CHAPTER 7:

How to Reform Equity Market Structure: Eliminate "Reg NMS" and Build Venture Exchanges

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If you have watched a financial news broadcast from the floor of the New York Stock Exchange (NYSE) recently, you may have noticed something interesting—it is rather quiet these days, and computer and television screens outnumber people. This was not always the case. In the 1970s, the floor of the NYSE was a loud beehive of activity where over 5,000 people met in close contact every day to trade stocks.[1] By 1973, more than 80 percent of the dollar volume of exchange-based U.S. stock trading occurred on the floor of the NYSE.[2] Today, the media and Starbucks occupy as much real estate as the floor traders, who number about 700.[3] As of mid-2015, only about 15 percent of the total volume of shares traded on the NYSE actually changed hands on the floor.[4] Indeed, over the past 20 years, U.S. equity markets have become predominantly electronic—stocks now trade in microseconds across 11 registered exchanges and over 50 off-exchange venues, generally with little human intervention in the process.

The increasingly complex and fragmented structure of today's equities markets is the product of a series of extraordinary changes that took place over decades.[5] Some of those changes have come about organically, that is, as the result of market participants innovating with new products and ideas. Many other changes, however, have been imposed by the Securities and Exchange Commission (SEC) and by Congress. Still others were developed by market participants in order to respond to and comply with new and constantly changing laws and regulations. In short, understanding the structure of U.S. equity markets today requires acknowledging that in recent years, changes to the structure of these markets have been driven as much, if not more, by legislative and regulatory action than by the private sector.

Heavy-handed government intervention in U.S. equity markets is a relatively new phenomenon. From the earliest days of the nation to the Great Depression, self-regulation, rather than government regulation, played the primary role in expanding and shaping the markets, with little or no federal regulation and limited state regulation. Indeed, the origins of U.S. capital-market self-regulation can be traced all the way back to 1792, when 24 traders signed the famous Buttonwood Agreement, so named because the agreement was signed under a buttonwood tree outside 68 Wall Street in lower Manhattan. In the agreement, those traders pledged to conduct their stock

trading directly with one another, rather than through an auctioneer, and to limit their commissions to one-quarter of a percent. Within three decades of those humble beginnings, the organization that grew out of the Buttonwood Agreement—then referred to as the New York Stock & Exchange Board and now known as the NYSE—had in place a constitution and detailed by-laws. The capital markets began, and then grew and flourished for nearly one hundred years, on the back of self-regulation.

It was not until nearly a century and a half later that the first large-scale federal intervention in the U.S. securities markets occurred. In response to the stock market crash of 1929 and the onset of the Great Depression, Congress—primarily through the Securities Act of 1933 (Securities Act) and the Securities Exchange Act of 1934 (Exchange Act)—established the SEC and codified a comprehensive set of regulations to govern U.S. capital markets, including the self-regulatory role of exchanges.[6] Balancing concerns over the growing monopoly power of the NYSE with the benefits of self-regulation, Congress in the Exchange Act settled on a model of "supervised exchange self-regulation."[7] As the Supreme Court described in *Merrill Lynch, Pierce, Fenner & Smith v. Ware*:

> Two types of regulation are reflected in the [Exchange] Act. Some provisions impose direct requirements and prohibitions. Among these are mandatory exchange registration, restrictions on broker and dealer borrowing, and the prohibition of manipulative or deceptive practices. Other provisions are flexible, and rely on the technique of self-regulation to achieve their objectives.... Supervised self-regulation, although consonant with the traditional private governance of exchanges, allows the Government to monitor exchange business in the public interest.[8]

Although the Securities Act and the Exchange Act represented a sea change in the regulation of U.S. capital markets, the few exchanges that existed at the time continued to conduct business much as they had for the past century, and the NYSE remained by far the dominant market for stock trading.[9]

