SPEECH

"Seeing Capital Markets Through Investor Eyes"

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Good afternoon. I am delighted to be here at the Consumer Federation of America's ("CFA") 26th Annual Conference—The Consumer in the Financial Services Revolution. I am particularly pleased to have been introduced by Barbara Roper, a brilliant securities lawyer, and a strong voice and true champion for the rights of American consumers and investors. She is a rare combination that is needed in today's world.

Before I begin my remarks this afternoon, I need to issue the standard disclaimer that the views I will express today are my own and do not necessarily reflect the views of the Commission, my fellow Commissioners, or members of the staff.

I was delighted when I was asked to speak to you about investor protection. As soon as I became a Commissioner, I began to speak out about the need to put investors first.[1] I cannot think of a more relevant issue for an SEC Commissioner. I think each item on the Commission's agenda should be evaluated based on how it impacts investors—particularly retail investors.

The focus on investors is fundamental—simply stated, investors provide the capital that allows companies to grow and expand and to hire more workers. It is investors who are the real "job creators" in our economy. As such, it is in the country's best interest that we ensure that there is an investment environment that works for investors, particularly the retail investors that live and work on Main Street.

I recognize that there are many issues of significant concern to investors—for example, the importance of applying the same fiduciary standard to both investment advisers and broker-dealers when they provide personalized investment advice,[2] concerns regarding audit quality and the independence and skepticism of auditors,[3] and the need to restore confidence in our financial system by continuing to work on implementing many long-overdue requirements of the Dodd-Frank Act.[4] Today, however, I would like to focus my remarks on the following topics:

- Facilitating true capital formation, and not just capital-raising, through strong and effective regulation;
- The need to promote investor protection through effective and responsive corporate governance; and
- Revisiting the trading markets and Regulation NMS to assess whether the current market structure appropriately serves individual investors and facilitates capital formation.

The Reality About Capital Formation

As I am sure you know, the Commission's mission includes the facilitation of capital formation. It is a responsibility I take seriously.

It is important, however, to understand what facilitating capital formation really means. When

Congress included the consideration of capital formation in the SEC's mandate, it did not define the term,[5] but its meaning is well understood: Capital formation is the "expansion of capital or capital goods through savings, which leads to economic growth."[6] In essence, capital formation refers to all those activities that have the effect of increasing the productive capacity of our economy, like improving infrastructure, building plants, and hiring workers.[7]

Unfortunately, in today's debate, when many say capital formation, what they mean is simply capital-raising. That's the wrong goal. The singular act of raising capital does not necessarily result in capital formation—for example, whatever makes it easier and cheaper for issuers to raise money does not necessarily increase the rate of capital formation[8]—and, in fact, can be detrimental to capital formation.

In my five years as a Commissioner, I have considered countless enforcement recommendations that involve some very good capital raisers who raised millions of dollars through fraudulent means. Unfortunately, these fraudsters ended up destroying the capital they raised, rather than putting it to work toward economic growth.

Facilitating true capital formation means making sure that investors have the information needed to make informed decisions. The goal is for issuers to provide potential investors with appropriate and sufficient information so that investors can assess the risks and potential rewards of investing their capital.[9] True capital formation is about ensuring that the companies with the best ideas, even if those ideas are risky, can get the financing they need to make those ideas a reality.

For that goal to be reached, the research makes it clear that we need strong and effective securities regulation that fosters appropriate disclosures.

The theory of why strong mandatory disclosure drives capital formation is straightforward. Disclosure improves the accuracy of share prices, and helps to determine which business ventures should receive society's limited capital.[10]

Economic theory explains not only why disclosure is valuable, but also why regulation is essential for adequate disclosure to be provided. There are a lot of reasons for this. One principal reason is that disclosure is, in economic terms, a "public good" in that its benefits are enjoyed broadly by the public—across all investors, prospective investors, competitors, and other interested parties.

Regulation also sets a level playing field by subjecting all companies to the same requirements. Without regulation mandating public disclosures, the widespread benefits of comparable disclosure would not be achieved, and investors and the public would not receive the information they need. As a result, shareholders would be unable to judge how management is performing, and investors would be denied information to inform their investment decisions. The public nature of the disclosure leads to decisions that allow our economy to be as strong as it can be.[11]

This theory has been evidenced in several empirical studies over the past decade clearly showing the positive effect of securities regulation and mandatory disclosure.[12] Moreover, there are many economic studies that find that public disclosure is not only valuable to investors but that it is also valuable to the companies that make it and, more importantly, to the economy as a whole.[13]

Unfortunately, notwithstanding the "real-world" evidence, we have recently seen a focus on legislation—such as the JOBS Act—that seems to prioritize making "capital-raising" quicker and cheaper, while often overlooking what is required for real capital formation. The clearest example of this is the new general solicitation provisions in Rule 506 of Regulation D, which

were enacted without including the investor protections that many investors, academics, and state regulators recommended.[14]

The risks of Rule 506 offerings are well documented. According to recent statistics, Rule 506 offerings are still the most frequent source of enforcement cases conducted by state securities regulators.[15] General solicitation simply exacerbates this problem by enabling potential fraudsters to cast a wider net. That is why the North American Association of Securities Administrators ("NASAA") predicts that "scam artists are likely to use" general solicitation under Regulation D "to their advantage."[16] Like NASAA and many others,[17] I am concerned that removing the prohibition on general solicitation, without strengthening investor protections, puts investors at risk.

It is telling that, when the Commission adopted the amendment to Rule 506, the Commission directed the SEC staff to execute a comprehensive work plan to review and analyze the use of the new exemption. The work plan includes, among other things:

- Assessing whether availability of the new exemption actually facilitates new capital formation;
- Monitoring the market for increased risks of fraud;
- Incorporating an evaluation of Rule 506(c) offering practices in staff examinations of registered broker-dealers and registered investment advisers; and
- Coordinating with state securities regulators on information sharing.[18]

However, for this work plan to be successful, the Commission needs access to timely and useful information regarding the use of the Regulation D exemptions. To that end, at the same time that the Commission adopted the rule permitting general solicitation and advertising, the Commission also proposed rule amendments intended to enhance the Commission's ability to evaluate the development of market practices in Rule 506 offerings—as well as to address obvious concerns regarding the use of general solicitation and advertising under Rule 506(c).[19] Among other things, the proposed amendments would enhance the information required to be included in Form D, require the filing of a Form D in Rule 506(c) offerings before the issuer engages in general solicitation, and provide for the filing of a closing amendment to Form D after the termination of any Rule 506 offering.[20] In addition, the proposed amendments would require written general solicitation materials to include certain legends and other disclosures, extend the antifraud guidance contained in Rule 156 to the sales literature of private funds, and disqualify issuers that fail to make required filings under Rule 506 from using that exemption for future offerings, for at least a year.[21]

It is now almost five months since those proposals were issued for public comment. I urge the Commission to move forward promptly to adopt the proposed rules. Doing so will not only provide a number of important investor protections that were unjustifiably omitted when the general solicitation rule was adopted, it will also provide the Commission's staff with the necessary tools to assess whether that change has actually had the desired effect on capital formation. Every day these proposals are not adopted is another day that investors face greater harm.

