . . [Index of Consumer Sentiment] numbers, in a specialized machine readable format, to a small group of fee-paying, high-speed clients.”).

⁴² See Mullins et al., *supra* note 32 (“Clients who pay a subscription fee to Thomson Reuters, which for some is \$5,000 a month plus a \$1,025 monthly connection charge, get the high-speed feed at 9:54:58 a.m. Eastern time.”). To follow up on the related examples from note 35, the Institute for Supply Management sells early access to its revised manufacturing indices via a high-speed service in return for about \$3,000 per month, and the Chicago Business Barometer sells early access to its measure of local business activity for approximately \$2,600 a year. See *id.*

⁴³ See *supra* notes 1–2 and accompanying text.

the University of Michigan, Thomson Reuters, or any of the legions of public and private entities that were providing these sneak peeks at information that they were making available to the public. But the threat of prosecution—perhaps along with the unwanted publicity of the investigation—was more than these entities were willing to bear. To date, the practice in which this information was being disseminated to a select few before being made available to the public more generally appears to have gone the way of the pre-Reg FD selective release of corporate information—ending altogether since Schneiderman’s office entered into agreements with information-dissemination intermediaries in which those businesses agreed to cease and desist their tiered dissemination practices.⁴⁴ In short, those in the information-dissemination business seem to have little interest in fighting City Hall in the New York State court system or in countering prosecutorial press releases in a broader public-relations war.

B. The Policy Rationales Behind the Law

As the name of the main aspect of IDL (Regulation “Fair” Disclosure) suggests, simultaneity efforts are primarily—although not exclusively—driven by the desire to make securities markets fairer for ordinary investors. This section summarizes this fairness rationale that drives the law in this area. It also briefly introduces other important policy rationales behind Reg FD.

1. *Reg FD*

When released, the SEC justified Reg FD mainly on fairness grounds. However, the agency also asserted two additional justifications. One of these additional justifications is closely related to the fairness one, while the other is quite distinct. But an understanding of all of these rationales is vital for understanding simultaneity’s actual impact on ordinary investors as well as our critique of the current form of IDL.

a. *Making Securities Markets Fairer for Ordinary Investors*

First and foremost, the SEC promulgated Reg FD to make market participation fairer for the everyday individuals who invest directly or indirectly in the stock market. When setting forth the regulation, the agency itself acknowledged that its

⁴⁴ See *supra* notes 1–2 and accompanying text.

new law was primarily aimed at this end.⁴⁵ The agency thought that it was unfair to allow some market participants a head start in the race to process newly disclosed, material corporate information. It therefore thought that the law should help investors by ensuring that they can trade on a level playing field with securities professionals when new information is being disclosed to the public.

b. *Boosting Investor Confidence in the Market*

Second, and relatedly, the SEC asserted that Reg FD was attractive because it would improve investor confidence in the market. The Commission noted that it had received much support from individual investors for the simultaneous-dissemination requirement, and that this support gave rise to the inference that the requirement would increase their confidence in the stock market.⁴⁶ The reasoning of the agency and the investors who supported action in this area seems to be straightforward: in a world in which firms can hand out information in a tiered manner, some investors (at least individual investors who transact directly through brokerage accounts) are at a structural informational disadvantage to some select group of professional traders. Knowing that, those investors would have the perception that participating in the stock market involved playing an unfair game.⁴⁷ They would downgrade their view of the integrity of the market—meaning that they would have less confidence in its ability to generate desirable results for them. Therefore they might withdraw their investments or pay less for the investments they were willing to

⁴⁵ See Selective Disclosure and Insider Trading, Exchange Act Release No. 33-7787, 64 Fed. Reg. 72,590, 72,592 (Dec. 28, 1999) [hereinafter Reg FD Proposing Release] (stating that the main goal of Reg FD is to help increase “fundamental fairness to all investors.”). The SEC emphasized that “the vast majority of . . . [those who submitted comment letters in response to the SEC’s Reg FD proposal] consisted of individual investors,” and that those investors urged the adoption of the regulation because non-simultaneous dissemination of corporate disclosures “places them at a severe disadvantage in the market.” Reg FD Adopting Release, *supra* note 15, at 51,717.

⁴⁶ See Reg FD Adopting Release, *supra* note 15, at 51,718 (“[T]he overwhelming support from investors for Regulation FD demonstrates a strong perception among the investing public that selective disclosure is a significant problem, and shows a corresponding need to prohibit this practice in order to bolster investor confidence in the fairness of the disclosure process.”).

⁴⁷ See *id.* at 51,716 (“We believe that the practice of selective disclosure leads to a loss of investor confidence in the integrity of our capital markets. Investors who see a security’s price change dramatically and only later are given access to the information responsible for that move rightly question whether they are on a level playing field with market insiders.”).

make. Both of these would lead to undesirable results from a social welfare perspective.⁴⁸

c. *Enhancing the Quality of the Price-Discovery Process*

Third, the Commission argued that this legal reform was well-reasoned policy for a very distinct reason: it would make the process in which corporate information is produced and impounded into stock prices more robust.⁴⁹ This would lead to stock prices that better reflect firms' fundamental values, which would in turn lead to better capital allocation and corporate governance.⁵⁰

The concept of how the simultaneous-dissemination requirement would make this process more robust is perhaps best understood by thinking about two ways in which that process is weakened by permitting disclosures to be released piecemeal. First, in a world in which such tiered dissemination of corporate information is allowed, firms could choose which securities analysts would be the first to obtain the material information found in their disclosures. Obvious conflicts of interest would result, and distortions in the quality of the analysis of that important information might therefore arise.⁵¹ Of particular concern, these market participants would be afraid to provide negative analysis of a firm, since any analyst who did so may quickly find itself losing favor with the firm the next time it selected the universe of market participants to which it would provide such valuable early looks.⁵²

Second, in the world in which simultaneity is not required, some select group of securities analysts and professional traders has an exclusive on important information. Knowing this, most—if not all—outside that group would be foolish to waste time engaging in the resource-intensive work of procuring, analyzing, and trading on the information in corporate disclosures. Why engage in the competition to come in first in that information-based race if some select group of sophisticated competitors is able to set off before you? As such, those

⁴⁸ See *supra* note 15 and accompanying text.

⁴⁹ See Reg FD Adopting Release, *supra* note 15, at 51,718.

⁵⁰ See *supra* note 7 and accompanying text (discussing the concept of stock-price accuracy as well as the social benefits of more accurate prices).

⁵¹ See Reg FD Adopting Release, *supra* note 15, at 51,717.

⁵² See *id.* at 51,716 ("Regulation FD is also designed to address . . . the potential for corporate management to treat material information as a commodity to be used to gain or maintain favor with particular analysts or investors."); *id.* at 51,717 ("[I]n the absence of a prohibition on selective disclosure, analysts may feel pressured to report favorably about a company or otherwise slant their analysis in order to have continued access to selectively disclosed information.").

outside the favored group will cease to compete—leaving only the selected group in the information-trading market. With less competition in that market, the amount and quality of analysis may suffer—and then the amount and quality of information contained in stock prices would too.⁵³

In the end, then, in one or both of these ways, permitting disclosures to be disseminated in a non-simultaneous fashion, the SEC asserted, would reduce the quality of the process in which information about firms' prospects is produced, analyzed, and incorporated into stock prices—thereby evoking a closely related larger concern in the field⁵⁴ for accurate stock pricing and the social benefits associated with it.

2. *Recent Expansions*

Fairness is also the main driving force behind the recent varied, yet related, efforts geared at ensuring the simultaneous dissemination of valuable information.

a. *2014–2015 SEC EDGAR Initiative*

The rationale behind the SEC's corrective action to stop the early release of EDGAR filings was predictable. As lawmakers' cries indicated, ordinary-investor fairness compelled an end to the non-simultaneous dissemination of those filings by the SEC and its contractors.⁵⁵

According to the SEC, EDGAR's "primary purpose is to increase the efficiency and fairness of the securities market for the benefit of investors, corporations, and the economy by accelerating the receipt, acceptance, dissemination, and analysis of time-sensitive corporate information filed with the agency."⁵⁶ Moreover, upon learning of the early releases, the top members of the Senate Committee on Banking, Housing, and Urban Affairs, promptly wrote the head of the SEC, noting that SEC "rules have laid the foundations for some of the . . . concerns about fairness," and that "the assertions of preferred access to EDGAR filings via the SEC's systems . . . give credence to

⁵³ For a discussion of the connection between Reg FD and level of competition in the securities-analysis market, see generally Zohar Goshen & Gideon Parchomovsky, *On Insider Trading, Markets, and "Negative" Property Rights in Information*, 87 VA. L. REV. 1229 (2001).

⁵⁴ See *supra* note 7.

⁵⁵ See *infra* notes 56–61 and accompanying text.

⁵⁶ *Important Information About EDGAR*, U.S. SEC. & EXCHANGE COMMISSION (Feb. 16, 2010), <http://www.sec.gov/edgar/aboutedgar.htm> [<https://perma.cc/V6ZN-533C>].

th[ose] apprehensions.”⁵⁷ In responding to the senate committee, the SEC predictably emphasized that it was “working to help ensure that the equity markets remain the deepest and fairest in the world.”⁵⁸

Members of the House of Representatives struck a similar tone in response to learning of the SEC’s apparently inadvertent tiered-dissemination practices. Representative Carolyn Maloney, representing both the House Financial Services Committee and the Upper East Side of Manhattan, posted a press release entitled *Maloney Calls on SEC to End Outrageous Policy That Allows Inside Investors Early Access to Public Filings*.⁵⁹ That release quotes the congresswoman as saying the following: “It is extremely distressing that insiders have been getting an early look at public filings for so long.”⁶⁰ The release also added that this non-simultaneous dissemination of corporate filings “violates the basic principles of fairness that underpin our markets,” and “urge[d] the SEC to put a stop to this as soon as possible.”⁶¹

Even University of Chicago economists seemed to question the fairness, noting in a paper co-authored with a University of Colorado economist that these early-release practices raise questions about whether the SEC dissemination process is really a level playing field for all investors.⁶²

b. *New York State Attorney General’s Action*

The Attorney General likewise primarily cited ordinary-investor fairness concerns in putting the kibosh on practices in which high-speed traders were receiving seconds-early access to market-moving information. In announcing his office’s agreement with Thomson Reuters, Attorney General Eric Schneiderman stated that a “two second advantage is more than enough time for . . . [high-frequency] traders to take unfair advantage of their early access to this information.”⁶³ That same announcement added that “[p]romoting fairness and

⁵⁷ Letter from Senators Tim Johnson and Mike Crapo to SEC Chair Mary Jo White (Dec. 8, 2014) (on file with authors).

⁵⁸ Letter from SEC Chair Mary Jo White to Senators Johnson and Crapo (Dec. 23, 2014) (on file with the authors).

⁵⁹ *Maloney Calls on SEC to End Outrageous Policy that Allows Inside Investors Early Access to Public Filings*, CAROLYN B. MALONEY (Oct. 28, 2014), <https://maloney.house.gov/media-center/press-releases/maloney-calls-on-sec-to-end-outrageous-policy-that-allows-inside> [<https://perma.cc/U8NB-PNGA>].

⁶⁰ *Id.*

⁶¹ *See id.*

⁶² *See* Rogers et al., *supra* note 23, at 4.

⁶³ *See Schneiderman Agrees*, *supra* note 2.

avoiding distortions in the securities markets is an important focus of this office” and that “the early release of market-moving survey data undermines fair play in the markets.”⁶⁴ Moreover, the announcement added that the agreement “sends a message that *unfair* timing advantages for high-frequency traders and others will not be tolerated by the Attorney General.”⁶⁵

* * *

This initial Part has provided an overview of the defining feature of a growing area of regulation that we have termed “information-dissemination law:” requirements that market-moving information be revealed to the market simultaneously. Although not its only end, primarily in the name of fairness, the main example of IDL (Reg FD) requires the information that sits at the center of modern securities regulation (material corporate information) to be made available to all members of the public at the same exact time when it is first disseminated beyond the firm. And the related efforts discussed here likewise call for the equally timed dissemination of a wide variety of other valuable information in furtherance of that same end alone.

II

A MODEL OF KEY ASPECTS OF THE AMERICAN STOCK MARKET

In this Part, we set forth a well-established model of key aspects of the American stock market. Focusing on distinct types of traders in the stock market as well as the information asymmetries between them that results in ordinary investors incurring costs, that model provides the background necessary to understand both our critique of IDL’s simultaneous-dissemination requirement in Part III as well as our contemplated reforms to IDL in Part IV. More specifically, the model describes the distinct characteristics of information traders, portfolio traders, noise traders, and professional-liquidity-providing traders—and presents one clear indication of the well-established asymmetric-information costs (AI costs) that ordinary investors incur as result of interactions between, on the one hand, information traders and, on the other, professional liquidity providers and portfolio traders.⁶⁶

⁶⁴ *Id.*

⁶⁵ *Id.* (emphasis added).