This began to change in the late 1960s and early 1970s, as both the SEC and Congress grew increasingly concerned about a lack of competition and efficiency in the U.S. securities markets.[10] Lawmakers and regulators were concerned at the time that investors "might not be getting the best price possible when they bought and sold stock—either in terms of the pricing of the stock itself or in the costs involved in completing the transactions."[11] To address these issues, Congress enacted amendments to the Exchange Act designed to allow the SEC to work with the industry in establishing a national market system for securities in which "competitive forces" were supposed to drive market development.[12]

Pursuant to the 1975 Act Amendments, this new national market system would link together trading venues across the country and promote competition so that investors would "get their orders executed at the best price available anywhere in the [U.S.] when they bought or sold stock."[13] To guide the SEC, Congress set forth five key components of a properly functioning national market system: (1) efficiency, (2) competition, (3) price transparency, (4) best execution, and (5) order interaction.[14] Congress further specified that new technology would "create the opportunity for more efficient and effective market operations," and that linking all markets together "through communication and data processing facilities will foster efficiency, enhance competition, increase the information available to brokers, dealers, and investors, facilitate the offsetting of investors' orders, and contribute to best execution of such orders."[15] Although Congress again reiterated the important role of self-regulatory organizations (SROs) in securities regulation, the 1975 Act Amendments ushered in a new era of federal regulatory oversight of U.S. equity markets and market participants, including exchanges.

The SEC has taken a number of steps to facilitate the formation of the national market system, including the adoption of the Order Handing Rules in 1997, Regulation Alternative Trading System (Reg ATS) in 1998, decimalization in 2000, and, who could forget, Regulation National Market System (Reg NMS) in 2005. More than any other law or regulation implemented since the 1975 Act Amendments, Reg NMS is responsible for the current structure of U.S. equity markets, as well as many of the problems these markets have experienced over the past decade.

REGULATION NMS

The Commission adopted Reg NMS by a three-to-two vote on April 6, 2005.[16] Reg NMS has four main components:[17]

1. **Rule 610 (Access Rule).** The Access Rule establishes a uniform standard to ensure fair and non-discriminatory access to quotations by non-members of trading centers, and imposes a limit on the amount that trading centers may charge for access to quotations.[18] The term "trading centers" includes exchanges or associations that operate a trading facility, alternative trading systems (ATSs), market makers, and broker-dealers that execute orders internally as principal or agent.[19] The Access Rule also instructs SROs to enforce rules that prohibit their members from engaging in practices that could interfere with the protected quotations of other trading centers or could create locked or crossed markets.[20]
2. **Rule 612 (Sub-Penny Rule).** Pursuant to the Sub-Penny Rule, market participants are prohibited from displaying quotations in any increment less than a penny. The rule applies to all Reg NMS securities, except those for which the price of the quotation was less than $1.00.[21] The rule was intended to stop market participants, such as traders, from stepping ahead of customers' orders and preventing those orders from being executed by out-bidding them by a fraction of a penny.[22]
3. **Rules 601 and 603 (Market Data Rules).** Reg NMS further amends existing SEC rules and joint-SRO plans governing the dissemination of market data.[23] Market Data Rules are designed principally to control how exchanges charge customers for access to data on orders and quotations. Reg NMS modified the formulas used to decide how trading centers could allocate the revenues they make from charging for market data, and allowed trading centers to distribute their own data independently.[24]
4. **Rule 611 (Order Protection Rule/Trade-Through Rule).** This rule requires trading centers to establish, maintain, and enforce policies and procedures reasonably designed to prevent trade executions at prices inferior to the best prices displayed by other automated trading centers.[25] In other words, a trading center receiving an incoming order cannot "trade through" a better-priced quotation displayed by another automated trading center—it must instead immediately route all incoming orders to the market displaying the best price. Rule 611 thus prioritizes both price and speed in the execution of orders above other indicators of execution quality including, for example, fill rates.

Reg NMS has dramatically altered the structure of the securities markets. If one transported the men and women of the 73rd Congress, which passed both the Securities Act and the Exchange Act, to the mid-1970s and showed them the markets of the day, the legislators would likely have marveled at the increased size and scope of those markets and the dizzying array of products offered and trades conducted. As they scanned the exchange floors, however, they would have seen much that they recognized, with a plethora of traders filling the floors of "mutualized," or member-owned, exchanges and engaging in trades with their counterparts, that is, human

beings trading with other human beings. They would even, unfortunately, have recognized the bear markets of the time.