Shareholders as Owners

Now, I would like to go beyond the investors' essential role as capital providers and focus on their rights as owners of public companies. As owners, public company shareholders have a vital role to play in corporate governance, and they have important rights under federal and state law. In particular, among other rights, shareholders have the right to vote for the election of directors and other significant matters and to make their views known to the company's management and directors on various issues affecting the corporation and its security holders—

including the compensation of the company's most highly-paid executives[22] and matters of significant social policy.[23]

Given current practical realities, most corporate shareholders exercise their voting rights by proxy, which makes federal regulation of the proxy process an important focus for investor protection.[24] Federal proxy regulation should seek to make sure that shareholders have the information they need to make voting decisions, and that the proxy process provides an effective mechanism for the exercise of shareholder voting rights. In that regard, recognizing the traditional role of the states in regulating corporate governance, the Commission has long sought "to improve the corporate proxy process so that it functions, as nearly as possible, as a replacement for an actual in-person meeting of shareholders."[25]

This goal drove the Commission's efforts to adopt a proxy access rule, which would have provided shareholders with access to a company's proxy materials to include their nominees to the corporate board of directors.[26] Unfortunately, that rule was vacated, in part, by a Federal appellate court following a challenge by special interest groups representing businesses and corporate executives. Although it is important that the Commission try again to address this issue, even in the absence of full proxy access, it is worthwhile for the Commission to examine whether any of its existing rules present an obstacle to shareholder voting.

As just one example, consider the status of so-called "short slate" election contests. A "short slate" arises when a shareholder wants to nominate one or more of its own candidates for director, but is not seeking board control. The SEC's current rules make it cumbersome for anyone soliciting proxies to distribute a single proxy card that includes nominees from both the management slate and a shareholder's slate.[27] Moreover, state law generally precludes shareholders from delivering multiple effective proxies for the same election. As a result, shareholders have virtually no ability to "split their tickets"—that is, to vote for a combination of shareholder nominees and management nominees. As a practical matter, this disenfranchises shareholders and discourages shareholder involvement in the process.

To address this concern, the Commission's Investor Advisory Committee[28] recently submitted a recommendation that the Commission explore relaxing its rules to provide any person soliciting proxies with the option to distribute a "universal ballot" in any proxy contest in which the outside candidates would not control the board if elected.[29] All shareholders could then have the opportunity to vote for the election of directors as they see fit, regardless of whether the candidate was nominated by management or outside shareholders.

This is a concept worth exploring. Removing artificial barriers to shareholder nominations would help protect investors by improving shareholder choice and making both management and boards of directors more responsive to the interests of investors. Over the long run, such enhanced engagement in the corporate governance process would foster greater system integrity, investor confidence, and promote capital formation.

Revisiting the Trading Markets and Regulation NMS

As part of our ongoing efforts to promote a favorable environment for capital formation and increase investor confidence, it also should be a high priority for the Commission to take a hard look at whether the trading markets appropriately serve individual investors and facilitate capital formation in the most efficient and productive way possible.

As we are reminded on a daily basis, the markets have undergone profound changes over the past decade. Among other things, the markets have come to be increasingly dominated by technology and automated trading. By some estimates, automated trading, including trading by high-frequency trading firms, accounted for approximately 50%-75% of the volume traded on

the exchanges each day in 2012.[30] The degree to which technology and automation have taken over the markets is simply extraordinary. While technological innovation can bring great benefits, the markets' increasing reliance on technology and automation has resulted in numerous market disruptions over the past several years.[31]

We have also seen a dramatic increase in the speed at which securities are bought and sold. For example, the New York Stock Exchange's ("NYSE") average speed of execution for small, immediately executable orders was 10.1 seconds in January 2005.[32] By October 2009, it was 0.7 seconds.[33] Today, it is around 0.5 seconds.[34]

In addition, the markets have become increasingly fragmented. Today, there are 13 national equities exchanges and perhaps as many as 40 to 50 so-called "dark pools" where trades are executed.[35] Plus, a significant percentage of orders are executed by broker-dealers from their inventory in a process known as internalization.[36] In 2005, the NYSE executed approximately 80% of the consolidated share volume in its listed stocks, and by 2009 it was executing around only 25% of those trades.[37] Today, NYSE's share of volume in its listed stocks is approximately 22%.[38]

The increased growth, complexity, and speed of the trading markets—and the well-publicized market disruptions—are often-mentioned reasons for why investors continue to lack confidence in the capital markets.[39]

In large part due to the perception that today's markets do not treat retail investors fairly, investors, the press, and the industry, itself, have called for a review of current market structure. Even the CEO of the InterContinental Exchange, which just last month acquired the NYSE, said recently that the current market structure allows some intermediaries and exchanges to take advantage of individual investors and that "there is a sense that things are not fair."[40]

Investors have also, understandably, spoken out about the current market structure. As some of you know, in 2010, the Commission issued a release seeking public comment on equity market structure.[41] Of the more than 275 comments we have received, many were from investors expressing serious concerns, some quite strongly, about the way the markets are operating.[42]

Clearly, it is time for the Commission to examine the trading markets and assess whether they are fair, efficient, and appropriately serve investors, particularly individual investors.

To that end, I think that the Commission should immediately revisit Regulation NMS.[43] When it was adopted in 2005, Regulation NMS was designed to modernize and strengthen the national market system for equity securities.[44] At the time, it was hailed as a way to foster "competition among individual markets and competition among individual orders," while at the same time assuring that all of the markets were linked together in a unified system that promoted interaction among buyers and sellers in a particular stock.[45] The hope was that this increased competition would promote more efficient markets and minimize the transaction costs of long-term investors.[46]

Whether Regulation NMS has achieved its stated purpose, or whether it has produced unintended consequences, is a subject of great debate. Many point to it as one of the catalysts for the recent explosion in automated and high-frequency trading,[47] and claim that it has also increased the complexity and fragmentation of the markets and encouraged the proliferation of so-called "dark pools."[48] One book published in 2012 notes that "the changes brought about by Regulation NMS have turned the market from an investor-focused mechanism that welcomes investors of all types and speeds, to a sub-second, trader-focused system where

the concerns of individual investors are an afterthought."[49]

Others have argued that Regulation NMS and the market structure it helped create have contributed to the decline in initial public offerings of small companies.[50] Although the number of IPOs has increased this year, compared to recent lows, the pace of new issuances, particularly for smaller companies, is significantly below historical averages—even if adjusted for the so-called "dot-com bubble."[51] Many factors have been blamed for the decline, but one theory worth further analysis is that penny pricing and other market structure changes have adversely affected the economics of market-making, leaving many small issuers—and their investors—as virtual orphans in the equity markets, with little or no sell-side research coverage and few market makers willing to hold the inventory positions necessary to maintain liquidity.[52] Given that lack of traction, some smaller issuers complain that the costs of going public, or the costs of maintaining a listing on a national securities exchange, are not worth the benefits.[53] This has important implications for both capital formation and investor protection, as investors rely on well-regulated national stock exchanges—and the disclosure obligations applicable to exchange-listed companies—for liquidity, price discovery, and the transparency needed for informed investment decisions.