⁶⁶ Here and throughout much of the paper, we predominantly focus on the parties that are buying and selling stock (traders) rather than on the often distinct ultimate beneficiaries of their trading (investors). We do so because IDL’s effects

A. Four Main Types of Traders⁶⁷

All individuals and entities buying and selling stocks are in search of financial gain. Yet one can nevertheless break down these market participants into the four groups introduced above based on the unique types of financial motivations and strategies that animate their trading.

1. *Information Traders*

Information traders generally purchase and sell stocks based on information as to companies' fundamental values that is not yet reflected in market prices.⁶⁸ Competing as an information trader today requires exceedingly high levels of expertise and technological prowess. Sources of market-moving information, such as corporate disclosures, are often complex. Analyzing their import in the context of vast and ever changing firm-specific and market-wide information is even more complex. And beyond these analytical challenges lies what is sometimes the most complex part: capturing trading profits based on information that often depreciates at incredible speeds.⁶⁹ Thus, to compete in this game, one must have considerable resources, including access to first-rate analysis and state-of-the-art trade-execution systems.

The challenge relating to execution speed calls for emphasis. Today, the value of some types of market-moving information—such as that found in at least data-based public news announcements—often loses its value in literally less than the blink of an eye.⁷⁰ It is for this reason that information traders

fall on the former in the first instance. For example, we focus on information traders (e.g., hedge funds) that are buying and selling stock based on information rather than on the investors (e.g., wealthy individuals) whose money those traders are investing, or on portfolio traders (e.g., index-based mutual funds) rather than the investors (e.g., retirement savers) whose money those traders are investing.

⁶⁷ Our four-type model of traders is based on common models found in works in the area of market-microstructure economics. See, e.g., HARRIS, *supra* note 5 (providing a model along these lines, albeit with additional detail and sub-categories unnecessary for present purposes). Models similar to the one we present here have also appeared in the legal literature. See Goshen & Parchomovsky, *supra* note 53; Kevin Haeberle, *Stock-Market Law and the Accuracy of Public Companies' Stock Prices*, 2015 COLUM. BUS. L. REV. 121 (2015).

⁶⁸ *But see infra* note 73 (providing a brief overview of the main exception to this general statement: information traders that profitably buy and sell based on short-term market movements that do not reflect the actual consensus import of fundamental-value information).

⁶⁹ See *infra* notes 73–75 and accompanying text.

⁷⁰ See, e.g., Hu et al., *supra* note 33, at 3–4 (finding that the new information contained in a key economic indicator (the Michigan consumer-sentiment survey discussed earlier) became incorporated into securities prices within 200 milliseconds of its release). An eye blink lasts about 100–400 milliseconds. See Daniel

spend enormous sums not only on obtaining and processing information, but also on executing trades at ever shortening latencies.⁷¹ Indeed, even when information-dissemination practices such as the seconds-early ones targeted by New York's Attorney General and the SEC are eliminated, the information is still released by the Bloombergs and Thomson Reuters of the world in computer-readable form to those who pay for it—albeit at the same exact time as the information is made available in more general formats to all.⁷² Taken together, these facts dictate that one particular type of information trader will often be the one that captures the trading value of newly released data: the infamous high-speed trader.

Given these attributes, it should come as little surprise that information trading is generally the realm of institutions. But not all information traders operate in the same exact way.

Members of one group—such as the news-based, high-speed traders—buy and sell stocks solely based on their ability to procure, process, and trade on new computer-readable information.⁷³ From receipt of the information to completed trade takes only milliseconds.⁷⁴ As one might imagine, their analysis of new information for the most part takes place before they receive it. They use carefully designed algorithms to buy and sell based on one of many expected new data points, waiting only for the information to be inputted into their algorithms.⁷⁵ There are rumored to be perhaps a dozen or two of these firms that dominate this type of high-speed trading.

Ramot, *BioNumber Details Page*, BIONUMBERS (June 11, 2013, 6:35 a.m.), <http://bionumbers.hms.harvard.edu/bionumber.aspx?s=Y&id=100706&ver=0> [<https://perma.cc/JG5S-2KAZ>].

⁷¹ See Eric Budish, Peter Cramton & John Shim, *The High-Frequency Trading Arms Race: Frequent Batch Auctions as a Market Design Response*, 130 Q.J. ECON. 1547, 1549 (2015); see also MICHAEL LEWIS, *FLASH BOYS: A WALL STREET REVOLT* (2014) (focusing on an effort to reduce the length of underground cables between trading centers in New York and Chicago in order to gain microsecond-level trading advantages).

⁷² See *supra* note 41 and accompanying text.

⁷³ See Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *Informed Trading and Its Regulation* 32–33 (unpublished manuscript) (on file with the authors) (describing these types of traders, and labeling them “announcement traders”).

⁷⁴ See *supra* note 70.

⁷⁵ Somewhat amusingly, these pre-programmed algorithms misfire from time to time. See, e.g., Jamila Trindle, *Hacked Tweet Prods Revamp*, WALL ST. J. (Apr. 30, 2013, 3:27 p.m.), <http://www.wsj.com/articles/SB10001424127887324482504578455114002114382> (noting that markets dropped by considerable amounts in an instant when the Associated Press's hacked Twitter feed reported the words “White House,” “President Barack Obama,” and “explosions” in the same sen-

Those in another group—thousands of private equity funds, activist hedge funds, and actively managed mutual funds—rely on the actual human processing of news.⁷⁶ Their trading arises out of their own research or that of any one or more of thousands of firms from which they purchase “buy side” securities analysis. Importantly, in contrast to the work of news-based, high-speed traders, the scrutiny of firms’ stock prices performed by these information traders is likely vital to ensuring stock-price accuracy. While the former group’s work merely gets information into stock prices milliseconds before it would otherwise find its way into those prices, the latter group’s work often does something very different: it gets 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. Still, it is worth noting that once that study is complete, the trading that occurs in light of it increasingly happens only through sophisticated algorithmic trade-execution programs.⁷⁷

The last important point to note is that whatever their subtype, information traders move in and out of stock positions frequently and quickly. Some do so more and faster than others. On one end of the spectrum, high-speed traders buy and sell out of positions in large volumes based on the information in new announcements in well under the time needed for the blink of an eye. On the other end of that spectrum, investment funds commonly hold stocks based on their fundamental-value analysis for sustained periods more easily measureable in years than milliseconds, seconds, hours, or even days. However, even these longer-term information traders face pressure from the firm-specific risk associated with loading up on a long or short position in one or more companies based on information, and therefore generally trade in and out of those positions far more frequently than the next type of trader in this market model: the portfolio trader.

tence—even though the network news correspondents on the White House lawn had nothing unusual to report).

⁷⁶ Fox, Glosten & Rauterberg refer to these information traders as “fundamental value traders.” Fox, Glosten & Rauterberg, *supra* note 73, at 31 n.61.

⁷⁷ Information traders and other institutional buyers and sellers routinely pay for services to execute their large trading needs in a manner that has the least possible impact on market prices. For example, Goldman Sachs Execution Services works with investment funds to achieve that end. A number of businesses that are widely known in industry circles, such as that run by the Investment Technology Group, also provide these services.

2. Portfolio Traders

Portfolio traders transact to accumulate, maintain, and liquidate diversified portfolios of stocks. Some portfolio traders are individual, ordinary, long-term investors who put together a wide-ranging basket of stocks through retail-level online brokerage accounts, such as those offered by the Charles Schwabs, Vanguards, Fidelities, and TIAA-CREFs of the world. These investors thus engage in portfolio trading directly. But most portfolio trading is attributable to relatively low-cost intermediaries, such as index-based mutual funds⁷⁸ operated by those same securities businesses, or pension funds⁷⁹ operated by companies, government agencies, or, increasingly, labor unions. The ordinary investors who participate in the market through these intermediaries thus engage in portfolio trading only in an indirect fashion.

Portfolio traders seek monetary gain over long-run periods by using surplus savings to create wealth for their future use. But unlike information trading, portfolio trading does not focus on newly released information about firms' prospects. Information about individual firms has no direct—or even proximately indirect—relevance to the enterprise. Instead, portfolio traders invest as a matter of routine. For instance, individuals contribute to retirement accounts through payroll deductions twice a month. Similarly, institutional portfolio traders buy and sell to rebalance their portfolios or meet redemption or subscription demands from those retirement savers and the like based on their savings and consumption patterns. 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

⁷⁸ We used actively managed mutual funds above to illustrate information trading. However, when these funds trade to assemble and maintain diversified indexes of stocks rather than to beat the market based on fundamental-value analysis, they are engaging in portfolio trading. There is reason to believe that a large portion—if not the majority altogether—of these intermediaries' trading is actually associated with portfolio trading. See Jonathan Lewellen, *Institutional Investors and the Limits of Arbitrage*, 102 J. FIN. ECON. 62, 77 (2011). After all, even when they conduct their stock picking, they still hold, on average, 85% or so of their portfolio in a simple diversified index.

⁷⁹ Here, we include only the trading that pension funds conduct directly in order to assemble and maintain a diversified portfolio of stocks. We do not include the information trading that they conduct in their own accounts based on information, or when they allocate funds to private equity funds, hedge funds, and actively managed mutual funds to do the same on their behalf.

payouts associated with ownership of those equity instruments.⁸⁰

Three final points about portfolio traders bear brief mention—all three of which are crucial to our ultimate conclusions.

First, in contrast to information traders, portfolio traders place a relatively low value on execution speed and timing. By definition, they are not transacting based on quickly depreciating information about firms' prospects relative to current market prices. Rather, they are simply trying to assemble and maintain a portfolio that tracks some large part of the market. Or to liquidate it in light of consumption needs. So, before their transactions take place, as far as they know, stock prices during that next interval of time have a more or less 50-50 chance of increasing or decreasing.⁸¹ So, *ex ante*, 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.

Second, the number of portfolio traders is enormous, and their trading dominates the stock market during normal times. Approximately 50% of all Americans invest in the stock market.⁸² And countless international investors do the same. And as some of these many individuals—directly or indirectly—buy stock to accumulate pieces of their portfolio each day, and others sell to liquidate pieces of their portfolios in the same period (and still others trade to rebalance their diversified portfolios in that period), the ratio of portfolio trades to informed trades becomes quite high during normal times. In fact, financial economists have asserted that the percentage of informed trading in the market in such times falls merely in the range of

⁸⁰ As Modern Portfolio Theory teaches, investors can reduce the riskiness associated with uncertain future cash flows by holding a diverse portfolio of stocks. Holding such a basket of stocks effectively eliminates firm-specific risk, leaving stock owners exposed to only market-wide risk. All else equal, those who face lower levels of risk as a result of holding rights to varying future cash flows will place a higher value on any individual stock than those who face higher levels of risk associated with those holdings—dictating that investors with diversified portfolios will own a large portion of public equity and earn whatever premium is available to those who take on market-wide risk.

⁸¹ The idea is simply that stock prices follow a random walk after all new information has been fully incorporated into them. For one of the seminal works on this concept, see generally Eugene F. Fama, *The Behavior of Stock-Market Prices*, 38 J. BUS. 34 (1965) (offering one of the seminal descriptions of this concept).

⁸² Justin McCarthy, *Little Change in Percentage of Americans Who Own Stocks*, GALLUP (Apr. 22, 2015), <http://www.gallup.com/poll/182816/little-change-percentage-americans-invested-market.aspx> [<https://perma.cc/QT5G-AUPH>].

5% or so—with portfolio trading making up the majority of all other trading.⁸³

Lastly, the story of the average portfolio trader is, far more often than not, a happy one. The average investor who held a portfolio of stocks that indexed the American stock market over sustained periods throughout the course of the twentieth century did quite well. According to the most famous study of long-term investment returns in modern markets, these diversified investors earned, on average, a 6.5% post-inflation return per year.⁸⁴ And those who invested in indexes of the sixteen largest domestic stock markets in the world over the same period earned similar market-wide risk premiums.⁸⁵ So, whether or not they have a nuanced familiarity with these financial-economic principles and the empirical literature in the area, ordinary investors who assemble portfolios of stock are no fools—unlike the third type of trader in this model.

3. *Noise Traders*

Noise traders are a hybrid of information traders and portfolio traders: they look like the latter, but behave like the former. Like information traders, noise traders seek to use new information in order to purchase underpriced stocks or sell overpriced ones. However, they trade based on information that does not actually indicate such a mispricing—usually because the information on which they are buying or selling has already been impounded into market prices by the time they have finished watching Power Lunch on CNBC. Thus, these market participants operate on the false premise that they possess a profitable informational advantage.

An example helps illustrate how these traders operate and why they generally lose. Suppose that Bud starts a hedge fund called Fox Investments LP. Suppose too that he watches cable news one Friday morning in his office while logged onto his firm's e*Trade account. Then he waits for the news to announce expected revisions to the University of Michigan's Index of Consumer Sentiment at 9:55 a.m. The broadcast shares the Michigan announcement, and it's good news: the index has

⁸³ See Hadiye Aslan, David Easley, Soeren Hvidkjaer & Maureen O'Hara, *The Characteristics of Informed Trading: Implications for Asset Pricing*, 18 J. EMPIRICAL FIN. 782 (2011); David Easley, Robert F. Engle, Maureen O'Hara & Liuren Wu, *Time-Varying Arrival Rates of Informed and Uninformed Trades*, 6 J. FIN. ECONOMETRICS 171 (2008).