Bring them forward another 25 years or so, however, and the time-traveling legislators would be confronted with markets altered beyond recognition, with computers tied into "demutualized" (shareholder-owned, for-profit) exchanges, some now global in nature, and using algorithms to trade decimalized securities at speeds measured in microseconds. They would be intrigued by the existence of a national market system, but bewildered by the multitude of exemptions riddling that system. They would be utterly befuddled by concepts like dark pools[26] and ATSs. It is difficult to imagine what they would make of the wildly fluctuating markets of the past several years, but they would certainly be staggered by the numbers involved.

In their joint dissent to Reg NMS, SEC Commissioners Cynthia Glassman and Paul Atkins, rightfully—and presciently—note that the majority's underlying assumptions about how investors and markets should interact are deeply flawed and that the rule would cause major distortions in the markets. Commissioners Glassman and Atkins dissented from the adoption of Reg NMS[27] because they did not believe that the SEC adhered to the goal of Congress to allow competitive forces,[28] rather than burdensome regulation, to guide the development of a national market system.[29] They asserted that Reg NMS was a series of unnecessarily complex, non-market-based rules.[30] One need look no further than the SEC staff's most recent FAQs on Rules 610 and 611, which alone span 45 pages, to vindicate their prediction of unnecessary complexity.[31]

As Commissioners Atkins and Glassman predicted in 2005, Reg NMS has exacerbated market fragmentation and complexity while at the same time blunting competition and innovation. In particular, Rule 611, the Order Protection Rule, has been a prime example of the many negative, unintended consequences that often flow from overly prescriptive government regulations. As noted above, Reg NMS prioritizes price and speed above all other best-execution considerations. By mandating that orders be routed immediately to the trading venue with the lowest price—despite the often high costs of doing so[32]—Reg NMS has resulted in the proliferation of trading venues, including 11 exchanges (some of which have minimal market share) and over 50 off-exchange trading venues.[33] One of the main problems associated with this fragmentation is that some exchanges survive not because they provide a real, competitive market for orders, but because they can generate revenue through trading and market-data fees.[34]

With orders being spread around so many trading venues under Reg NMS, exchanges, ATSs, and broker-dealers are forced to offer a variety of incentive programs and order types to attract order flow to their markets—which has injected further complexity into the system. The impact of this complexity can be seen in higher liquidity costs and increased trading volatility.[35] Moreover, the complex infrastructure required to handle millions of stock trades taking place in microseconds across a large number of different trading venues has been susceptible to flash crashes and other trading disruptions. Although these trading disruptions ultimately stem from the fragmentation and complexity created by Reg NMS and other regulations, individual market participants often disproportionately bear the brunt of the fallout.

Reg NMS also includes flawed market-data provisions. The Market Data Rules enshrine the ability of exchanges to charge customers monopolistic prices for "direct" data feeds. Securities information processors (SIPs), on the other hand, which disseminate the best bids and offers from each exchange, are effectively non-competitive as public utilities.[36] Although all of the equities exchanges are participants in Reg NMS plans that govern the SIPs, there is no competition for consolidated last sale and quotation reporting services between the SIPs. As one commentator said contemporaneously with the passage of Reg NMS, "With Regulation NMS we are entering

into the treatment of the nation's securities markets as one of the most heavily regulated industries in the nation's history in a peacetime economy. We are only a half-step away from the government's acting like a public utility commission."[37]

In sum, Reg NMS has come to stand as the SEC's poster child for unintended consequences and the need for the commission to institute retrospective reviews of its rules. In general, rules allowing free and competitive markets to dictate much of market structure, with rigorous disclosure requirements, should replace Reg NMS. This would be more in line with Congress's plainly stated intent when it passed the 1975 Act Amendments: "It is the intent of the [House and Senate] conferees that the national market system evolve through the interplay of competitive forces as unnecessary regulatory restrictions are removed."[38]