In short, there is no doubt that the markets have undergone substantial change over the past several years, and the Commission needs to assess whether the current market structure facilitated by Regulation NMS adequately protects individual investors and efficiently facilitates capital formation. Some important questions in this area include the following:

- First and foremost, has Regulation NMS fostered a market structure that negatively impacts individual investors?[54]
- Has Regulation NMS resulted in too much fragmentation of the markets? Has it created an incentive for market participants to use so-called dark pools, or for broker-dealers to internalize the execution of customer orders? Most importantly, what does all of this mean for individual investors?
- Has Regulation NMS fostered an unreliable complexity in the markets, and does that complexity dissuade individual investors from investing in the equities markets? Have the increased automation and the speed at which trades are executed resulting from Regulation NMS worked to investors' benefit?
- Has Regulation NMS contributed to the reduced "visibility" of smaller issuers? Has it reduced incentives for small companies to go public? How does this affect investors?
- Should Regulation NMS be modified and, if so, how?
- Finally, what other regulatory changes need to be made to the market structure to ensure investor protection, efficient and orderly trading, and capital formation?

The answers to these questions will help guide the Commission in thinking about how market structure may be reshaped to put the focus more squarely on the needs of the individual investor and to further promote capital formation.

Conclusion

I'll finish where I began. Every item on the Commission's agenda should begin with the litmus test of how it aids and protects investors. The Commission should have to justify how it has helped investors, particularly retail investors, as it itemizes its agenda. In order to truly adhere to, and implement, the Commission's mission to protect investors, maintain fair and orderly markets, and facilitate capital formation, the Commission must make sure that it focuses on investors as both the ultimate sources of capital and as the owners of companies.

I believe strongly in the SEC mission to facilitate real capital formation—and I spent a good portion of my career helping companies to raise money through both private and public offerings. My experiences—both in private practice and at the Commission—have made me appreciate that true capital formation is not simply capital-raising—but, rather, that capital formation also requires strong and effective securities regulation.

The capital formation process also does not end when the money is raised. The process requires a capital market structure that results in a trading market that is fair and orderly. To that end, the evidence is piling up by the day that the developments in the trading markets should be urgently reviewed and assessed to make sure that investors—particularly retail investors—are being treated fairly.

I know many of you have been working diligently on these issues, and I thank you for the work you are currently engaged in and the hard work ahead. These are tough, challenging issues that the Commission must undertake to satisfy its mission.

Thank you for having me here today. I have enjoyed being with you. Best wishes for an outstanding conference.

[1] *See, inter alia,* Commissioner Luis A. Aguilar, *Empowering the Markets Watchdog to Effect Real Results* (Jan. 10, 2009), *available at* http://www.sec.gov/news/speech/2009/spch011009laa.htm; Commissioner Luis A. Aguilar, *Increasing Accountability and Transparency to Investors* (Feb. 6, 2009), *available at* http://www.sec.gov/news/speech/2009/spch020609laa.htm*;* Commissioner Luis A. Aguilar, *Reinvigorating the Enforcement Program to Restore Investor Confidence* (Mar. 18, 2009), *available at* http://www.sec.gov/news/speech/2009/spch031809laa.htm.

[2] Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §913, 124 Stat. 1376, 1826-29 (2010) ("The Commission may promulgate rules to provide that the standard of conduct for all brokers, dealers, and investment advisers, when providing personalized investment advice about securities to retail customers (and such other customers as the Commission may by rule provide), shall be to act in the best interest of the customer without regard to the financial or other interest of the broker, dealer, or investment adviser providing the advice. In accordance with such rules, any material conflicts of interest shall be disclosed and may be consented to by the customer. Such rules shall provide that such standard of conduct shall be no less stringent than the standard applicable to investment advisers under section 206(1) and (2) of [the Advisers] Act when providing personalized investment advice about securities…").

[3] *See, e.g.*, Working Group Report, *Role, Relevancy and Value of the Audit,* Meeting of the Investor Advisory Group of the Public Company Accounting Oversight Board, Washington, D.C. (Mar. 28, 2012), *available at* http://pcaobus.org/News/Events/Pages/03282012_IAGMeeting.aspx .

[4] Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010).

[5] The mandate to consider capital formation in connection with certain rulemaking was added to the federal securities laws in the National Securities Markets Improvements Act of 1996, Pub. L. No. 104-290, 110 Stat. 3416 (1996).

[6] NASDAQ.com, Capital Formation, http://www.nasdaq.com/investing/glossary/c/capital-formation ; *see also, e.g.*, Simon Kuznets, *Capital in the American Economy: Its Formation and Financing* (Princeton University Press 1961), at pp. 15-16 and 389 ("In modern society, capital

is the stock of means, separable from human beings and legally disposable in economic transactions, intended for use in producing goods or income. … Capital in the hands of various units within a country—households, business firms, nonbusiness associations, governments—may take the form of goods (tangible assets) or claims (financial assets or intangibles). The claims may be domestic, against residents of the country, or foreign, against residents of other countries. In totaling the stock of capital of the country, domestic claims are exactly offset by domestic obligations, and only the net balance of foreign claims remains. Nationwide capital, by definition, therefore, consists of the stock of goods within the country and the net balance (positive or negative) of foreign claims. Capital formation, strictly speaking, denotes *additions* to the stock of tangible goods within the country or to foreign claims. These additions are usually taken on a net basis, which means that for some owner or user groups, for some periods, or for some types of goods or claims, there may be subtractions rather than additions, declines rather than rises. We should, then, speak of capital dissolution or reduction. But it has become customary to use the term capital formation for all changes in the stock of goods or claims, whether positive or negative, and to use the latter as qualifying adjectives. Thus, nationwide capital formation is a sum of the net changes in the stock of goods within the country and in the net balance of foreign claims. For some purposes, changes in the stock of durable (long-lived) capital goods are estimated on a gross basis: capital goods consumed are not subtracted from the total additions to stock. And gross capital formation is distinguished from net in that it, too, is gross of the allowance for current consumption." *Id.* at 15-16). ("By capital formation we mean diversion of part of the current [national] product for use as capital, that is, goods to produce other goods or income." *Id.* at p. 389.), *available at* http://papers.nber.org/books/kuzn61-1 .

[7] Over time, economically efficient capital-raising would be expected to facilitate capital formation.

[8] While capital-raising and capital formation is not the same, the financing environment affects capital formation. *See, e.g.*, Benjamin M. Friedman, *Financing Corporate Capital Formation* (University of Chicago Press 1986) (collecting papers and noting that "The central importance of capital formation to the economy's further growth and development is broadly recognized, and physical investment decisions and their financial counterparts are fundamentally interdependent. The financial environment therefore influences both the amount and the composition of the capital formation that an economy like that of the United States undertakes." *Id.* at p. 1.), *available at* http://www.nber.org/books/frie86-1 .