⁸⁴ See ELROY DIMSON, PAUL MARSH & MIKE STAUNTON, *TRIUMPH OF THE OPTIMISTS: 101 YEARS OF GLOBAL INVESTMENT RETURNS* 42 (2002).

⁸⁵ See *id.*

gone up. This upward revision is interpreted as an indication that American consumers feel better about the state of the economy, and that they are therefore likely to buy more goods and services from publicly traded companies. Immediately after seeing the good news, Bud presses his trigger finger on his keyboard, submitting an order to purchase some exchange-traded funds that track the entire domestic market. By the time the order is transacted, however, those ETFs are no longer underpriced. The Michigan results would have to travel from Michigan or its agents to the news station to be broadcast, and then that broadcast would still have to make its way up to a satellite, and down to Fox's office—all before the fund's buy order travels from its computer, along fiber-optic cables to its brokerage's servers, which would then likely route the orders to one of many trading centers for execution. This process would take at least several seconds, which is an eternity in the contemporary stock market. Recent research shows that in this particular example, after the release of the Michigan data, it is likely that market prices incorporate the news in just 200 milliseconds⁸⁶—that is, long before Bud has even heard the news. So, Fox Investments has simply purchased a stock index at its new, more accurate price. It is paying what it is worth, but net of trading fees, it isn't making a profit on the stale information it is using to animate the trade.

Critically, the individuals who engage in portfolio trading through retail brokerage accounts and many of the ten-thousand-plus investment funds that operate in the United States⁸⁷ sit precariously close to the line that divides them from noise traders. And noise traders do not simply buy and sell securities at market prices that reflect the most recent information available. Instead, they 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) beyond what the new information at issue called for. This means that noise traders often buy at prices that are actually higher than the price dictated by the new information, and sell at prices that are actually lower than that price. It follows that, more often than not, their trading earns them losses as traders

⁸⁶ See *supra* note 70 and accompanying text.

⁸⁷ There are estimated to be over 11,000 hedge funds alone. See Lawrence Delevingne, *Hedge Fund Industry Snapshot: \$2.6 Trillion in 11,000 Funds*, CNBC (Aug. 31, 2014, 9:00 a.m.), <http://www.cnbc.com/2014/08/29/industry-snapshot-26-trillion-in-11000-funds.html> [<https://perma.cc/JF6M-UGCE>].

with better abilities to digest all available information silence the noise.⁸⁸

4. *Professional-Liquidity-Providing Traders*

The final type of trader in this market model is the professional-liquidity-providing one. Professional liquidity providers 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 at firm bid and ask price quotes. These professionals allow information traders, portfolio traders, and noise traders to transact stock immediately with certainty against those quotes. They focus not on understanding the fundamental value of the instruments they trade,⁸⁹ 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.⁹⁰ When there is lots of buying against their ask prices, they move both their bid and ask prices up around what the market appears to think the new value of the stock is. When there is a good deal of selling against their bid prices, they do the opposite. Professional liquidity providers are thus nothing more than the contemporary, broader version of traditional market makers—and, like portfolio traders, are market participants that buy and sell based on extra-informational reasons.

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 function for individual stocks. There was a specialist for IBM and P&G and every other high-volume public stock, and *he* stood there ready, willing, and able to buy from anyone who wanted to sell, and ready, willing, and able to sell to anyone who wanted to buy. And in the markets that existed away from the floor of these exchanges, securities dealers pro-

⁸⁸ Some traders might be able to consistently predict this type of noise trading and its short-run effects on market prices. They may therefore, for example, buy along with noise traders as the noise traders place upward pressure on prices through their mass buying, and then sell before market prices are corrected. To the extent that traders do this, they are information traders and not noise traders. But the information on which they trade is not socially valuable fundamental-value information that makes prices better predictors of the future cash flows firms will produce. Rather, it is simply order-flow and intra-market price-movement information that might erode price-accuracy.

⁸⁹ See HARRIS, *supra* note 5, at 277 (“[Liquidity providers] tend to . . . not know much about . . . the fundamental values of the instruments that they trade.”).

⁹⁰ See, e.g., *id.* at 401 (“[Liquidity providers] simply try to discover the prices that produce balanced two-sided order flows.”).

vided this liquidity. Today, high-frequency traders have replaced these more traditional market makers.⁹¹

A further level of detail is important for what follows. Professional liquidity providers' ask prices are, as a general matter, above the market's current assessment of a stock's fundamental value, and their bid prices are below that market value—with each spread out equidistantly from it.⁹² It is this spacing out of bid and ask prices around current values that allows professional liquidity providers to earn their “bid-ask spread.” And by placing their bid quotes and ask quotes equidistantly—yet not too far—away from stocks' current market values, they can better attract the even two-sided flow of trader buy and sell orders that they seek.

Because professional liquidity providers transact at this bid-ask spread, there is generally a difference between, on the one hand, the prices at which market participants can purchase and sell stocks quickly and, on the other, the market's valuation of those stocks. This delta dictates that a trader seeking to buy a stock from a liquidity provider will generally pay more than the stock's market value to procure it, and that a trader who wants to sell a stock to a liquidity provider will for the most part receive less than that value in return for it.

Critically, the size of this delta between the market's assessment of a stock's fundamental value and liquidity providers' ask and bid prices determines the quality of the price received by investors who want to trade on demand. Bid and ask prices that are closer to that market assessment result in better-quality prices for those who seek to transact on demand. And conversely, bid and ask prices that are farther away from that market valuation lead to worse-quality ones for those investors.⁹³

⁹¹ See Jonathan A. Brogaard, *High Frequency Tradings and Its Impact on Market Quality 2* (2010) (unpublished manuscript), https://secure.fia.org/ptg-downloads/hft_trading.pdf [<https://perma.cc/BPY4-W97Q>] (using a NASDAQ data set to show that high-frequency traders supply liquidity for over half of all trades); see generally Albert J. Menkveld, *High-Frequency Trading and the New Market Makers*, 16 J. FIN. MKTS. 712, 714 (2013) (describing the rise of the high-frequency trader).

⁹² See HARRIS, *supra* note 5, at 287–88 (“[Liquidity providers] . . . set their bid prices just below fundamental values and their ask prices just above . . .”).

⁹³ The quality of these prices is determined by much more than simply the spread between the best (highest) bid prices and the best (lowest) ask prices in the market. Liquidity providers post only a limited number of shares at those prices. They then post limited numbers of shares at a series of successively inferior bid prices and ask prices. So, the quality of the prices received by traders who transact on demand in this fashion generally depends on the quality of a mix of

An example helps make these important mechanical points easier to internalize. Assume the market currently values a stock at \$10.50 per share. If liquidity providers were transacting traders' sell orders for the stock at bid prices of \$10.48 per share, then those traders could sell the stock to the liquidity providers by accepting the \$10.48 price. If the liquidity providers were also executing other traders' buy orders for the stock at ask prices of \$10.52 per share, then those traders could procure it by paying the \$10.52 price. As such, when a liquidity provider buys the stock at its best (highest) bid price of \$10.48 per share from a trader's sell order, and then turns around and sells those shares to another trader at its best (lowest) ask price of \$10.52 per share, it would earn \$0.04 per each share bought and then sold. And from the perspective of other traders, there would thus be a \$0.02 spread cost associated with either buying from, or selling to, these liquidity providers—as buyers must pay \$10.52 for a stock worth \$10.50, and sellers only receive \$10.48 for the same. If the liquidity providers were instead posting best (highest) bid prices of \$10.00 and best (lowest) ask prices of \$11.00 around that same \$10.50 market value, traders seeking to transact on demand against them would be receiving markedly inferior prices.

What determines the quality of these liquidity-provider prices? As we discuss in the next section, the most important determinant of the quality of liquidity-provider prices in the market is generally information asymmetry.⁹⁴

quoted prices and the number of shares available at them—and not simply on the prices associated with the best bids and asks.

⁹⁴ Although professional liquidity providers make a business out of posting bid and ask quotes and earning their spreads, all other traders also can attempt to complete some of their trading by posting quotes against which other market participants can transact. That is, information, portfolio, and noise traders may try to achieve their buying needs not by transacting against liquidity providers' ask prices on demand, but instead by posting bids of their own—or complete their selling not by executing against liquidity providers' bid prices right away, but instead by quoting asks of their own. Today, at least on the registered exchanges where most trading takes place, any market participant can freely attempt to accomplish its trading needs via providing liquidity to other traders in this manner. Each registered exchange must allow brokers or dealers to become members of its exchange. See Securities and Exchange Act § 6(b)(2), 15 U.S.C. § 78f(b)(2) (2012). And all exchanges must post bid and ask quotes submitted by their members. See Regulation National Market System Rule 604, 17 C.F.R. § 242.604 (2016). When traders sit back and patiently buy and sell by waiting for other market participants to transact against their bid and ask quotes, respectively, in this way, they are said to “make” liquidity for the market. (In contrast, when they transact against other liquidity providers' quotes, they are said to “take” liquidity.).

B. Information Asymmetries and the Main Costs It Imposes

Talk of the concern for the harm that the ordinary, long-term investors incur at the hands of sophisticated pros who have better information is common.⁹⁵ It would be unfair in many circumstances, the thinking goes, if these individuals who invest directly through retail-level brokerage accounts or indirectly through portfolio-trading investment funds suffered losses as a result of investing in a market in which better-informed traders lurk. These information asymmetries and the “information-asymmetry costs” (IA costs) to which they give rise are the main costs about which regulators are concerned when they attempt to improve ordinary-investor fairness.⁹⁶ Given the centrality of the concern for these asymmetries and related costs to IDL today and the nature of our critique of its present form in Parts III and IV below, this section transitions to that original analysis by describing the most apparent way in which IA costs are observed in the market.

The clearest indication of the IA costs that portfolio traders incur is found in the quality of liquidity-provider pricing in the market. When professional liquidity providers hold out their firm quotes to the market, they make themselves vulnerable to traders who have better information on the true value of stocks. Professional liquidity providers thus often find themselves on the other side of trades with better-informed traders. This vulnerability makes sense. Professional liquidity providers are specialized market participants that learn the news through the flow of orders sent their way rather than based on their own analysis of new fundamental-value information before it becomes reflected in market prices.⁹⁷ Once again, their focus is instead on setting bid and ask prices that will produce an even two-sided flow of incoming buy and sell orders, thereby allowing them to earn a bid-ask spread from a long line of liquidity-demanding portfolio traders.⁹⁸ Focusing on things like the ratio of buy and sell orders that come their way rather than on things like the import of new corporate earnings’ announcements, professional liquidity providers frequently find themselves at an informational disadvantage when

⁹⁵ See *supra* subsection I.A.2.a.

⁹⁶ See *supra* Introduction.

⁹⁷ See *supra* section II.A.4.

⁹⁸ See *supra* notes 91–94 and accompanying text.

they supply their services to information traders—and therefore sustain trading losses to them.⁹⁹

All else being equal, when professional liquidity providers expect to incur larger losses at the hands of better-informed traders in any given time period, they quote inferior prices to the market.¹⁰⁰ By quoting bid prices that are further south from a stock's current value, and ask prices further north from that same value, they better deter information traders from trading opposite them by reducing their trading profits.¹⁰¹ Thus, professional 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.¹⁰²

This conclusion has special import for more than just professional liquidity providers. Of significance here, it means that portfolio traders—and therefore ordinary investors—will

⁹⁹ See HARRIS, *supra* note 5, at 299 (“[I]nformed traders choose the side of the market on which they trade, and the . . . [professional liquidity providers] end up losing money to them.”). For a more detailed explanation in the legal literature of exactly how information traders impose losses on professional liquidity providers, see Haerberle, *supra* note 67.

¹⁰⁰ For the seminal work modeling this information asymmetry and the adverse-selection issues associated with it, see HARRIS, *supra* note 5, at 6, 298; Lawrence R. Glosten & Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 J. FIN. ECON. 71, 75 (1985).

¹⁰¹ Glosten & Milgrom, *supra* note 100. Quoting inferior prices also helps liquidity providers in a second way: by increasing the amount of their take from each “roundtrip transaction,” in industry parlance, in which they are able to buy at their bid and turn around and sell at their ask opposite portfolio traders whose trading—unlike that of information traders—generally does not move prices. This helps them make up their losses through a steady spread with bid (buy) transactions at prices that are in fact lower than ask (sell) transactions. For the original work modeling the main way in which these liquidity providers offset their losses to information traders by transacting with “uninformed” investors, see Albert S. Kyle, *Continuous Auctions and Insider Trading*, 53 *ECONOMETRICA* 1315 (1985). See also HARRIS, *supra* note 5, at 299.