For example, a less complex and burdensome alternative to the overly prescriptive Trade-Through Rule (Rule 11)—wisely recommended by Commissioners Atkins and Glassman over a decade ago—would be to clarify the broker's duty of best execution. The Financial Industry Regulatory Authority's best-execution rule identifies five factors in addition to price that must be considered when executing buy-and-sell orders: (1) the character of the market for the security; (2) the size and type of transaction; (3) the number of markets checked; (4) the accessibility of the quotation; and (5) the terms and conditions of the order as communicated to the firm.[39] Rather than prohibiting trading at a price different from the national best bid or offer, the SEC could allow such trades, in recognition of the fact that different investors have different best-execution preferences.[40] In addition, rather than mandating orders to be aggregated in a central system, the SEC could allow investors to deal with trading venues that serve their interests.[41] An order's point of entry into the trading system, while irrelevant under Reg NMS, could become a negotiation point between brokers and clients as customers demand more control over their execution costs.[42] After all, trade execution costs—ultimately borne by the investor—can grow exponentially as brokers search through a complex and fragmented market for multiple venues to fill large orders that may not be able to be filled at one venue boasting a certain price.

It has been more than 20 years since the SEC last conducted a comprehensive market-structure review,[43] and it is time to do so again, including a review of the self-regulation paradigm as a whole. There has been much rhetoric about such a review by the SEC, but few, if any, real reforms. The formation of the SEC's Market Structure Advisory Committee was advertised as an important part of such a review, and indeed it could be given the expert composition of the committee. The SEC should not overly rely on the committee, as it is the statutory duty of the commission to oversee the equities markets. And, the commission should avoid the incrementalism that invariably leads regulators to attempt to solve every problem, however small, in a vacuum. This inevitably leads to additional layers of regulation. Many recent attempts to "fix" market structure issues, for example, the Dodd–Frank amendments to the Exchange Act Section 19(b) rule filing requirements for SROs, have essentially been grafted onto the existing framework without a re-examination of the validity of that framework. By tweaking the 1975 Act–based requirements without studying whether those requirements make sense at all given the changed market structure, regulators have merely replaced one problematic regime with another.

This incremental approach exacerbates, and is exacerbated by, the regulatory tendency to treat all problems as failures of the markets themselves. Approaching a comprehensive market-structure review with an assumption that markets and their participants are the source of any perceived problems is both intellectually and pragmatically a dead end. Instead, the SEC should recognize that many of today's major market-structure issues have more to do with the unintended effects of regulation than with failures of the

markets themselves. If an issue is serious enough to merit legislative action (as was done in the Dodd–Frank Act), it is serious enough to deserve a re-examination from first principles. The SEC's review of market structure must acknowledge and address the role that regulation has played in developing the structure of today's markets, and should inevitably result in recommendations to Congress on how to update or eliminate the vestigial provisions. Everything—including statutes, regulations, and interpretations—must be on the table. The SEC must be willing to return to first principles—encouraging innovation through healthy free-market competition.

VENTURE EXCHANGES AND THE SECONDARY MARKET

A holistic review of market structure should also include new ideas to improve the trading ecosystem for small-capitalization companies. It is widely believed that the increased costs of being public as a result of the Sarbanes–Oxley Act and the Dodd–Frank Act have made it less attractive for smaller and growth-stage companies in the United States to go or remain public, resulting in fewer initial public offerings and more companies considering going private. Some of these costs, like the unanticipated high costs associated with the auditor attestation requirements of Section 404(b) of the Sarbanes–Oxley Act and the rules thereunder, are readily traceable to a particular regulation. Others, however, are the accumulation of a number of small requirements that ultimately result in meaningful burdens, such as the ever-expanding federally mandated corporate governance requirements—for example, the director, audit committee, and compensation-committee independence requirements and mandated say-on-pay votes[44]—as well as required disclosures of information that have little practical usefulness to real investors.

These costs and burdens can be difficult for any public company to bear, but clearly small companies, with their more limited human and financial legal resources, are often disproportionately affected and discouraged from public offerings. As a result, ordinary American investors will have fewer opportunities to seek higher returns by investing in growth-stage companies.