[9] *See, e.g.*, George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, Q. J. Econ. (Aug. 1970) (discussing the market for used cars, for medical insurance for those over 65 years old, and other markets to demonstrate how a lack of adequate information about the quality of an item being purchased can drive a market out of existence: "There may be potential buyers of good quality products and there may be potential sellers of such products in the appropriate price range; however, the presence of people who wish to pawn bad wares as good wares tends to drive out the legitimate business. The cost of dishonesty, therefore, lies not only in the amount by which the purchaser is cheated; the cost also must include the loss incurred from driving legitimate business out of existence.").

[10] Merritt B. Fox, Randall Morck, Bernard Yeung and Artyom Durnev, *Law, Share Price Accuracy, and Economic Performance: The New Evidence,* 102 Mich. L. Rev. 331 (Dec. 2003). In addition, disclosure assists shareholders in monitoring management and in proxy voting, which helps ensure that the projects that are undertaken are managed better. For a survey of academic literature on the monitoring function performed by institutional and other large investors, *see, e.g.,* Stuart L. Gillan and Laura T. Starks*, Corporate Governance, Corporate Ownership, and the Role of Institutional Investors: A Global Perspective* (John L. Weinberg

Center for Corporate Governance, Lerner College of Business & Economics, University of Delaware, Working Paper Series, WP 2003-01), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=439500 .

[11] *See, e.g.*, Merritt B. Fox, *Retaining Mandatory Securities Disclosure: Why Issuer Choice Is Not Investor Empowerment*, 85 U. Va. L. Rev. 1335 (1999).

[12] There are studies that find otherwise. For example, two earlier studies (Stigler 1964 and Bentsen 1973) purported to find no significant positive effect from mandatory securities disclosure arising from the passage of the Securities Exchange Act of 1934. These studies have been criticized on methodological grounds, and for one study the data appears to actually support the opposite conclusion. *See, Retaining Mandatory Securities Disclosure: Why Issuer Choice is Not Investor Empowerment, supra* note 11.

[13] *See, e.g.*, Frank B. Cross and Robert A. Prentice, *The Economic Value of Securities Regulation*, 28 Cardozo L. Rev. 333 (2006) (surveying empirical research regarding securities regulation, conducting an examination of the effects of mandatory disclosure on the equity markets and concluding that "Our findings consistently show a positive effect for securities law on equity markets in models with high levels of statistical significance, and that the effect of securities is frequently an independently statistically significant one. As we better capture the full effect of securities law, the association becomes stronger, providing substantial evidence of the benefits of such laws. When these results are combined with the prior cross-country research, the historical research, and other empirical studies discussed in the prior section, the case for strong securities regulation, particularly mandatory disclosure rules, seems exceedingly strong.").

There are other studies that support the benefit of disclosure. First, a 2003 study that looked at the effect of the Commission's rules requiring management to discuss and analyze the company's financial and operating results, the so-called MD&A requirements. MD&A was a significant new disclosure rule when it was adopted. It required management to reveal trends and risks that made the information about the company's current results more understandable. The study found strong evidence that MD&A disclosure resulted in more accurate and informed share prices—and that it contributed to a better functioning real economy. Merritt B. Fox, Randall Morck, Bernard Yeung, and Artyom Durnev, *Law, Share Price Accuracy, and Economic Performance: The Empirical Evidence*, 102 Mich. L. Rev. 331 (2003) (the conclusion that more accurate and informed share prices contribute to the real economy referenced (i) Jeffrey Wurgler, *Financial Markets and the Allocation of Capital*, 58 J. Fin. Econ. 187 (2000) and Artyom Durnev *et al.*, *Value Enhancing Capital Budgeting and Firm-specific Stock Return Variation*, 58 J. Fin 64 (2004), *Id*. pp. 86 and 87).

Second, a 2006 study that looked at what happened to widely-held companies that were traded over-the-counter ("OTC") after the securities laws were amended to require these companies to make disclosures specified by the SEC. Exchange Act Section 12(g) was adopted in the Securities Act Amendments of 1964, Pub. L. 88–467 (Aug. 20, 1964). The study found that the newly required disclosures created billions of dollars of value for shareholders of the OTC companies. *See*, Michael Greenstone, Paul Oyer, and Annette Vissing-Jorgensen, *Mandated Disclosure, Stock Returns and the 1964 Securities Acts Amendments*, Q. J. Econ. (May 2006) (stating that the "results imply that the 1964 Amendments created $0.5 to $1.0 billion (1963$) or $3.2 to $6.2 billion (2005$), of value for stockholders" after excluding Royal Dutch Company to "avoid potentially overstating the effects.") A summary version of the paper is *available at* http://www.stanford.edu/group/siepr/cgi-bin/siepr/?q=system/files/shared/pubs/papers/briefs/policybrief_jan06.pdf . This study is strong evidence of the benefits that public disclosure provides. *See also*, Allen Ferrell, *Mandated Disclosure and Stock Returns: Evidence from the Over-the-counter Market*, 36 J. Legal Stud. 1 (2007). An

earlier draft is the John M. Olin Center for Law, Economics, and Business Discussion Paper No. 453 (Dec. 2003), *available at* http://www.law.harvard.edu/faculty/fferrell/pdfs/Ferrell-MandatedDisclosure2.pdf .

Also noteworthy is a 2010 study that examined the effect on share price accuracy and trading arising from the SEC's rules requiring separate "segment reporting" or "line of business" reporting. These regulations required issuers to disclose the sales and net income derived from each of the lines of business in which they were significantly involved. The study finds "strong evidence" that this disclosure did, in fact, increase share price accuracy and improve market liquidity. Durnyev, Fox, Morck and Yeung, *The Effectiveness of Mandatory Disclosure: An Empirical Test of the Line of Business Regulations* (June 23, 2010 Draft on file) ("These results are useful in two regards. First, taken together, they constitute very strong evidence that the LOB Regulations, one of the most important reforms in the history of the U.S. mandatory disclosure regime, had effects on how the shares of the issuers to which they applied were priced and traded. They provide a substantial basis for believing that these effects included both improved liquidity and increased share price accuracy. Second, they advance our still imperfect understanding of the way that information relevant for predicting firms' future cash flows is created, distributed among investors, and used in trading and, in this connection, of the role that mandatory disclosure plays in the determination of share price accuracy and liquidity.").