¹⁰² In today's market, the *average* spread between the best (highest) bid price for a stock and the best (lowest) ask price is quite small. For thickly traded large-capitalization stocks, the size of this spread is usually in the one-cent range and for thinly traded small-capitalization stock, that spread is typically in the nine-cent range. See, e.g., CFA INSTITUTE, *DARK POOLS, INTERNALIZATION, AND EQUITY MARKET QUALITY 5* (2012), <http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2012.n5.1>. However, even stocks with average spreads of a mere penny will have periods in which their spreads are far larger. And liquidity providers only quote limited quantities at their best prices, and then post limited quantities at a series of successively inferior ones. See *supra* note 93. Thus, a liquidity provider may protect itself in the way mentioned in the text by quoting inferior prices in two ways: by increasing the size of the spread between its best bid and ask prices for a period of time or by thinning out its offerings both its best bids and asks as well as all successively inferior bids and asks, or both.

face inferior prices when transacting against liquidity-provider quotes during periods of high information asymmetry in the market. Simply put, when information traders have knowledge of information that is not yet incorporated into market prices, liquidity providers—perceiving an asymmetry in information known by them versus that known by information traders based on the one-side buy (or sell) orders they are receiving—will protect themselves by quoting inferior prices until the information asymmetry is resolved.¹⁰³ And during those periods, portfolio traders—and consequently ordinary investors—will face inferior prices. Whether or not articulated in this fine-tuned way, it is mainly these IA costs that drive the concern for the harm that ordinary, long-term investors incur as a result of participating in a market in which better-informed traders lurk. And it is these IA costs embodied in price quotes of inferior quality that we use next to show previously unidentified effects of IDL on ordinary-investor wellbeing.¹⁰⁴

* * *

As this basic model of key aspects of the American stock market illustrates, four entirely different types of traders inhabit the market. While each of them is after financial gain, their very different motivations and strategies lead to them interacting in complex ways. Of paramount significance, information traders profit by discovering and bringing new information to the market. But to gain from speculating on this information, these traders must necessarily impose losses on some other traders. In this Part, we have shown how they do so—focusing on the direct losses they impose on professional market makers, the inferior-quote response by those professionals, and the resulting higher IA costs incurred by ordinary investors.

In the next Part, we build on this model to do what the securities regulators have apparently failed to do: attempt to

¹⁰³ See *supra* section II.A.4. Notably, these inferior prices are often material even when traders are buying and selling large-capitalization stocks that *on average* have a \$0.01 spread between the best bid and ask prices available in the market. Once again, the size of those *average* spreads fluctuates throughout the trading day, and at least large traders are concerned with both that size and the fact that they will often have to transact against limited numbers of shares at both those best prices as well as at a series of successively inferior bid and ask prices. See *supra* note 102.

¹⁰⁴ For a deeper look at the way in which portfolio traders incur IA costs, see Kevin S. Haeberle, *Welcoming Information Asymmetry* (unpublished manuscript) (on file with the authors).

see the true effects of the equal-timing requirements at the heart of IDL today on these IA costs. We thus explain how this growing and under-theorized area of the law actually affects the wellbeing of not only an important group of market participants who policymakers have long sought to protect as a general matter, but also the very group of investors who are alleged to be the principal beneficiaries of that area of law.

III

THE ACTUAL EFFECTS OF IDL ON ORDINARY INVESTORS' WELLBEING

In this Part we show how the simultaneous-dissemination requirements that define IDL today actually affect ordinary investors. We do so by first looking at how they affect information asymmetries in the market generally, and then by examining the impact of those effects on specific groups of everyday investors. In the end, we conclude that Reg FD has an ambiguous impact on the welfare of ordinary investors on the whole. We also explain some promise onto which it appears to have stumbled. But at the same time, we discuss why there is strong reason to believe that the regulation is 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). We also theorize that the NYAG initiative from the past few years that has stopped seconds-early access to market-moving information leaves ordinary investors worse off than they would be without it. And we briefly touch on why the SEC's 2014–2015 EDGAR initiative has an impact that falls somewhere between that of Reg FD and the NYAG's action—although closer to the latter. Thus, in this Part, we analyze the extent to which the current form of each of these examples of IDL furthers its primary stated ends.

A. Effects on Information Asymmetries in the Market Generally

To see how Reg FD and the related recent efforts affect the wellbeing of ordinary investors in general, one must think about the nature of information asymmetries in the market after new information is released in two worlds. The first world is the one in which we live today. The second is a hypothetical parallel one in which information producers are freely permitted to reveal their information in a tiered manner before sharing it more widely.

1. *Information Asymmetries in Post-Release Periods
When Simultaneity is Required*

Simultaneous-dissemination requirements have important effects on the trading environment in the tens of thousands of periods¹⁰⁵ throughout the year that occur after market-moving information is first released beyond those who are barred from trading on it.

When new information is first released to all potential investors at the same exact time in compliance with the law today, information traders immediately procure, process, and trade on it. All the while, at least those who specialize in something other than such speculative trading remain in the dark on at least the import of the new information for some period—even if they have the right to access it equally. In many cases, the informational disadvantage will be attributable to a lack of access to hyper-fast information-dissemination and trade-execution systems. In others, the issue will generally boil down to a lack of interest in the new information.¹⁰⁶ Thus, when public companies and other important information producers initially release information today, there is a period characterized by an asymmetry in information known by sophisticated information-trading pros and that known by almost all other market participants.

Crucially, though, this post-release period of heightened information asymmetry before business as usual picks up again must be both acute and short-lived. Thanks to equal-timing requirements, any trader can access corporate disclosures and the like as soon as they are released. It follows that those who aim to profit by trading based on at least relatively clear inferences from the released information must procure it, analyze it, and execute on it immediately—lest the competition beats them to the punch. In fact, in today's high-speed, electronic stock market, the value of at least computer-readable

¹⁰⁵ See, e.g., Jackson et al., *supra* note 19, at 9 (showing that over 40,000 filings by public companies were made during one 16-week period in 2014). Although so many public-firm disclosure filings are made each year, only some subset of them contains market-moving information. And, only a subset of those disclosures is released during the trading day. Whatever the exact number of important disclosures released during normal trading hours, two things are clear: the 5,000 or so United States public firms combine to make a very large number of disclosures that move market prices, and other entities that sit far outside the scope of mandatory-disclosure law also release a large number of similar informational products.

¹⁰⁶ See *supra* subpart II.A (comparing information traders' focus on new market-moving information to the extra-informational bases on which portfolio traders and professional liquidity providers trade).

information with import for market prices that can be evaluated with consensus valuation models is thought to disappear altogether within well under a second of its public release.

Both recent empirical study and industry practice evidence this conclusion. With regard to the former, financial economists studied the trading environment associated with the release of the data found in the University of Michigan Index of Consumer Sentiment. They found that, when it was known that this relatively easy-to-interpret information would be made available to the entire public shortly, the information routinely became incorporated into market prices with a flurry of trading activity within just 200 milliseconds of its release *to a dozen or so* information traders.¹⁰⁷ With regard to the latter, the information asymmetries are so powerful during post-release periods today that professional liquidity providers are known to cease to supply their services altogether when they expect or begin to detect the trading associated with the release of new information.¹⁰⁸ By taking the exceptional step of removing themselves altogether from the market during these brief bursts of information asymmetry, they broadly protect themselves from incurring losses to better-informed traders around the time at which they occur.¹⁰⁹

Of course, evaluating the true import of other harder-to-digest information may instead take much longer. But in a world with the current equal-timing mandates, information traders have little time to waste when it comes to the fast and furious race to profit based on even that type of newly shared information. They can either analyze the new information and trade on it as quickly as the competition, or sit this particular game out altogether.

Ultimately, then, under current IDL, a large amount of information asymmetry is often condensed into a small period of time lasting as little as well under a second that ensues after new information is made available to all investors.

¹⁰⁷ Hu et al., *supra* note 33, at 22–26; *see supra* notes 32–35 and accompanying text.

¹⁰⁸ On a panel at a securities-law conference at Columbia Law School with one of us in November of 2014, the CEO of one of the largest liquidity providers in the market today acknowledged this common response to the public release of new information. Douglas Cifu, CEO, Virtu Financial LLC, Remarks at Columbia Law School conference on “Current Issues in Securities Regulation: The Hot Topics” (Nov. 21, 2014).

¹⁰⁹ *See supra* section II.A.4 (explaining how professional liquidity providers protect themselves from better-informed traders in the market by quoting inferior prices).

2. Information Asymmetries in Post-Release Periods that Would Exist if Tiered Dissemination Were Allowed

To be sure, even in a world without the current simultaneous-dissemination requirements, there would still be heightened information asymmetries in the market following the release of new information. But those asymmetries after the time at which that information would first begin to be exposed to the market would generally look very different.

Without Reg FD, public companies could reveal their material information piecemeal to select traders before sharing it with the public. In a hypothetical world in which the regulation did not exist, then, some information traders would at times be able to access, analyze, and trade on information before the market more generally was even aware that it had been released. These fortunate traders would no doubt use the information to trade profitably as soon as they got their hands on it, aiming to buy underpriced stocks and sell overpriced ones opposite unknowing counterparties—just like in the current world where simultaneity is required. Critically, however, while the select traders with this type of informational advantage would want to act on the advantage before it dissipates, they would also have an incentive to attempt to trade under the radar in smaller increments over time. This type of trading approach would allow them to accumulate larger positions before their trading moves prices. This makes sense. If they instead pursued a fast-and-furious approach to trading like the one that must occur in post-(simultaneous) release periods today, then their own market activity would tip their hands to the market—thereby eliminating their informational advantage. Thus, they would try to build up their trading position over time with quiet, yet sustained, trading.¹¹⁰

Recent empirical study supports the notion that trading takes place in this manner when traders know that they have access to information significantly ahead of the time at which it will become more widely available. In fact, “significantly ahead of time” may include time-based advantages limited to a few minutes.¹¹¹

¹¹⁰ Recent empirical work evidences this phenomenon. See René Caldenteu & Ennio Stacchetti, *Insider Trading with a Random Deadline*, 78 *ECONOMETRICA* 245, 245–48 (2010).

¹¹¹ See Jackson et al., *supra* note 19, at 4, 25–26 (showing that when traders had an informational advantage based on early access to EDGAR filings in 2014–2015 that was expected to last a few minutes, as opposed to seconds, they spread out their trading throughout those minutes to avoid signaling their information to the market).

These observations give rise to the inference that information asymmetries in the stock market would be higher than normal after the first stages of (tiered) information release in this hypothetical world in which tiered information revelation were allowed. However, because the concern for the dissipation of the informational advantage does not dominate as it does when information must be disseminated to all at once, we should expect only slightly heightened asymmetry over the weeks, days, hours, and even minutes leading up to the time at which the information is expected to be announced to the public. The exact length of the period of heightened information asymmetry would depend on just how far ahead the initial tiered releases of the information began before the full public release of the information.

Of paramount importance, though, so long as the earlier releases occurred more than a handful of seconds or even minutes before the full public release, the information asymmetry would be of low-grade variety throughout a sustained period. After all, the portfolio trading that dominates normal times¹¹² would generally continue on throughout these periods. Indeed, if the post-(tiered) release trading by information traders is spread out over enough time, an enormous number of portfolio traders would come and go in and out of the market throughout that time.¹¹³ Thus, with the overwhelming majority of all activity in the market still attributable to non-information-based trading during these periods, there would only be a slightly higher chance than normal for any given trader to find himself at an informational disadvantage in the market.

Accordingly, in a world in which corporate information may be revealed piecemeal without restraint, market-moving information would often leak out over time—and, in contrast to today's post-release bursts, would then involve only slightly heightened information asymmetries distributed in a relatively smooth manner over a relatively large period of time leading up to the one at which the underlying information became more broadly available.

Of course, post-(tiered) release trading in a world without the NYAG's equal-timing effort would look different. In that world, some information would merely be released to some traders seconds before being disseminated to the entire marketplace. So, information asymmetries during those seconds would be hefty. And because so much of the import of the

¹¹² See *supra* note 83 and accompanying text.

¹¹³ See *supra* note 83 and accompanying text.

information would likely be incorporated into prices within those seconds-early periods alone,¹¹⁴ the information asymmetries associated with more normal times would return soon enough. In fact, this is just what happened when the University of Michigan released its market-moving index early to high-speed traders in 2013 and 2014 before the NYAG put an end to that practice: the new information in the index was routinely incorporated into prices in just the first 200 milliseconds of the two-second-early release, with trading then quickly returning to normal.¹¹⁵

Lastly, the information asymmetries in a post-(tiered) release market when trading based on seconds- or minutes-early access to EDGAR filings or the like is permitted looks similar—albeit with the acute asymmetries spread out over more than merely two seconds or so. This conclusion flows from the fact that EDGAR filings were often released by far more than merely two seconds in advance (with many coming in at more like three-to-five minutes), and that knowledge of the early-release did not seem to be widely known. So, information traders with somewhat secretive access to these types of “public” filings before the public gained access to them would likely be able to complete their trading slowly throughout, for example, an early-advantage minute or two. In fact, recent empirical study evidences just this type of trading by information traders when those traders had several minutes to complete their early-peak trading based on these filings as opposed to some far smaller amount of time.¹¹⁶

3. *Conclusion as to the Overall Effects of Simultaneity on Information Asymmetries Today*

The above comparisons of the behavior of information traders in a world with and without the types of existing equal-timing requirements examined here makes clear that those requirements have considerable effects on the asymmetry in information known by information traders and all other participants in the market *after* information is released. But with this background on those asymmetries in both a world with and without these requirements, the overall general im-

¹¹⁴ See Hu et al., *supra* note 33, at 22–26; *supra* notes 35–39, 45–47 and accompanying text.