The SEC has recognized that "secondary market liquidity is an important factor impacting the availability of capital for small businesses."[45] However, not all small-cap companies are listed on the NASDAQ. Many small-cap company securities do not meet exchange-listing standards, or are deterred by the high listing fees and compliance requirements required by such listings. Such securities are left to trade through the over-the-counter market or through the private market, which is subject to certain restrictions and generally limited to accredited investors.

A liquid secondary market reduces risk by allowing investors to sell their investments quickly, at reasonable prices, and with low transaction costs. Moreover, the benefits of a liquid market actually encourage investment, making it more likely that investment capital will find its way to entrepreneurial firms. On the other hand, illiquid markets discourage investments, as issuers raising capital and early-round investors seeking an exit will receive less for shares sold in private transactions. In making investment decisions, investors may naturally consider whether they will have the ability to resell their shares in the future, which undoubtedly dissuades entrepreneurs and investors from pursuing these ventures in the first place, depriving the economy of entrepreneurship and innovation.

So what can be done to encourage secondary-market liquidity while relieving the regulatory burden that comes with listing on large exchanges? One innovative approach that recently has piqued interest in both the public and private sectors is the establishment of "venture exchanges"—national exchanges with specially tailored trading and listing rules that would serve as incubators for smaller companies. These exchanges would offer a platform that encourages smaller companies to enter U.S. public markets while at the same

time providing adequate protection for investors. The hope is that small companies would be able to receive public financing through listing on these exchanges and then be able to move onto more robust and liquid markets in the future. The SEC recently has adopted new rules to revitalize Regulation A, as part of its implementation of the Jumpstart Our Business Startups (JOBS) Act; and the development of venture exchanges for small-cap shares, including Regulation A issuances, would greatly enhance liquidity in these shares, thereby facilitating greater demand and higher prices for the initial issuances of these securities.

There have been a number of discussions regarding the establishment of venture exchanges.[46] The Senate has held hearings on the issue[47] and considered testimony from several market experts. Stephen Luparello, director of the Division of Trading and Markets at the SEC, stated in his testimony before the Senate Banking Committee that transparent and regulated venture exchanges might be able to provide a balance between the needs of smaller companies against the need for investor protection.[48] The House Financial Services Committee also recently approved a bill sponsored by Representative Scott Garrett (R–NJ) to provide for the creation and registration of venture exchanges, with approval from the SEC.[49] Then–SEC Commissioner Luis Aguilar expressed openness to the idea.[50] Moreover, there is a great amount of interest abroad. Both the United Kingdom and Canada have already established venture exchanges, and many other markets, including Korea and Ireland, have followed suit.[51]

Like existing exchanges, venture exchanges would have market-surveillance obligations, SEC oversight, and price transparency, but would also reduce regulatory burdens on small companies by scaling listing standards and regulatory filing requirements. Shares traded on these exchanges would be exempt from state "blue sky" registration, and the exchanges themselves would be exempt from the SEC's national market system and unlisted trading privileges rules, so as to concentrate liquidity in these venues. This would, in turn, bring market makers and analysts to these exchanges and their issuers, thereby recreating some of the ecosystem supportive of small companies that has been lost over the years.

Other variables, such as continuous trading versus periodic call auctions, tick sizes, and minimum capitalization, would be left to each exchange to determine, with the aim of creating different, idiosyncratic venues that could compete with one another.[52] Such exchanges could have a transformative impact on small business capital raising, while at the same time balancing the interests of investors in having the strong protections that come with a regulated trading environment.

CONCLUSION

During my time at the SEC, I advocated for a holistic review of U.S. equity-market structure, an effort that has since been supported by the entire commission. Although the formation of the Equity Market Structure Advisory Committee was an important step toward understanding and potentially improving the structure of these markets, as of this writing, the SEC has yet to engage in a truly holistic review.