See also, Lambert, Leuz and Verrechia, *Accounting Information, Disclosure, and the Cost of Capital*, Journal of Accounting (May 2007) ("We demonstrate that the quality of accounting information influences a firm's cost of capital, both directly by affecting market participants' perceptions about the distribution of future cash flows, and indirectly by affecting real decisions that alter the distribution of future cash flows. The direct effect occurs because the quality of disclosures affects the assessed covariances between a firm's cash flow and other firms' cash flows. This effect is not diversifiable in large economies. Our finding provides a direct link between the quality of a firm's disclosures and accounting policies and its cost of capital. In addition, it extends prior work in the estimation risk literature. … Finally, we briefly comment on the impact of mandated disclosures or accounting policies on firms' cost of capital. Based on our model, increasing the quality of mandated disclosures should generally reduce the cost of capital for each firm in the economy (assuming that the expected cash flow of each firm and the covariance of that firm's cash flow with the market have the same sign)."); Leuz, Triantis and Wang, *Why Do Firms Go Dark: Causes and Economic Consequences of Voluntary Deregistration* (2006) ("We examine a comprehensive sample of SEC deregistrations from 1998 to 2004 where public companies "go dark," *i.e.*, cease filing with the SEC, but continue to trade in the OTC market. … We also document a large negative abnormal return to going dark, even when firms already trade in the OTC market and there is no need to change trading venue. … We find that many firms go dark in response to poor future prospects, financial distress, and increased compliance costs after SOX. But we also find evidence suggesting that some controlling insiders take their firms dark to protect their private control benefits and decrease outside scrutiny, particularly when corporate governance is weak and outside investors are less protected."); Leuz and Verrechia, *The Economic Consequences of Increased Disclosure*, J. of Acct. Res., Vol. 38, Supplement: Studies on Accounting Information and the Economics of the Firm (2000) ("Economic theory provides compelling arguments that a commitment by a firm to increased levels of disclosure should lower the information asymmetry component of the firm's cost of capital. Documenting this relationship, however, has been difficult empirically. In this paper, we study a sample of German firms that have adopted IAS or U.S. GAAP accounting standards in their consolidated financial statements. This international reporting strategy commits firms to substantially increased levels of disclosure but has no immediate tax or dividend implications. Moreover, the disclosure levels in Germany under German GAAP have been characterized as being low. For these reasons, the experimental setting of our study

seems particularly suited to document the economic consequences of increased disclosure. Our evidence is consistent with the notion that firms committing to increased levels of disclosure garner economically and statistically significant benefits. We show in a cross-sectional analysis that an international reporting strategy is associated with lower bid-ask spreads and higher share turnover when we control for various firm characteristics (*e.g.*, performance, firm size, and foreign listings), as well as selection bias. Additional sensitivity analysis supports the robustness of our findings. A subsequent "event study" around the switch to international reporting produces corroborating results.").

[14] *See,* Commissioner Luis A. Aguilar, *Facilitating General Solicitation at the Expense of Investors*, Washington, D.C. (July 10, 2013), *available at,* http://www.sec.gov/News/Speech/Detail/Speech/1370539684712.

[15] NASAA Enforcement Report, North American Securities Administrators Association (Oct. 2013), p.8, *available at* http://www.nasaa.org/wp-content/uploads/2013/10/2013-Enforcement-Report-on-2012-data.pdf .

[16] *Id.,* at p.9

[17] *See, e.g.,* letters from North American Securities Administrators Association ("NASAA") (Oct. 3, 2012); Consumer Federation of America ("Consumer Federation") (Oct. 3, 2012); Consumer Federation, Americans for Financial Reform, and AFL-CIO (Apr. 23, 2013); AARP (Oct. 5, 2012); Fund Democracy, Inc. ("Fund Democracy") (Oct. 2, 2012); Massachusetts Securities Division (Sept. 20, 2012); Nevada Securities Division (Oct. 5, 2012); Ohio Division of Securities (Oct. 5, 2012); South Carolina Securities Commissioner (Oct. 5, 2012); Virginia Division of Securities (Oct. 4, 2012); Investment Company Institute (Oct. 5, 2012), BetterInvesting (Oct. 19, 2012); CFA Institute (Nov. 1, 2012); and Christopher Hunter, Ph.D., Prof. of Sociology, Grinnell College (Sept. 1, 2012) (each in Comments on Proposed Rule: Eliminating the Prohibition Against General Solicitation and General Advertising in Rule 506 and Rule 144A Offerings ("File No. S7-07-12"), *available at* http://www.sec.gov/comments/s7-07-12/s70712.shtml); and letter from Prof. Mercer Bullard, President and Founder, Fund Democracy, Prof. J. Robert Brown, Jr., Director, Corporate & Commercial Law Program, University of Denver Sturm College of Law, and Barbara Roper, Consumer Federation (Aug. 28, 2012) in Comments on SEC Regulatory Initiatives Under the JOBS Act: Title II — Access to Capital for Job Creators (the "*Pre-Proposal File*"), *available at* http://www.sec.gov/comments/jobs-title-ii/jobs-title-ii.shtml.

[18] SEC Release No. 33-9416, *Amendments to Regulation D, Form D and Rule 156* (July 10, 2013), *available at* http://www.sec.gov/rules/proposed/2013/33-9416.pdf.

[19] *Id.*

[20] *Id.*

[21] *Id.*

[22] *See*, SEC Release No. 33-9178, *Shareholder Approval of Executive Compensation and Golden Parachute Compensation* (Jan. 25, 2011), *available at* http://www.sec.gov/rules/final/2011/33-9178.pdf.

[23] See, SEC Release No. 34-40018, *Amendments to Rules on Shareholder Proposals* (May 21, 1998), *available at* http://www.sec.gov/rules/final/34-40018.htm; Staff Legal Bulletin No. 14A, *Shareholder Proposals*, Division of Corporation Finance (July 22, 2002), *available at* http://www.sec.gov/interps/legal/cfslb14a.htm.

[24] For nearly eight decades, the SEC has been responsible for prescribing rules relating to

proxies and proxy solicitation "as necessary or appropriate in the public interest or for the protection of investors." Securities and Exchange Act of 1934, as amended ("Exchange Act"), §14(a). The language quoted is in the original text of the Exchange Act from 1934.

[25] *See*, SEC Release No. 33-9046, *Facilitating Shareholder Director Nominations* (June 10, 2009), pp. 9, 14, *available at* http://www.sec.gov/rules/proposed/2009/33-9046.pdf.

[26] *See,* SEC Release No. 33-9136, *Facilitating Shareholder Director Nominations* (Aug. 25, 2010) (the "Proxy Access Release"), *available at* http://www.sec.gov/rules/final/2010/33-9136.pdf. The Proxy Access Release provided for a new Rule 14a-11, as well as amendments to Rule 14a-8 and related provisions. As adopted by the Commission, Rule 14a-11 would have allowed shareholders or groups of shareholders meeting certain minimum ownership thresholds (beneficial ownership—including both investment and voting power—of securities representing at least 3% of the voting power of the issuer, held for at least three years, but excluding any shareholder seeking to acquire control) to include in the issuer's proxy materials candidates for up to 25% of the company's board of directors. Concurrently, Rule 14a-8 was amended to provide that companies may not exclude from their proxy materials shareholder proposals that seek to establish a corporate procedure for including shareholder director nominees in company proxy materials. Rule 14a-11 was vacated by the Court of Appeals under the Administrative Procedure Act, 5 U.S.C. § 551 *et seq.*, on the grounds that the Commission "failed … adequately to assess the economic effects of [the] new rule." *See Business Roundtable v. SEC*, 647 F.3d 1144, 1148 (D.C. Cir. 2011). The Court's order did not affect the amendment to Rule 14a-8, which was not challenged in the litigation. Accordingly, that amendment became effective on September 20, 2011.