¹¹⁵ See Hu et al., *supra* note 33, at 22–26; *supra* notes 35–39, 45–47 and accompanying text.

¹¹⁶ Jackson et al., *supra* note 19, evidence this drawn-out-trading result for such longer early releases when studying these very SEC releases; see *supra* section I.A.2 (discussing this trading dynamic more generally).

pact of those efforts on information asymmetries both before and after new information is released becomes clear.

At the outset, Reg FD has eliminated much trading based on material, non-public corporate information that was previously taking place in the hours, days, and weeks leading up to the time at which the information was being released to the public.¹¹⁷ Consequently, if tiered dissemination were instead allowed over this sustained period today, information producers would begin to selectively release their information well before its public announcement. Asymmetries between information traders and all other market participants would therefore be higher than normal during those post-(tiered) release periods. That is simply our hypothetical world in which tiered dissemination is allowed.¹¹⁸ What this means is that by banning the once-common practice of tiered dissemination of corporate disclosures, Reg FD slightly reduces information asymmetries throughout prolonged periods that take place *before* information is first released (to all at once) today.

But these improvements in information asymmetry are not free. Rather, there is a trade-off. In suppressing information trading in the period leading up to the mandatory widespread release of corporate disclosures, Reg FD causes there to be markedly higher asymmetries during brief *post*-release periods. This conclusion is simply the one presented earlier: that the regulation 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.¹¹⁹

Combining these two insights allows us to offer the following theoretical conclusion about Reg FD's general effect on information asymmetries in the market around the times at which new information is released today: the law results in asymmetries throughout prolonged periods that are slightly lower than they otherwise would be in the period leading up to full releases of new information (because much information trading is suppressed during that period), yet markedly higher ones in the period that takes place just after those full releases (because the information comes out with a burst of trading

¹¹⁷ See *supra* section III.A.1 (describing the type of selective-release trading that Reg FD eliminated).

¹¹⁸ See *supra* section III.A.2.

¹¹⁹ See *supra* section III.A.1.

when it must be made available to all at once when first released).

The related simultaneity initiative by the NYAG has a distinct effect on information asymmetries in the market. When some select group of information traders receives market-moving information two seconds before it is revealed to the market as a whole, its members know that they have only two seconds to capture their informational advantage.¹²⁰ Those privileged traders therefore transact ferociously during their early-peek window—meaning that there will be markedly higher information asymmetries during those tiny periods that occur just prior to the full public release of the information at issue. When the information is then more broadly released two seconds later, it has already begun to be incorporated into market prices. In fact, if material aspects of the new information are computer readable and their import is clear enough, the information will be incorporated into market prices in just a small fraction of that two-second window.¹²¹ So, the Attorney General's effort does little more than move the point at which brief periods of acute information asymmetries start forward in time from one moment (e.g., the two-second period just prior to 10:00 a.m.) to another that occurs just seconds later (e.g., the two-second period that begins with the one and only public release at 10:00 a.m. sharp).

The SEC's 2014–2015 initiative to clean up EDGAR filings has effects that fall somewhere between those of Reg FD and the NYAG action. However close it falls to either depends on the length of the early release that is being eliminated as well as the market's awareness of the early release itself. The effects of its elimination of minutes-early releases of important information might loosely mirror those of Reg FD. But it is clear that at least the end of early releases that lasted mere seconds did little more than move information asymmetries by that very small amount of time, just as with the NYAG action.

Thus, the likely general overall effects of Reg FD and recent related legal initiatives on information asymmetries in the market around the time at which new information is released are clear. Reg FD leads to slightly smaller asymmetries during prolonged Reg FD *pre*-release periods, yet markedly higher ones during brief Reg FD *post*-release ones. The NYAG's initiative from the past few years simply moves a period of acute

¹²⁰ See *supra* section I.A.2.

¹²¹ See Hu et al., *supra* note 33, at 1–6; *supra* notes 45–47 and accompanying text.

information asymmetry from, for example, the two seconds just prior to the public revelation of information to the two seconds just after it. Finally, to the extent that it stops tiered disseminations in the seconds-long range, the SEC's recent initiative to clean up its release of public-company filings likely affects these asymmetries in a similar way to the way in which the NYAG's action affects them. But to the extent that the effort stops opaque early releases better measured in minutes, its effects begin to look more like that of Reg FD.

B. Effects on the Wellbeing of Specific Groups of Ordinary Investors

In this section, we build on our general model of IDL-related information asymmetries by examining how the effects of Reg FD, the NYAG action, and the 2014–2015 SEC EDGAR initiative affect the wellbeing of ordinary investors. Specifically, we split the universe of ordinary investors into three groups based on how they trade, and use our conclusions from above to see how the law affects each. By undertaking this analysis, we do something that the proponents of these aspects of IDL apparently have failed to do: understand the extent to which they are theoretically sound given their principal aim. In the end, we conclude that despite regulators' apparent failure to think about the actual effects of their efforts on ordinary investors, there is reason to believe that at least Reg FD nevertheless holds some promise for many ordinary investors. But at the same time, it also becomes evident that both it and the other two main efforts in the area likely harm the most vulnerable ordinary investors. These understandings—as well as the more general ones laid out just above—provide valuable insights for anyone interested in crafting IDL that better achieves its principal stated ends. They also pave the way for us to offer reforms to IDL that would unequivocally better achieve those ends in the next, final Part of this Article.

1. *Group #1: Ordinary Investors Who Engage in Portfolio Trading at Random Times*

Portfolio traders do not trade based on information.¹²² So whether, for example, the individuals who engage in portfolio trading directly do so before or after news comes out and results in changes to market prices is about as relevant to them, *ex ante*, as whether they trade before or after they break for

¹²² See *supra* section II.A.2.

lunch. Before they trade, that sandwich-and-soda delay may cost them thousands, or may save them thousands—but each outcome has an equal chance of occurring. So, they can accomplish their rebalancing and similar trading by purchasing and selling when they please, without any rush dictated by the availability of new information. (They still may want to trade sooner rather than later for a number of reasons—including to avoid being in an unbalanced investment position for, for example, days beyond the time at which they realize they are in one.) Ultimately, then, the great majority of these traders will not time their submission of buy-and-sell orders based on when they expect new information to be released. Indeed, it would be tough for them to do so given the sheer number of potentially important information releases. Instead, they will trade independently of the time at which information is expected to be released.

Reg FD, once again, likely results in the market being characterized by slightly lower information asymmetries throughout prolonged periods *before* new information is broadly disseminated, yet markedly higher ones during brief periods just *after* that public (simultaneous) dissemination.¹²³ Consequently, those Group #1 investors whose portfolio trading happens to involve buying and selling in the long Reg FD *pre*-release periods today will incur IA costs that are slightly lower than the ones they would in the same (pre-public-release) time periods in a world without the regulation. But, that enhancement to ordinary-investor wellbeing comes at a cost: Many unfortunate Group #1 investors who engage in portfolio trading in a Reg FD brief *post*-release window will suffer the markedly higher costs associated with those dangerous periods.

For any of this first group of ordinary investors, the chances of being left better off as a result of a trade being executed during a long pre-release period in which information asymmetries are lower than they otherwise would be because of Reg FD are undoubtedly higher than that of transacting in a brief Reg FD post-release danger zone. The SEC regulation therefore likely leaves these investors better off in most of their transactions—but only slightly so. In contrast, many of the unlucky investors in this group whose trading stumbles into the moments just after information is released today are left significantly worse off due to the intensity of the information

¹²³ See *supra* section III.A.3.

asymmetry that is compacted into them. They incur critically higher IA costs.

Ultimately, Reg FD's implications for these Group #1 investors' wellbeing are ambiguous, as the relative magnitudes and probabilities of the *pre*-release boon to their welfare and the brief *post*-release harm to the same are unknown. Specifically, the implications turn on the size of the aggregate *pre*-release help to ordinary investors relative to that of the aggregate *post*-release harm. The relative size of each is an empirical question. But at present, it is safe to say that the SEC—which apparently failed to spot these issues—appears to have no basis to claim that Reg FD leaves ordinary investors better off.

Interestingly, though, the SEC may have nevertheless stumbled upon regulation that can actually help these ordinary investors in a meaningful way. Savvy portfolio trading can shield ordinary investors from circumscribed periods of heightened information asymmetry—even when their trading takes place at random times and without any effort to detect *post*-release windows. Those savvy traders who seek to avoid completing their non-time-sensitive trading during periods where information asymmetries are high—all the while without engaging in any market intelligence work whatsoever—can deploy a relatively simple trading technique in order to protect themselves from the markedly inferior liquidity-provider prices associated with relatively brief periods of acute information asymmetry: they can seek to accomplish their trading via immediate-or-cancel limit orders with a limit price that reflects the liquidity-provider pricing associated with normal times. By doing so, they ensure that their order to buy or sell either transacts at a price that reflects only lower-grade information asymmetries, or gets cancelled immediately.

To explain, imagine that a stock is trading at a \$10.48 best (highest) bid price and \$10.52 best (lowest) ask price around a then-current market value of \$10.50 per share. And imagine that this liquidity-provider pricing with a four-cent bid-ask spread is a typical one for this stock—that is, it reflects the normal asymmetries in information about the stock's value known by information traders versus that known by all other traders.¹²⁴ The savvy portfolio trader can submit an order to buy the stock at \$10.52, but place a limit price of \$10.52 on that order to make sure that it transacts at a price no higher than that limit price. If new information hits the market in

¹²⁴ See *supra* subpart II.B (discussing the role of information asymmetry in the setting of these market prices).

between the time at which the savvy trader looked at market quotes and that at which her order reaches a trading platform, liquidity providers might adjust the quality of their price quotes downward: to, say, \$10.00 best (highest) bid prices and \$11.00 best (lowest) ask prices around that same \$10.50 market value. Such a large downward adjustment in the quality of their price quotes would help protect them from being adversely selected by better-informed traders.¹²⁵ But thanks to the limit price of \$10.52, the trader's order to buy will be cancelled rather than transacting at an inferior \$11.00 best (lowest) ask price. (As its name suggests, an "immediate or cancel" order either executes immediately against a quote, or gets cancelled.) Within a short period of time measured by as little as a few seconds,¹²⁶ the new information is likely to be incorporated into market prices. With the information asymmetry ironed out, the trader can then return to the market to complete her trading at the more typical liquidity-provider prices, just a couple of pennies off from the stock's \$10.50 current market value—thereby largely eliminating the cost associated with the acute post-release information asymmetry.

Reg FD holds promise to help these ordinary investors because it makes it more likely that they will be able to use this trading technique to avoid the costs of post-release information asymmetry. This trading tool can be deployed to avoid transacting at markedly inferior prices caused by considerable information asymmetry that is condensed into milliseconds, seconds, and perhaps even minutes or more. But it is much less effective—if effective at all—when deployed to avoid the IA costs associated with sustained periods of low-grade information asymmetry that results from information seeping out to the market slowly. This is because the liquidity-provider prices in the market will be only slightly inferior to normal during those periods, and because those periods are prolonged.¹²⁷ The submission of an immediate-or-cancel limit order with a conservative enough limit price may avoid transacting against a slightly inferior quote, but the trader seeking to avoid that low-grade information asymmetry would have to do so over a large enough time period to incur other costs that perhaps make it not even worthwhile. With prices inferior by only small

¹²⁵ See *supra* section II.A.4 (describing this common liquidity-provider response to bursts of information asymmetry today).

¹²⁶ See Hu et al., *supra* note 33, at 22–26; *supra* notes 35–39, 45–47 and accompanying text.

¹²⁷ See *supra* section III.A.2.

amounts over such a long period, even the non-time-sensitive trading of a portfolio trader would likely prefer to simply pay the extra, for example, penny per share associated with the heightened information asymmetry rather than incur the various costs associated with holding a sub-optimal portfolio over days or even weeks.

Thus, Reg FD compacts information asymmetries into a smaller, acute period—thereby allowing portfolio traders to protect themselves from much of the bite associated with the release of new information. And although we have no reason to believe that regulators had this in mind when promulgating Reg FD, this apparent accidental genius of the regulation may provide a considerable benefit to many Group #1 investors.