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ENDNOTES

1. Erin Durkin, "New York Stock Exchange Will Keep Its Iconic Trading Floor Under New Ownership," *New York Daily News*, June 1, 2014, http://www.nydailynews.com/new-york/n-y-stock-exchange-iconic-trading-floor-article-1.1813393 (accessed October 11, 2016).
2. Robert Pozen, "Competition and Regulation in the Stock Markets," *Michigan Law Review*, Vol. 73 (1974), pp. 317–318.
3. D. M. Levine, "A Day in the Quiet Life of a NYSE Floor Trader," *Fortune*, May 20, 2013, http://fortune.com/2013/05/29/a-day-in-the-quiet-life-of-a-nyse-floor-trader/ (accessed October 11, 2016).
4. Bob Pisani, "Here's What's Really Surprising About Today's Shutdown of the NYSE Floor," CNBC, July 8, 2015, http://www.cnbc.com/2015/07/08/heres-whats-really-surprising-about-todays-shutdown-of-the-nyse-floor.html (accessed October 11, 2016).
5. As described below, the most significant changes to equity market structure have occurred in the past 20 years in response to Congress's directive to the SEC to create a national market system for securities.
6. The Securities Act and the Exchange Act—passed by Congress after years of detailed study and debate informed by the work of the Pecora Commission—were specifically designed to address the actual causes of the stock market crash and the ensuing economic turmoil. This is notably different than the process surrounding the Dodd–Frank Act, in which Congress created a Financial Crisis Inquiry Commission to analyze the causes of the 2008 financial crisis, yet issued the resulting report months *after* the single-party legislation was passed. Moreover, the Dodd–Frank Act is virtually silent regarding the main underlying cause of the financial crisis—failed federal housing policy and the role of the government-sponsored enterprises, Fannie Mae and Freddie Mac.
7. *Gordon v. NYSE*, 422 U.S. 659, 663–66 (1975) (noting congressional recognition of the NYSE's monopoly power leading up to enactment of the Exchange Act and the 1975 Act Amendments).
8. 414 U.S. 117, 127–28 (1973). See also Gordon, 422 U.S. 659, 667: "The congressional reports confirm that, while the development of rules for the governing of exchanges, as enumerated in § 19(b), was left to the exchanges themselves in the first instance, the SEC could compel adoption of those changes it felt were necessary to insure fair dealing and protection of the public."
9. Walter Werner, "Adventure in Social Control of Finance: The National Market System for Securities," *Columbia Law Review*, Vol. 75 (1975), pp. 1262–1263, and R. C. Michie, *The Global Securities Market: A History* (Oxford & London: Oxford University Press, 2006), p. 216.
10. Subcommittee on Oversight and Investigations, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, *National Market System: Five Year Status Report*, August 26, 1980, pp. 3–5. Congress was also concerned about "serious strains... in the inefficient system of processing the purchase and sale transactions. Although trading volumes increased, the industry failed to update its operations for recording of sales and purchases, billing of customers, and transferring stock certificates and money from one person to another. These processing inefficiencies were costly to the firms and to investors. In some instances entire brokerage firms collapsed because of the breakdown in the processing operation, posing a threat of financial loss to customers." *Id.*
11. Ibid., p. 5.
12. Ibid., pp. 5–7.
13. Ibid., p. 8.
14. Public Law 94–29, June 4, 1975.
15. Ibid.
16. Reg NMS was fully implemented in 2006.
17. William H. Donaldson, Chairman, U.S. Securities and Exchange Commission, at Open Meeting, Regulation NMS Proposal, public address, February 24, 2004.
18. 17 C.F.R. § 242.610 (2005).
19. Norman S. Poser, "Regulation NMS: A Divided SEC Has Adopted New Rules to Prohibit 'Trading Through' Automated Limit Orders and to Ensure Reasonable Access to All Markets in the National Market System. The Rules Should Benefit Investors from Better Executions, Greater Liquidity, Reduced Transaction Costs, and Push the NYSE Toward Electronic Trading," *The Review of Securities & Commodities Regulation*, Vol. 38, No. 18 (October 26, 2005), § Order Protection Rule.
20. Ibid., p. 235, and news release, "Connecticut Department of Banking and SEC Announce Enforcement Actions Against David M. Faubert," U.S. Securities and Exchange Commission, April 5, 2005, https://www.sec.gov/news/press/2005-47.htm (accessed October 11, 2016). A locked market occurs when the bid and offer are at the same price, whereas a crossed market occurs when the bid is higher than the offer. Locked and crossed markets are of concern because of the inefficiency they signal—if two investors want to buy and sell at the same price (or the seller is willing to accept a lower price than the buyer is willing to pay),