[27] Rule 14a-4(d)(1) under the Securities Exchange Act of 1934 provides that no proxy shall confer authority upon the solicitor to vote for any person who is not a "bona fide nominee," as defined in the rule. 17 CFR 240.14a-4(d). Importantly, to qualify as a bona fide nominee with respect to any proxy solicitation, a candidate must consent to be named in the proxy statement relating to such solicitation. Experience has shown that few board candidates nominated by management will provide such consent to shareholders seeking to elect their own nominees. *See*, Recommendations of the Investor Advisory Committee at note 32, *below*. Rule 14a-4(d)(4) provides a workaround for the short-slate solicitor, but the soliciting party must name ***all*** of management's nominees, and must represent that it will use the proxy to vote for ***all*** of management's nominees ***except*** for any such nominees that the person solicited expressly withholds such authority—in other words, the exact opposite of what the solicited shareholder is likely to expect.

[28] *See,* Exchange Act §39(a)(2). The Investor Advisory Committee ("Committee") was established by Section 39 of the Exchange Act (as added by Section 911 of the Dodd-Frank Wall Street Reform and Consumer Protection Act) and is comprised of individuals with diverse expertise representing a wide variety of investor interests. The Committee is charged by statute to advise the Commission on regulatory priorities, the regulation of securities products, trading strategies, fee structures, the effectiveness of disclosure, and initiatives to protect investor interests and to promote investor confidence and the integrity of the securities marketplace, and to submit such findings and recommendations to the Commission as the Committee determines appropriate. The Commission has a statutory duty to review the findings and recommendations of the Committee and, each time the Committee submits a finding or recommendation to the Commission, to promptly issue a public statement assessing the finding or recommendation of the Committee and disclosing the action, if any, the Commission intends to take with respect to the finding or recommendation. *See,* Exchange Act §39(g).

[29] Recommendations of the Investor Advisory Committee Regarding SEC Rulemaking to

Explore Universal Proxy Ballots (July 25, 2013), http://www.sec.gov/spotlight/investor-advisory-committee-2012/universal-proxy-recommendation-072613.pdf.

[30] *See, e.g.,* Testimony of David Lauer, Better Markets, Inc., before the U.S. Senate Committee on Banking, Housing, and Urban Affairs, Subcommittee on Securities, Insurance and Investment (Sept. 20, 2012), *available at* http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=56ef1df0-6c9a-4c53-99e8-2ad7a614afe2 ("high-frequency trading has been so successful that it has taken over the stock market, now accounting for between 50%-70% of equity market volume on any given day"); Sal Arnuk and Joseph Saluzzi, *Broken Markets: How High Frequency Trading and Predatory Practices on Wall Street Are Destroying Investor Confidence and Your Portfolio*, p. 2 (2012) ("high-frequency traders account for 50-75% of the volume traded on the exchanges each day and a substantial portion of the stock exchanges' profits").

[31] Some of the better-known examples of such incidents include:

- The Flash Crash of May 6, 2010, during which, in just a matter of minutes, certain equities experienced severe price movements—both up and down—with more than 20,000 trades in over 300 securities executed at prices more than 60% away from their market values. In just a few minutes, nearly $1 trillion in market value evaporated, before making a partial recovery. *See, Findings Regarding the Market Events of May 6, 2010, Report of the Staffs of the CFTC and SEC to Joint Advisory Committee on Emerging Regulatory Issues*, *available at* http://www.sec.gov/news/studies/2010/marketevents-report.pdf.
- Knight Capital Group Inc.'s $460 million trading loss in August 2012. In just 45 minutes, Knight Capital's computers rapidly bought and sold millions of shares. Those trades pushed the value of many stocks up, and the company's losses appear to have occurred when it had to sell the overvalued shares back into the market at a lower price. As a result, Knight Capital lost approximately $10 million per minute, almost had to go into bankruptcy, and subsequently agreed to be purchased. *See In the Matter of Knight Capital Americas LLC*, AP File No. 3-15570, Securities Exchange Act Release No. 34-70694(October 16, 2013), available at http://www.sec.gov/litigation/admin/2013/34-70694.pdf; "Knight Capital Group Provides Update Regarding August 1st Disruption to Routing In NYSE-listed Securities" (Aug. 2, 2012), *available at* http://www.knight.com/investorRelations/pressReleases.asp?compid=105070&releaseID=1721599 (last visited Nov. 25, 2013).
- The systems issues associated with the initial public offerings of BATS Global Markets, Inc., and Facebook, Inc., in March and May 2012, respectively. The losses sustained as a result of the Facebook IPO may be as much as hundreds of millions of dollars. *See,* Sarah N. Lynch*, Nasdaq says FINRA caps Facebook IPO claims at $41.6 million*, Reuters (Oct. 25, 2013), *available at* http://www.reuters.com/article/2013/10/25/us-nasdaq-facebook-claims-idUSBRE99O0TK20131025 , estimating major market makers lost up to $500 million in the IPO.
- More recently, on August 22, 2013, the trading of more than 2,000 NASDAQ-listed stocks, with a total estimated market capitalization of $5.7 trillion, was halted for three hours because of a technology failure related to NASDAQ's market data feed. *See,* NASDAQ OMX Statement on the Securities Information Processor (Aug. 22, 2013), *available at* http://ir.nasdaqomx.com/releasedetail.cfm?ReleaseID=786871 ; Tom Berris, *$5.7 Trillion Locked Up by Nasdaq Trading Halt*, MarketWatch (Aug. 22, 2013), *available at* http://blogs.marketwatch.com/thetell/2013/08/22/5-7-trillion-locked-up-by-nasdaq-trading-halt/ *.* Following this market disruption, SEC Chair Mary Jo White held a meeting with leaders of the equities and options exchanges, FINRA, the Depository Trust Clearing Corporation, and the Options Clearing Corporation, during which she requested action plans on five critical areas in an effort to strengthen critical market infrastructure. The exchanges recently submitted action plans relating to the following five work streams: (1) enhance the resilience, performance,

disaster recovery capability and governance of securities information processors, or SIPs; (2) assess the robustness and resilience of other critical infrastructure systems; (3) evaluate current rules, procedures, and expectations that stem from a system event or outage at one of the SIPs; (4) address rules regarding trade breaks in both the equities and options markets; and (5) coordinate common "kill switch" functionality to prevent risk and disruption to the equity markets.