We can, however, say that efforts like the one pursued by the NYAG to stop seconds-early releases will have no net positive or negative impact on these Group #1 ordinary investors. To the extent that their portfolio trades are submitted to the market during, for example, the two seconds before 10:00 a.m. on a day when market-moving information is being revealed to the public at that time, ordinary investors are now markedly better off thanks to the state-level effort. To the extent those trades take place in the two seconds just after that release, they are equally worse off because of the effort. Those two effects likely more or less cancel each other out. All that the ban does is move the two-second period of intense information asymmetry—and therefore heightened ordinary-investor IA cost—from one period to another.

How does the 2014–2015 SEC EDGAR initiative affect these ordinary investors whose non-time-sensitive trading is accomplished at random times? To the extent the effort put an end to early releases on the order of a mere handful of seconds, the effect on Group #1 investors mirrors that of the NYAG action. The general result, without considering more, is thus a wash. To the extent that it stopped tiered dissemination on the order of minutes, the effect begins to look closer to that of Reg FD.

But not all portfolio trading is, like that of Group #1 investors, randomly timed—including that of our second and third groups of ordinary investors.

2. *Group #2: Ordinary Investors Who Benefit from Portfolio Trading that Seeks to Detect and Avoid the Moments After Information Releases*

Despite the steady stream of material disclosures provided by 5,000 or so public companies in America and the similar flow of other products with market-moving information, it is likely that savvy portfolio traders are able to identify when much new information will come out. It is also likely that they became aware of the financial danger presented by the simultaneous release of information long before law professors figured it out. Although also apparently not by design, Reg FD likely leaves these ordinary investors facing lower overall IA costs—thereby providing additional promise for ordinary investors on the whole. However, the regulatory action to stop early releases of a mere handful of minutes or less likely makes no difference to the IA costs they incur at all.

Reg FD makes it easier for those who seek to detect the heightened information asymmetries associated with the release of information to in fact detect them, and therefore makes it easier to avoid IA costs associated with the same. This assertion becomes clear by quickly thinking once again about the information asymmetries in post-release periods in a world with Reg FD and one without it. In either world, sophisticated portfolio traders will attempt to assemble, balance, and liquidate pieces of their portfolios outside of the periods that take place after information begins to be released (whether piecemeal or to the entire market). After all, those periods are associated with heightened IA costs—whether slightly heightened (in the case of piecemeal releases)¹²⁸ or markedly heightened (in the case of simultaneous ones).¹²⁹ When successful at doing so, they avoid trading in those high-cost stretches. It follows that in a world in which tiered dissemination of corporate disclosures is allowed with no limit on the duration of the early release, these savvy traders will try to detect the asymmetries and avoid trading during the periods. Likewise, in the current world, they will try to do the same with respect to the brief post-release danger zones to which Reg FD gives rise.

Crucially, however, it is almost certainly easier to detect a brief burst of Reg FD post-release information asymmetry than a prolonged muted post-(tiered) release one. In the Reg FD world, firms are releasing their information at one point in time

¹²⁸ See *supra* section III.A.2.

¹²⁹ See *supra* section III.A.3.

to the public, rather than disseminating it piecemeal to select market participants over the course of hours, days, and even weeks. Firms have little incentive to keep mum about such a full release of information, yet much incentive to stay quiet about piecemeal ones. The latter allows the select groups that received the information to earn larger profits from it, which, if you gave someone an early look at valuable information, you might want to allow. In short, there is more transparency associated with full releases of information than piecemeal ones. Although no law requires such notice, it is thus more likely that firms will make the timing of those public releases—as opposed to ones to select groups of information traders—widely known ahead of time. Thus, as a matter of theory, Reg FD leaves the ordinary investors who engage in portfolio trading that seeks to detect and avoid the moments after information is released better off with respect to IA costs.

Still, it is important to emphasize a few caveats about this theoretical Reg FD aid to ordinary investors. First, as with the benefit to those who use limit orders to avoid brief Reg FD bursts of information asymmetry, the one discussed here does not seem to have driven regulatory action in the area. Second, Reg FD (and current IDL more broadly) contains no notice provision with respect to the release of new information. Instead, it merely requires corporations to make information available to everyone when they first release it beyond the firm. As a result, even these traders' ability to predict the timing of Reg FD danger zones is far from perfect. So, while some ordinary investors may be able to benefit by moving their relatively non-time-sensitive trading outside these post-release danger zones, most will no doubt find themselves blindsided by them from time to time as the stream of new information flows to the market without any notice whatsoever.¹³⁰ Lastly, this particu-

¹³⁰ Professional liquidity providers engage in similar detection and avoidance techniques. *See supra* note 102 and accompanying text. But, they are better positioned than even sophisticated ordinary investors to do so. Once again, reading the news is not part of their business. *See supra* note 99 and accompanying text. Instead, they learn information from the flow of buy and sell orders sent their way. To mitigate their losses to those who do focus their business on digesting news, they design algorithms that detect the type of abnormal trading activity associated with information trading. For instance, a flurry of buy orders may suggest to liquidity providers that their prices are too low. In response, the algorithm dictates that they will not just increase their valuation of the stock, but also that they should consider quoting inferior prices around it for as little as a second or so until the market returns to its more normal two-sided flow of incoming buy and sell orders. *See supra* notes 100–102 and accompanying text. Thus, they are able to indirectly detect and avoid many post-release dangers in a way in which even savvy portfolio traders are less likely able to.

lar Reg FD boon to ordinary investors is only available to those who engage in efforts to detect information asymmetries in the market. Many ordinary investors—such as those Group #1 investors who seek to avoid IA costs through the use of conservative limit orders—either find such efforts unprofitable or lack the sophistication to use them effectively.

Still, the result for these Group #2 investors is quite different when it comes to the effect of the NYAG initiative. Sophisticated traders who benefit from portfolio trading that detects and avoids the moments after information release will be unaffected by that “investor protection” work. They will be just as likely to be able to detect the impending two-second-early release of informational products at 9:59:58 a.m. as they are to be able to detect a simultaneous public release of the same two seconds later at 10:00 a.m. sharp. There is no reason to believe that those seconds-early releases were any easier or harder to detect than today’s perfectly simultaneous ones. The same principle applies to the SEC initiative relating to the seconds- and minutes-early releases of corporate filings.¹³¹ Thus, those recent campaigns likely leave Group #2 investors no better or worse off.

In sum, as a matter of theory, Reg FD leaves some fortunate Group #2 ordinary investors better off—even if their avoidance and detection abilities are limited and such avoidance and detection was not foreseen when promulgating the regulation. And mere seconds- and minutes-early simultaneity efforts like those embodied by more recent work by the NYAG and SEC make little difference for even these fortunate ordinary investors.

However, all of these legal efforts have yet another (and here perverse) previously unidentified effect on ordinary investors. This effect is specific to our third and final group of ordinary investors, which we turn to next. And it includes both an effect on ordinary-investor IA costs and their general wellbeing more broadly.

¹³¹ Interestingly, to the extent that Reg FD stops mere seconds- and minutes-early releases (or perhaps even hours-early ones), the result is more or less the same: little to no benefit for even these Group #2 investors. This means that it is only Reg FD’s preclusion of larger-scale practices of tiered dissemination that helps these investors.

3. *Group #3: Ordinary Investors Who Are Duped into Portfolio Trading or Noise Trading in the Moments After Information Releases*

Many ordinary investors intentionally engage in their direct trading through retail-level brokerage accounts in the moments after market-moving information is released. These individuals generally lack institutional-level resources and sophistication. It is thus these investors who are most vulnerable to the unfairness about which policymakers have long been so concerned in the IDL area as well as the securities context more generally.¹³² Yet, for two reasons, both Reg FD and the related efforts from the past few years likely *increase* the size of this third group of ordinary investors. The end result is both an increase in the amount of IA costs incurred by these individuals, as well as a more general decrease to their wellbeing.¹³³

All of the equal-timing mandates under examination promote a misunderstanding that likely has an important negative effect on many individual investors. The misunderstanding is that the law has evened the playing field between them and sophisticated information traders when it comes to trading based on the information in market-moving disclosures and the like. The misunderstanding is, well, understandable: the playing-field-is-leveled message is the precise one that regulators sought to deliver and are delivering. Regulators told these investors that they were now on equal footing with all other market participants when it came to first access to this information.¹³⁴

But the result of this perhaps technically accurate, yet substantively misleading, message is perverse, as adherence to this mythical view of securities markets leads many of these investors to conduct their portfolio trading in the moments just after firms and other entities disseminate new information. It is in those very moments in which these individuals are most susceptible to the information asymmetry that imposes costs on them. So, simultaneous-dissemination requirements increase IA costs for the many ordinary investors in this group by

¹³² See *supra* subpart II.A.

¹³³ A good number of the 11,000-plus investment funds in the United States no doubt act in the same way when trading on behalf of ordinary investors. See Delevingne, *supra* note 87 (noting the number of funds in the United States). However, for the sake of brevity, and because the policymaker concern for ordinary investors that motivates simultaneity efforts focuses so much on these direct-trading individual investors, we focus only on the latter here.

¹³⁴ See *supra* subpart I.B.

duping them into conducting their portfolio trading in post-release danger zones.

But the problem here is even larger than that presented by simply the increased IA costs in focus thus far. All three of the requirements examined here encourage these same individuals to depart from the rational world of portfolio trading, and to enter the irrational one of noise trading. Once again, rules requiring that new information be made available to all investors at the same exact time when first revealed beyond the firm or the like reinforce the view that there is a level playing field among various trader types when it comes to the ability to procure, analyze, and trade on newly announced information. This view is largely erroneous.

Few individuals can simply flip a switch and become successful information traders. In fact, even the intermediary funds through which so many ordinary individuals invest would be hard pressed to compete as information traders with respect to this specific type of information. Corporate disclosures and similar informational products are often simply announcements of valuable information (e.g., the financial statement in the 10-Q states that earnings came in at \$2.00 per share, thus beating market estimates by \$1.00 per share). That information often has a fairly clear consensus import for the market prices (e.g., those prices likely undervalue the company by \$0.10 per share). In at least today's world of highly evolved electronic trading, it is likely that only one specific type of information trader is able to profit on the basis of the release of such computer-readable information. That trader is the high-speed announcement trader.¹³⁵ And there are rumored to be only two dozen or so of these speedsters. So, when information producers disseminate their material information to the public in compliance with current law by releasing it to all market participants at the exact same time, it is often only these ones who are able to profitably trade on it right away.

But even if direct-trading individuals could compete on speed, they would likely be better off by following a buy-and-hold strategy of portfolio diversification. This is one of the central implications of the two pillars of modern corporate finance: Modern Portfolio Theory and the Efficient Capital Markets Hypothesis.¹³⁶ And the lesson that arises out of them pertains to almost all investors who fall outside a group consisting of pro-

¹³⁵ See *supra* section II.A.1 (providing an overview of this sub-type of information trader).

¹³⁶ See *supra* note 80.

professionals whose primary business is making information-based trades in the stock market. Thus, whether or not the information at issue is computer-readable and profitable for only a handful of highly sophisticated traders, leaving the world of portfolio trading to attempt to compete with professional information traders on the analysis of newly disclosed information is, at best, ill-advised for individual investors. Yet the way in which the law regulates the dissemination of market-moving information today paradoxically encourages just that behavior.

In sum, those ordinary investors who—emboldened by equal-timing requirements—intentionally conduct their direct trading as portfolio traders or noise traders in post-release danger zones are harmed by those requirements. And the policymakers behind these laws who primarily sought to help ordinary investors should find those results disconcerting. After all, it is these individuals who are most susceptible to the costs associated with a market in which some participants will inevitably be better informed than others, and it is also these individuals who often sit precariously on the line that divides those who engage in portfolio trading that generally enhances their welfare from those who engage in noise trading that generally erodes it.

* * *

This Part has demonstrated a simple truth: the actual effects of Reg FD and related efforts on ordinary investors are far more complicated than simple policymaker statements about their allegedly beneficial effects on them reflect. More specifically, the nuanced analysis presented here has shown what fairness-inspired simultaneity efforts actually do to the trading environment around the times at which the information is announced to the market—and, ultimately, what that means for the investors who are alleged to be the principal beneficiaries of them. Remarkably, if enough ordinary-investor trading takes place in the moments after new information is released, then Reg FD's equal-access regulation is actually making market participation less profitable for these investors despite the attempt to improve their lot. At the end of the day, though, the relative size of ordinary-investor trading that takes place in brief Reg FD post-release danger zones versus the amount that benefits from trading in sustained Reg FD pre-release periods in which there are slightly lower information asymmetries than there would otherwise be is an empirical question that sits far

beyond the scope of this study. At present, it is safe to say that there is no basis for concluding that the net of the effects of Reg FD on ordinary investors is significantly positive. Likewise, the negative effect of Reg FD on vulnerable ordinary investors is, without any dispute, out of line with regulator intentions to improve their experience as market participants. Moreover, that harm presented to those ordinary investors alone may very well outweigh any of the other theoretical gains we have identified.

All the while, there is strong reason to conclude that the net of the effects of related prohibitions on much more circumscribed earlier releases from the past few years provides no benefit to ordinary investors whatsoever. From at least the standpoint of market-microstructure economics, the NYAG action is worthless for these investors. In fact, however, from a broader perspective, it is likely worse than worthless, in that it no doubt leads to a misimpression about the market among at least direct-trading individuals, and thus encourages them to conduct their portfolio trading at the wrong times, and perhaps even worse, to become noise traders. Of course, the elimination of longer early-release periods better measured in minutes than seconds by the SEC as a result of its cleanup of the EDGAR system has an impact closer to that of Reg FD. But because, when disregarding outliers, it at the high end eliminated only early releases of about a few minutes, its ultimate impact has the same basic features of the NYAG action.

Still, the magnitude of each of the negative and positive effects of these simultaneous-dissemination requirements has not been evidenced in any empirical study with which we are familiar. That is not surprising. We believe this work is the first to identify them. But it is safe to say the following: regulators have no more basis to claim that the simultaneity mandates that define IDL today improve ordinary-investor welfare than we have to claim the opposite. Yet, that defining feature of IDL has been trumpeted and expanded in recent years. And in the next and final Part, we show that our analysis here gives rise to a simple inference: there are a number of ways in which IDL could be formulated to definitively achieve its stated ends—all without the need for any equal-timing whatsoever.

IV

REFORMING IDL WITH AN EYE ON ITS PRINCIPAL STATED GOAL

Simultaneous-dissemination requirements were primarily set up to make participation in the stock market fairer for

ordinary investors.¹³⁷ Yet, our analysis in Part III suggests that—at a minimum—they present no obvious net benefit to those investors. In fact, it demonstrates that some of these requirements harm at least direct-trading individual investors in a perverse manner. But our discussion so far also makes something else clear: ordinary investors would be left unequivocally better off if regulation helped them detect and avoid the IA costs associated with the trading environment after information is first released. It also makes clear that they would be left better off if regulators, at a minimum, did not indulge in mythology relating to the ability of direct-trading individuals to compete as successful information traders. So laws that help investors avoid the costs associated with information release would boost their wellbeing leaps and bounds beyond whatever is accomplished by the current bright-line equal-timing requirements found in the law—no matter how rhetorically pleasing they and their equal opportunities sound. For that reason, in this final Part, we set forth a series of reforms to show the following: even if the regulators who set forth the requirements for equally timed information releases that must happen today did in fact somehow stumble upon some net benefit to ordinary investors, the chief goal that drives those requirements can be far better achieved through more creative uses of IDL.

A. Disclosure of Disclosure

Today, no law restricts public companies and similar information producers from releasing their information when they please, without any advanced notice to the public whatsoever. For this reason, even savvy ordinary investors no doubt find themselves harmed by post-release information asymmetries with some frequency.¹³⁸ Yet, IDL could contain a simple notice requirement that would help these investors avoid those asymmetries—thereby leaving ordinary investors far better off than they are today.

The exact proposal? Require information producers to announce their intention to release any information that stands a decent chance of moving markets, and to do so well before making that release. The law could take a first step along these lines by requiring public firms to make these types of disclosures in order to inform the market as to when they are releas-

¹³⁷ See *supra* Introduction; *supra* Part I.

¹³⁸ See *supra* section III.B.2.

ing their required disclosures to the market. We thus refer to this proposal as one for “disclosure of disclosure.”

In an information-dissemination regime with this type of notice feature, at least savvy portfolio traders could plan the timing of their generally non-time-sensitive trading based on their new knowledge as to when information will be shared. They would thus exit the market from whenever new information was set to be released until the point in time at which the information was thought to be incorporated into market prices. Even many not-so-savvy everyday individuals who trade directly through retail-level brokerage accounts would be able to do the same—especially if the law required explicit notice to them through, for example, a warning delivered through their online brokerage account that popped up before their orders could be submitted to the market.

Although we focus on disclosure of public-company disclosures as a first step, it bears emphasizing that this reform could be used to protect ordinary investors with respect to the dissemination of far more than simply that type of information. There is no reason why regulators could not apply the concept to the revelation of the information targeted by the NYAG that is produced by universities, trade associations, and other entities—to the extent that they do not already provide notice on their own accord. Likewise, it is difficult to see why various government entities that fail to provide this type of advance notice of important information releases should not be included among the list of information producers that must inform the market as to their information-release plans—if the goal of protecting ordinary investors does in fact dominate other considerations. Like the lack of notice associated with corporate disclosure today, no law requires the producers of this other important information to alert the market as to their information-dissemination plans. Consequently, requiring this type of notice to the market would not only better protect ordinary investors from the information asymmetries associated with the release of the information targeted by Reg FD and related recent simultaneity efforts, but it would also contain the potential to protect them from a far wider range of those asymmetries.

To be sure, without some upward limit on the amount of time in which new information could be dripped out to the market, any of these types of disclosure-of-disclosure changes may prove of limited use to portfolio traders that are trying to avoid dangerous post-release trading environments. After all,

if the information producer leaked the information into the marketplace over a matter of days or weeks starting at noon on Wednesday, our notice that new information will begin coming out then might do ordinary investors little good. This is because the select traders with first access to the information might be able to at least tacitly agree to trade slowly under the radar so that their informational advantage might last over a sustained period.

Moreover, the mere announcement that market-moving information will be on its way soon (e.g., in two hours at noon) may create a loosely related problem: an increase in IA costs imposed on ordinary investors between the announcement time (10:00 a.m.) and the first release (noon) alone. The end result would be an extension of the length of the problematic window of information asymmetry to include that time period.

Lastly, with respect to public-company disclosure, there would also undoubtedly be instances in which the release of one company's disclosure would have implications for information asymmetries relating to other companies' stock. Indeed, the existence of those instances might be even more common than their absence.

The law could address all of these concerns without defaulting to an insistence on simultaneity. For example, the law could merely add an "information-dissemination shot clock" like the one we discuss below to ensure that the post-release information asymmetries were contained to an easily avoidable period of time. And it could rely on savvy portfolio traders' understanding, for example, that the expectation of new information from Apple from noon to 2:00 p.m. means that they should stay away from the market for Samsung during those two hours as well. But because of these concerns with mere disclosure of disclosure, if the law is to go down this road of reforming IDL along these lines to ensure that it actually furthers its primary stated goals, it should prefer a more robust reform to IDL—like the one we discuss next.

B. Set Information-Release Windows with an Information-Dissemination Shot Clock

A second, larger reform would be to build on the protections associated with disclosure of disclosure. There are many ways in which regulators could do so. Here we discuss the broad contours of one such way: requiring set information-release windows with an information-dissemination shot clock.

This reform would involve a requirement that the release of information occur within circumscribed windows set out in a transparent manner well ahead of time. This farther-reaching change to IDL would provide portfolio traders with notice of likely periods of high information asymmetry, just as disclosure of disclosure would.

To emphasize the point, the duration of the set information *windows* in which information could be released to the market would have to be capped for the reform to carry out its full potential. We refer to such a time-restriction provision as a “dissemination shot clock.” This shot clock would give information producers a set amount of time to complete their dissemination of new information, from initial selective revelation beyond the firm or the like to the time at which the information is made available to the public more generally. Unaccompanied by such a restriction, entities might reveal information piecemeal over long periods—leaving portfolio traders unable to identify exactly when within those periods they will be prone to significantly heightened IA costs. In fact, if the information revelation was dribbled out to the market slowly enough, and the trading based on that dribble undiscernible enough, portfolio traders might have to avoid the market long enough to impede even their generally non-time-sensitive trading goals.

Of course, the clock may be set for as little as a second or two, as was done by the market in the University of Michigan example.¹³⁹ But the clock could also be set for a much longer duration, perhaps up to a day or more. The University of Michigan and select information traders may very well have come up with such an arrangement on their own if not for the fear of regulatory action or related public-perception issues.

Whether or not the law should allow such a long shot clock given how information asymmetries could be hidden within the release period is a different question. But it is worth noting that even day-long maximum duration may do the trick. In fact, if the shot clock were set toward the longer end of the spectrum, portfolio traders might even be able to safely enter the market toward the middle or end of the dissemination window. This is because one can assume that information asymmetries would be greatly reduced by then, after the first information traders to receive the information transact fast and

¹³⁹ See *supra* notes 35–37 and accompanying text.

furiously in the early part of the tiered-release window, knowing of their circumscribed early-release advantage.¹⁴⁰

Whether set for a second or a day, with information revelation restricted to a relatively short, well-defined, and transparent window along these lines, ordinary investors and those trading on their behalf with notice as to when that time began and ended could temporarily exit the market. That exit would allow them—at minimum private costs—to avoid much of the IA costs associated with information release. They could then return to the market to complete their portfolio trading as they please.

Moreover, this second reform would also curtail those periods in a manner that helps ameliorate all of the issues on which we touched with respect to mere disclosure of disclosure alone. The set windows we envision would be for all information producers. Those market-wide windows could be part of the structure of stock trading at all exchanges and off-exchange trading venues. For example, they could be but a minute long, and positioned as frequently as on the hour every hour during the heart of the regular trading day. That type of set, transparent information-release window would leave the beginning and end of regular trading unchanged while also avoiding the effects of any idiosyncrasies associated with the opening and closing of the trading day. Or, the window could be set for all covered information producers for one hour each Wednesday, smack in middle of the trading week—thereby accomplishing much of the same, albeit perhaps with less disturbance of regular trading than that associated with even mere minute-long releases at the top of all midday trading hours. Or, lastly, the start times could even be set for after regular trading hours.

Likewise, the chances of information that is relevant for the trading environment associated with any given stock being released are still small. This means that the extent of any pre-window information asymmetry would be greatly mitigated. Thus, the scheduling of, for example, set minute-long information-release windows at the start of each trading hour, would be far less likely to result in any significant buildup of information asymmetry toward the end of each hour as would one-off announcements associated with disclosure of disclosure alone.

¹⁴⁰ See *supra* notes 70–71 and accompanying text (explaining why information traders aim to buy and sell quickly when they anticipate competition and the informational advantage ending within a small time period).

Lastly, the temporary, protective retreats we envision would likely be market-wide given that all new market-moving information (and not just one firm's) would have to be released in these set windows. This would eliminate the Apple-news-has-relevance-to-Samsung-stock problem, as portfolio traders would no longer have that type of challenge with respect to trying to determine just how widespread their withdrawal from the market should be when any one individual source of information is released.

Of course, if having these set windows of information release at the top of each midday trading hour (or even once a day for a few minutes at noon) is too disruptive for ordinary-investor wellbeing or trading more generally, then the frequency of those windows could be limited to as little as, for example, one time per week for all information producers. Such an information-release window could take place each Wednesday from noon to 1:00. While this type of interval may at first glance appear problematic for the flow of information from information producers to the public, the main benefits to which that flow is thought to lead (the improved capital allocation and corporate governance associated with more accurate stock pricing)¹⁴¹ are unlikely to require prices with more and better information each and every day. Indeed, the main law aimed at enhancing price accuracy in order to improve those ends (mandatory-disclosure law) only requires firms to make far-ranging disclosures on their prospects on a periodic basis more easily measured in fiscal quarters than days.¹⁴² Moreover, the law could of course make an exception for the release of urgent information, with administrative censure perhaps being enough to ensure that such an exceptional-circumstances caveat would not be abused.

Thus, instituting set information-release windows with a maximum information-dissemination shot clock represents a second, broader way in which IDL could be shaped to leave ordinary investors far better off than they are today. All the while, no law requiring information to be made available to all market participants at the exact same time would be necessary. Nor would any additional examination of the nuanced and hard-to-quantify effects of Reg FD and the related recent

¹⁴¹ See *supra* note 6 and accompanying text.

¹⁴² The United States is a periodic-disclosure jurisdiction, meaning firms are not required to disclose all compelled information as they learn of it on any kind of continuous basis, but only in an "ongoing, periodic" manner.

efforts on ordinary investors—which presently are far from clear and open to substantial critique.

* * *

This final Part demonstrated that IDL can be shaped to help ordinary investors in a manner far beyond whatever is accomplished by its current one-dimensional focus on simultaneity. Specifically, it has presented examples of reforms to this emerging area of the law that would result in unambiguous, material improvements to ordinary-investor wellbeing. Thus, it offered changes to the way in which the revelation of market-moving information is regulated that would better meet the primary policymaker goal in the area than the current unimaginative approach that centers on equally timed dissemination to all. And given that there is little basis for concluding that the current regime and its central attribute do much—if anything—toward that end, the ideas for change should have considerable appeal for policymakers.