- An alarming number of technology-related market disruptions have occurred over the past several months. On August 20, 2013, Goldman Sachs executed a large number of erroneous options trades when one of its automated trading systems malfunctioned. *See,* Arash Masoudi, *Goldman Faces Losses on Erroneous Trades*, Financial Times, (Aug. 21, 2013), *available at* http://www.ft.com/intl/cms/s/0/f95200d6-09ad-11e3-ad07-00144feabdc0.html ; on September 16, 2013, options trading was halted for more than a half-hour due to a failure of the data feed that supplied options prices to the market. *See,* Jacob Bunge, *Stock-Options Trading Halted After Data Feed Problem*, Wall Street Journal (Sept. 16, 2013), *available at* http://online.wsj.com/news/articles/SB10001424127887323527004579079301165239372 ; on October 29, 2013, a data feed interruption prevented prices for NASDAQ's benchmark U.S. stock indexes from disseminated for almost an hour. *See,* Sam Mamudi and Nikolaj Gammeltoft, *Nasdaq Says Human Error Caused Hourlong Halt in Data Feed,* Bloomberg (Oct. 29, 2013), *available at* http://www.bloomberg.com/news/2013-10-29/nasdaq-says-human-error-caused-hour-long-halt-in-data-feed-1-.html ; on November 1, 2013, NASDAQ halted trading on one of its three options markets for most of the day when its systems encountered problems processing an increase of orders and could not disseminate quotes for a subset of securities. *See,* Dina ElBoghdady, *Another Nasdaq Malfunction Shuts Down Options Market*, Washington Post (Nov. 1, 2013), *available at* http://www.washingtonpost.com/business/economy/another-nasdaq-malfunction-shuts-down-options-market/2013/11/01/1719a886-4323-11e3-a624-41d661b0bb78_story.html ; on November 7, 2013, a network failure at OTC Markets Group Inc. prevented trading in thousands of unlisted shares for more than five hours. *See* Jacob Bunge, *et al.*, *Glitch at OTC Markets Halts Trading of Unlisted Shares*, Wall Street Journal (Nov. 7, 2013), *available at* http://online.wsj.com/news/articles/SB10001424052702303309504579183831541669864 .

[32] *See, e.g.*, SEC Release No. 34-61358, *Concept Release on Equity Market Structure* (Jan. 14, 2010).

[33] *Id.*

[34] *See,* SEC Rule 605 Report prepared by the New York Stock Exchange, *available at* https://usequities.nyx.com/markets/nyse-equities/rule-605 (last visited Dec. 5, 2013).

[35] *See, e.g.*, Matthew Phillips, *European Investors are Diving Into Dark Pools*, Bloomberg (Nov. 14, 2013) (noting that there are roughly 40 dark pools in the U.S.); John McCrank, *U.S. Stock Exchanges Call for New Rules on 'Dark Pools'*, Reuters (Apr. 16, 2013), *available at* http://www.reuters.com/article/2013/04/16/us-regulation-exchanges-darkpools-idUSBRE93F0VI20130416 , (noting that there are around 50 dark pools and 13 public exchanges in the U.S.).

[36] *See, e.g.*, SEC Release No. 34-61358, *Concept Release on Equity Market Structure* (Jan. 14, 2010). In September 2009, broker-dealer internalization accounted for an estimated 17.5% of trading volume. NASDAQ accounted for 19.4% and NYSE accounted for 14.7% of total trading volume. *Id.* Today, according to SEC staff estimates, approximately 24% of orders are internalized.

[37] *See, e.g.*, SEC Release No. 34-61358, *Concept Release on Equity Market Structure* (Jan. 14, 2010).

[38] *See,* Market Volume Summary, http://www.batstrading.com/market_summary/ (last visited Dec. 5, 2013).

[39] *See, e.g.*, Summary Report of the Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues, *Recommendations Regarding Regulatory Responses to the Market Events of May 6, 2010*, *available at* http://www.sec.gov/spotlight/sec-cftcjointcommittee/021811-report.pdf ("[w]hile many factors led to the events of May 6, and different observers place different weights on the impact of each factor, the net effect of that day was a challenge to investors' confidence in the markets."); Matt Egan, *Investor Psyche Takes Another Blow with Knight Capital Glitch*, Fox Business (Aug. 22, 2013), *available at* http://www.foxbusiness.com/investing/2012/08/02/investor-psyche-takes-another-blow-with-knight-capital-glitch/ ; Jennifer Booton, *Cold Hard Truth : Flash Freeze Shows Increasing Complexity of Equity Markets*, Fox Business (Aug. 22, 2013) (noting that retail investors often struggle with the complexities of the market); *see also* Tabb Group, *The Sky Is Falling: US Equity Market Structure Confidence Survey Results* (Aug. 2012), *available at* http://www.tabbgroup.com/PublicationDetail.aspx?PublicationID=1138 (noting the impact that Knight's August 2012 trading glitch had on investor confidence).

[40] Jacob Bunge, *NYSE's Prospective New Owner Calls U.S. Markets "Fundamentally Wrong,"* Wall Street Journal (Nov. 5, 2013), *available at* http://online.wsj.com/news/articles/SB10001424052702303482504579179573660376020 . More recently, the CEO of IntercontinentalExchange said that he intends to reorient the exchange back toward individuals and away from the high-frequency traders who play an increasingly large role in the financial markets. Bradley Hope, *NYSE's New Chief Puts Focus on Individual Investors*, Wall Street Journal, (Nov. 13, 2013), *available at* http://online.wsj.com/news/articles/SB10001424052702303460004579194213036953446 .

[41] *See,* SEC Release No. 34-61358, *Equity Market Structure* (Jan. 14, 2010), *available at* http://www.sec.gov/rules/concept/2010/34-61358.pdf.

[42] *See,* Comment Letters, *available at* http://www.sec.gov/comments/s7-02-10/s70210.shtml.

[43] I also note that a group of academics, policymakers and practitioners recently requested that the SEC conduct a comprehensive study of the capital markets, not just the trading markets. James Cox, *et al.*, *Roundtable White Paper, A Second Study of Capital Markets: Whether, What and How*?, *available at* https://law.duke.edu/sites/default/files/news/whitepaper-capitalmarkets2013.pdf . This request asks that the study be conducted in the mold of the historic SEC Special Study of 1963, *Report of the Special Study of Securities Markets by the Securities and Exchange Commission.* I agree that such a study should be undertaken. Some important questions we should ask include whether the Commission and our regulatory regime have kept pace with the rapid and profound effects of technological innovation, whether automation and fragmentation of the markets has worked to the disadvantage of individual investors, whether for-profit exchanges should continue to be treated as self-regulatory organizations, and whether our existing triggers for registration and reporting appropriately capture what it means to be a "public company" today. Another focal point of such a study should be the growth of institutional ownership of securities, and what that means for regulation and the capital markets. Some questions that should be explored include as follows: What are the consequences of these changes—for example, have they affected shareholder voting? What are the causes of these trends, and are they the result of regulation, tax laws, or something else? Perhaps the most important question is what should be the SEC's response, and should our rules take into account whether they discourage individuals from making direct investments in corporations and/or alternatively whether our rules create incentives for retail investors to invest through institutions rather than directly? These are all difficult questions that necessitate an in-depth study like that conducted in 1963

or, more recently, the 1992 Study by the Division of Investment Management entitled "Protecting Investors: A Half Century of Investment Company Regulation."

[44] *See,* Release No. 34-51808, *Regulation NMS* (June 9, 2005). A key component of Regulation NMS is the Order Protection Rule, which requires trading centers to take steps to prevent the execution of trades at prices inferior to protected quotations displayed by other trading centers. Other provisions include the Market Access Rule, which requires fair and non-discriminatory access to quotes, and the Sub-Penny Rule prohibiting market participants from accepting or displaying orders or quotations in a pricing increment smaller than a penny.

[45] *Id.*

[46] *Id.*

[47] *See, e.g.,* Rohit Rahi and Jean-Pierre Zigrand, *Market Quality and Contagion in Fragmented Markets* (Jan. 24, 2013), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1430573 (Regulation NMS, which was designed to enhance competition among trading venues, "has spawned a new breed of intermediary in the form of high-frequency traders or latency arbitrageurs who trade simultaneously across multiple trading venues"); Tom C.W. Lin, *The New Investor*, 60 UCLA L. Rev. 678 (Feb. 2013) (Regulation NMS and other regulatory reforms "gave birth to new forms of finance in which complex mathematical models processed by computers at warp speed played important roles in the most important decisions concerning capital allocation and risk assessment"); Michael J. McGowan, *The Rise of Computerized High-Frequency Trading*, 2010 Duke L. & Tech. Rev. 16 (2010) ("Reg. NMS was the final structural move that set the stage for the current electronic trading revolution. Today, high frequency trading firms…take advantage of the structural changes implemented by Reg. NMS by posting continuous two-sided quotes on hundreds of stocks and even scooping up the price differences that result from momentary lags between exchanges").

[48] *See, e.g.,* Leslie Boni, *et al.*, *Dark Pool Exclusivity Matters*, (Jan. 2, 2013), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=205580 (among the consequences of Regulation NMS is the proliferation of dark pool alternative trading systems); Roberta Karmel, *IOSCO's Response to the Financial Crisis*, 37 Iowa J. Corp. L. 849 (Summer 2012) ("While deregulation and demutualization opened the door for dark pools, one of the chief reasons for their rapid proliferation in the last decade is the SEC's promulgation of Regulation NMS"); Aubrey Gallo, *Developments in Banking and Financial Law 2009-2010: The Shadow Financial System: XI. Dark Pool Liquidity*, 29 Rev. Banking & Fin. L. 88 (Fall 2009) (Regulation NMS mandates that public traders publish the "national best bid or offer" for each security, but does *not* mandate dark pool traders to publish quotes. As a result, the number of ATSs like dark pools, fearful of adverse selection because of Regulation NMS's disclosure requirements, increased after Regulation NMS passed in 2005 ... Regulation NMS, by requiring disclosure of the lowest-priced seller on exchanges, forced large-block public traders underground to avoid disclosure, increasing transactions in dark pool liquidity."); Kirsten Zaza, *A Fiduciary Standard as a Tool for Dark Pool Subscribers*, 18 Stan. J.L. Bus. & Fin. 319 (Spring 2013) (dark pools have flourished in the wake of Regulation NMS as institutional investors fled exchanges for dark pools that allow greater secrecy and liquidity); Marshall Blume, *Competition and Fragmentation in the Equity Markets: The Effects of Regulation NMS* (University of Pennsylvania Finance Department Working Paper Series) (Jan. 2007).

[49] Sal Arnuk and Joseph Saluzzi, *Broken Markets: How High Frequency Trading and Predatory Practices on Wall Street Are Destroying Investor Confidence and Your Portfolio,* at p. 14 (2012).

[50] David Weild and Edward Kim, *Why are IPOs in the ICU?, available at* http://www.grantthornton.com/staticfiles/GTCom/files/GT%20Thinking/IPO%20white%20paper/Why%20are%20IPOs%20in%20the%20ICU_11_19.pdf *;* David Weild and Edward Kim, *Market Structure Is Causing the IPO Crisis – And More* (June 2010), *available at* http://www.sec.gov/comments/265-26/265-26-19.pdf.

[51] *Id.*

[52] *Id.* As required by Section 106 of the JOBS Act, Commission staff conducted a study examining the effects of decimalization on initial public offerings and small and middle capitalization companies. *See,* JOBS Act § 106(b), 15 U.S.C. § 78(k)-1(c)(6) (2012). That study was provided to Congress in July 2012, and concluded that "the impact of mandating an increase in the minimum tick size for small capitalization companies on the structure of the markets, and on the willingness of small companies to undertake initial public offerings is, at best, uncertain." *See, SEC Report to Congress on Decimalization* (July 2012), *available at* http://www.sec.gov/news/studies/2012/decimalization-072012.pdf*.* The Commission held a roundtable on decimalization in early 2013, and SEC Chair White recently called on the staff to work with the exchanges to develop and present to the Commission a plan to implement a pilot program that would allow smaller companies to use wider tick sizes. Chair White, *Focusing on Fundamentals: The Path to Address Equity Market Structure* (Oct. 2, 2013), *available at* http://www.sec.gov/News/Speech/Detail/Speech/1370539857459.

[53] *See*, Advisory Committee on Small and Emerging Companies, Recommendations Regarding Trading Spreads for Smaller Exchange-Listed Companies, and Transcript of Meeting (each, Feb. 1, 2013), *available at* http://www.sec.gov/info/smallbus/acsec.shtml.

[54] *See, e.g.*, *Is Market Fragmentation Harming Market Quality?*, Maureen O'Hara and Mao Ye (Mar. 2009), *available at* http://web.law.columbia.edu/sites/default/files/microsites/capital-markets/Market%20Fragmentation%20Paper.pdf (finding that market fragmentation, an "expected outgrowth of Reg. NMS, generally reduces transaction costs and increases execution speeds); Kee H. Chung and Chairat Chuwonangat*, Regulation NMS and Market Quality*, Financial Management, Vol. 1, Issue 2 (2012), *available at* http://onlinelibrary.wiley.com/doi/10.1111/j.1755-053X.2012.01184.x/pdf *,* ("We show that both the quoted and effective spreads increased, the quoted depth decreased, and the market quality index decreased after the implementation of Regulation National Market System (Reg NMS). We also find an increase in the price impact of trades and the dispersion of the pricing error after Reg NMS. The order execution speed is slower, the order fill rate is lower, and the order cancellation rate is higher for most trades after Reg NMS. Hence, contrary to the Securities and Exchange Commission's belief, Reg NMS has proven to be detrimental to most traders."); *See also,* Testimony of David Lauer, *supra* note 31, citing several academic studies demonstrating an increase in spreads and volatility resulting from high-frequency trading.

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