Of paramount importance, however, whether or not these reforms are welfare enhancing for society, as opposed to just one subset of the investing community, is something we have not analyzed. Instead, we have taken the law and policymakers on their own terms—attempting to restrict our focus to the relatively narrow set of issues relating to the primary stated goal in each of the simultaneity initiatives in focus here. We must therefore caution against irrational exuberance toward our proposals. After all, our proposals no doubt have costs. Whether the ordinary-investor benefits to which they lead outweigh those costs is a distinct issue to the ones addressed in Parts III (whether the defining feature of IDL today enhances ordinary-investor welfare at all) and IV (whether IDL can be shaped in a manner that would unambiguously achieve that end).

What are the main costs of the proposals?

For one thing, by protecting ordinary investors, proposals like the ones described here take away profits from information traders—thereby reducing the incentive to engage in price-correcting work on the part of the latter. The result of implementing the proposals without safeguards for the production of accurate stock prices might therefore be undesirable.

For another, perhaps perceptions matter more than reality, and if implemented without still requiring simultaneity, our proposals would result in harms associated with perceptions of unfairness. The feeling—in and of itself—of unfairness associ-

ated with a major institution in society involving unequal access to information represents a social harm. Moreover, that social harm might be especially acute when the perceived unfairness involves the perception of unevenness between a group of individuals within the top 1% of wealth in society (here, the individuals whose money stands behind information traders) and a group of individuals with more varied financial net worths. Additionally, the costs associated with any lower levels of ordinary-investor confidence in the market that arose out of the perception might lead to lower levels of ordinary-investor participation in the market. The costs of such reduced investment can be quite serious, including illiquidity, a higher cost of capital for firms, and a lower level of stock-price accuracy.

We scratch the surface on these considerable concerns here merely to ensure caution among regulators when pursuing reforms to IDL. But given these considerable concerns with even reforms to IDL that unambiguously improve ordinary-investor wellbeing, we therefore step back to gain perspective and ask what are perhaps the most important questions of all those asked thus far: Should IDL even be used in order to help ordinary investors? And, is its present form fine—albeit for all the wrong reasons, if you take policymakers at their word with respect to the primary rationale behind simultaneity today?

Answering this and related questions would require a good amount of further study. But as we approach our concluding thoughts, we note merely the following three broad points. First, we have discerned an emerging area of securities law that we believe is analytically distinct from the areas in which it has been lumped (securities-disclosure law when it comes to Reg FD, and insider-trading law it comes to at least the NYAG effort). Second, that the area's defining feature today has an ambiguous and difficult-to-quantify effect on ordinary-investor wellbeing despite its main stated end. Third, the area can easily be shaped to far better achieve that end, for example, by pursuing the types of reforms we introduced here. We have also added caution into the mix due to larger considerations of securities law—namely, those relating to stock-price accuracy and (even false) perceptions of ordinary-investor danger. But we would be remiss in not bringing up one final intriguing issue presented by these findings: can this area of law that has been to date thought of only as a one-trick pony be developed in a creative way to improve ordinary-investor wellbeing, stock-price accuracy, and perceptions of fairness all at the same time? In addition to taking note of what our journey in this

paper has revealed in more detail, we touch on this question and the potential for IDL to be shaped in such a manner to improve securities law on the whole in the Conclusion.

CONCLUSION

When it comes to the market-moving information around which modern federal securities law has long revolved, policy-makers and those to whom they appeal have often suffered from a blind devotion to fairness-inspired legal interventions. The extent to which the foundation of that body of law (mandatory-disclosure law) and its two main overlays (securities-fraud law and insider-trading law) are in fact justified on fairness grounds has been hotly debated. Yet despite the controversy, the faith has remained unquestioned when it comes to the newest addition to this disclosure-based area of the law—an area that we have named information-dissemination law.

In this Article, we questioned important securities laws and the reasoning behind them, taking a first step toward better understanding them. More specifically, we reviewed a series of regulatory initiatives that have been thus far treated as discrete. Stepping back to view them together, however, we asserted that the efforts were all representative of an emerging area of law. And we pointed out that the defining feature of that area today is found in the requirement that market-moving information must be made available to all investors at the same exact time when first revealed.

But, as shown in the Article, the assumption that the protection of ordinary investors compels the dissemination of such valuable information to all at once is not supported by the reality of interactions in the stock market today. Moreover, the monolithic focus on simultaneity in IDL has eclipsed the identification of a broader set of issues relating to how the revelation of this important information should be regulated, thereby blocking policymakers from even noticing that there is an area of law here with fascinating potential uses.

More specifically, we detailed how the hallmark of IDL is simultaneity in the name of ordinary-investor fairness. Yet we showed, as a matter of theory, that the effects of the main example of IDL (Reg FD) on ordinary investors are far from clear—and that the regulation perversely left the most vulnerable ordinary investors worse off. We also explained why at least one related simultaneity effort from the past few years likely left ordinary investors worse off altogether.

Given these findings, the Article presented new ideas for shaping IDL in order to unequivocally better achieve the primary regulator goal in the area. Proposals based on our thinking, such as the two concrete ones we set forth, would without any doubt help everyday investors better avoid the dangers associated with the revelation of new information to the market. After all, disclosure of disclosure would allow them to steer clear of town when the slaughterhouse is open for business, and set information-release windows with information-dissemination shot clocks would do the same—albeit with even broader protections.

There are still of course other fairness-inspired reforms that are consistent with our thinking. For example, whether in addition to one of the above reforms or on its own, there is something even more basic that the SEC could do that might be in and of itself more helpful than compelling the simultaneous release of information: provide ordinary investors with some simple information on how to protect themselves from a market that will be characterized by dangerous information asymmetries as new important information is being revealed. More specifically, the SEC—through its Office of Investor Education and Advocacy—could engage in an educational campaign. The campaign we envision would encourage ordinary investors to participate in the stock market through sophisticated funds that simply index the market rather than on their own—although other creative similar alternatives on which we are less bullish exist too (e.g., those associated with educating individual investors on the use of beneficial trading techniques¹⁴³). The educational effort would thus likely both help reduce the extent to which these investors are harmed by the information asymmetries associated with the release of new information, and the extent to which they participate in the market as noise traders.

But all of these ideas focused on protecting ordinary investors merely scratch the surface of IDL, as how society regulates the revelation of market-moving information has implications that emanate far beyond that one securities-law goal to affect current thinking about the ends of securities regulation on the whole.

For one thing, the tenets established in this paper open the door to the intriguing question posed at the close of Part IV: Can this emerging area of the law be shaped in a manner that

¹⁴³ See *supra* section III.A.1 (discussing one such trading technique that can sometimes be used by portfolio traders in order to limit the IA costs they incur).

addresses concerns for ordinary-investor fairness, ordinary-investor perceptions of unfairness, and stock-price accuracy all at the same time? Our inclination is that this question might be answered in the affirmative. For example, if tiered dissemination of new information is not necessary to achieve current levels of ordinary-investor wellbeing, then why not allow companies to sell early-access rights to their disclosures in a well-regulated market for early access to corporate disclosures? If firms were able to sell early-access products with required disclosure of disclosure or within set information-release windows with information-dissemination shot clocks, then market forces could go to work in a manner that would provide them with powerful incentives to produce and share more robust disclosures than merely those required by mandatory-disclosure law today. So, the market would get more of the information that it wants. All the while, ordinary investors would be left far better off than they are today. Likewise, so long as all information traders were able to access corporate disclosures equally at the time of their initial release, any Reg FD-style concern for the integrity and competitiveness of the price-discovery process¹⁴⁴ may be largely muted.

For another thing, thinking about IDL as an area of law that can be shaped to bring about a number of ends beyond mere enhanced fairness leads to an additional insight: IDL can be used to address more than even securities-law issues relating to the disclosure of information. For example, set information-release windows with an information-dissemination shot clock could help move insider-trading law forward. Ordinary-investor fairness concerns have long animated policymaker action in that area of securities law as well—even if most scholarly commentators today believe there is no fairness issue whatsoever. To the extent that fairness is an issue in that area, could it not be greatly reduced by implementing a simple requirement that insiders trading based on material, non-public information must do so during set windows—for example, from noon to 1:00 each trading day? Of course, there are other concerns about allowing insiders to trade based on this information (namely ones for stock-price accuracy¹⁴⁵). Whether or not our information-release windows provide promise to address these concerns is an issue far beyond the scope of the current work. But it is clear that those windows—at a minimum—would clean up the law by removing much of the need (if

¹⁴⁴ See *supra* subsection I.B.1.c.

¹⁴⁵ See Goshen & Parchomovsky, *supra* note 53.

any in the first place) to be concerned for the wellbeing of ordinary investors that results from insider trading. Perhaps most importantly, such an approach might open up space for a clearer understanding as to why we have insider-trading law in the first place. After all, if those windows take care of the ordinary-investor concern, the limits on insider trading would presumably have to be supported by consensus thinking on the practice's harm to price accuracy or some other social good.

We will stop there with respect to these ideas for reforming IDL to allow for a well-regulated market for early access to corporate disclosures or a better insider-trading regime. The former part-regulatory-based, part-market-based framework for the dissemination of new information has price-accuracy (and other) positive implications that go well beyond the typical focus of regulators when it comes to the timing of information dissemination. And the latter has the potential to address what has long been one of the most controversial issues in securities law. But by introducing the ideas here, we further contextualize our criticisms of current IDL (namely, its current monolithic focus and lack of imagination). And we open the door for thinking about how IDL can be crafted to better achieve the larger goals of the field—all the while without transferring wealth from, at a minimum, the most vulnerable ordinary investors to professional ones as it does today.

To us, closing with these implications that go far beyond the effects of Reg FD and the like is a natural consequence of thinking about IDL as an area of securities law rather than a simple one-trick pony that works well in sound bites. To be sure, we cannot say for certain that the implementation of some combination of one or more of our IDL proposals would provide a lower cost means of obtaining the current levels of ordinary-investor wellbeing. We likewise cannot say for sure that any benefits relating to higher levels of ordinary-investor wellbeing would outweigh their costs. Likewise, there has been no study to date of whether or not both ordinary-investor wellbeing and price accuracy would be materially improved if firms were allowed to sell their disclosures in a market for early access to corporate disclosures that incorporated the regulatory safeguards embodied in our thinking on IDL. And implementing set insider-trading windows could have all sorts of negative effects on, for example, perceptions in a society where so many object to the power and wealth of so few. We leave the analysis of the desirability of at least wider changes to IDL and the considerable shift to the approach of modern securities regula-

tion embodied in them to distinct study. But we can say that we have opened the door to thoughtful and valuable innovation in an area of securities law (information-dissemination law) that has received little attention relative to the main mandatory-disclosure, securities-fraud, and insider-trading law focuses of the field.

Two final concluding points bear mention. First and foremost, it is important to emphasize the drawbacks of implementing our ordinary-investor-friendly proposals. As we discussed at the close of Part IV, it is likely that our reforms have down sides. For one thing, concerns relating to perceptions of unfairness alone might prove to be a recalcitrant enemy—no matter what the reality of the situation is. For another, trade-offs associated with the incentive to produce information about firms' prospects might be unavoidable when shaping IDL in a manner that protects ordinary investors from information asymmetries.

Indeed, the latter concern alone raises an important conceptual point for the law. If the status quo is preferable to our reforms because of a concern for the ability of information traders to earn profits from ordinary investors, then the law should be transparent about its intent. The continuation of existing IDL should therefore be justified not based on what it does to protect ordinary investors, but rather based on how efficiently it guides lambs to the slaughterhouse to satisfy information-trading appetites—all in the name of price accuracy. Ironically, despite all of the ordinary-investor rhetoric, the main clear advantage of an information-dissemination regime built on equally timed access to information over one built on disclosure of disclosure or the like is that the former is better for funding information traders. So if the law opts to go with the status quo because of its importance to the price-discovery process despite the effects on ordinary investors identified here, a recognition of the truth of that conclusion among policymakers and commentators alone would represent an important step forward for the law in and of itself.

Second, and lastly, on a broader level, our analysis provides yet another example in the growing pile of examples of securities-law works that recognize the realities of contemporary securities markets and differentiate between different types of market participants.¹⁴⁶ Taken together, these works

¹⁴⁶ See generally Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191, 196 (2015) (describing a conceptual framework of stock market analysis based on “adverse

and their incorporation of concepts from market-microstructure economics are providing a force that even the most entrenched ideas and government officials will not be able to resist. That force is pushing in favor of recognizing that, despite conventional wisdom about irreconcilable differences and trade-offs among different types of market participants with different types of goals, those participants can prosperously co-exist in securities markets. Adding to this growing literature represents an important step forward for the law in and of itself. Encouraging analysis of the law that is consistent with reality alone represents progress.

selection, the principle-agent problem, and a multi-venue trading system"); Fox et al., *supra* note 73; Haeberle, *supra* note 67, at 122 (asserting that regulators can reform little-noticed stock-market rules to materially improve the accuracy of public companies' stock prices); Haeberle, *supra* note 104; Kevin S. Haeberle & M. Todd Henderson, Making a Market for Corporate Disclosure (U. Chi. Coase-Sandor Inst. for L. & Econ. Research Paper No. 769, 2016), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2814125 [<https://perma.cc/HXG5-2C37>].