they would normally trade with each other: Poser, "Regulation NMS," § Locked and Crossed Orders. Market makers are prohibited from entering price quotes that would create locked or crossed markets.

21. 17 C.F.R. § 242.612 (2005).

22. News release, "SEC Adopts Regulation NMS and Provisions Regarding Investment Advisers Act of 1940," U.S. Securities and Exchange Commission, April 7, 2005, https://www.sec.gov/news/press/2005-48.htm (accessed October 12, 2016).

23. Poser, "Regulation NMS," § Market Data Rules and Plan Amendments.

24. News release, "SEC Adopts Regulation NMS and Provisions Regarding Investment Advisers Act of 1940."

25. Poser, "Regulation NMS," § Purposes of Reg. NMS: Assure best execution.

26. Dark pools are private exchanges for trading securities, but they (unlike stock exchanges) are not accessible to the general investing public.

27. U.S. Securities and Exchange Commission, "Dissent of Commissioners Cynthia A. Glassman and Paul S. Atkins to the Adoption of Regulation NMS," June 9, 2005, http://www.sec.gov/rules/final/34-51808-dissent.pdf (accessed October 11, 2016).

28. Ibid., footnote 3, quoting Senate Committee on Banking, Housing and Urban Affairs, Senate Report No. 94-75, 94thCong., 1st Sess., 1975, pp. 13–14: [T]he Commission's responsibility [is] to balance the perceived anti-competitive effects of the regulatory policy or decision at issue against the purposes of the Exchange Act that would be advanced thereby and the costs of doing so. Competition would not thereby become paramount to the great purposes of the Exchange Act, but the need for and effectiveness of regulatory actions in achieving those purposes would have to be weighed against any detrimental impact on competition.

29. "Dissent to Regulation NMS," p. 2, footnote 4, quoting H.R. Report No. 94-229, 94th Cong., 1st Sess., 1975, p. 92: "It is the intent of the [House and Senate] conferees that the national market system evolve through the interplay of competitive forces as unnecessary regulatory restrictions are removed." See also "Dissent to Regulation NMS," footnote 5, quoting Senate Report No. 94-75, 94thCong., 1st Sess., p. 12: "This is not to suggest that…[t]he SEC would have either the responsibility or the power to operate as an 'economic czar' for the development of a national market system."

30. Ibid., p. 2.

31. U.S. Securities and Exchange Commission, "Division of Trading and Markets: Responses to Frequently Asked Questions Concerning Rule 611 and Rule 610 of Regulation NMS," https://www.sec.gov/divisions/marketreg/nmsfaq610-11.htm (accessed October 11, 2016).

32. Jacob Bunge, "A Suspect Emerges in Stock-Trade Hiccups: Regulation NMS," *The Wall Street Journal*, January 27, 2014, http://www.wsj.com/articles/SB10001424052702303281504579219962494432336 (accessed October 11, 2016).

33. Laura Tuttle, "OTC Trading: Description of Non-ATS OTC Trading in National Market System Stocks," U.S. Securities and Exchange Commission, March 2014, http://www.sec.gov/marketstructure/research/otc_trading_march_2014.pdf (accessed October 11, 2016). The list of ATSs registered with the SEC is available at http://www.sec.gov/foia/ats/atslist0914.pdf (accessed October 11, 2016).

34. Steven Lofchie, "Equity Market Structure: A Review of SEC Regulation NMS," written testimony before the Subcommittee on Capital Markets and Government Sponsored Enterprises, Committee on Financial Services, U.S. House of Representatives, February 28, 2014, http://financialservices.house.gov/uploadedfiles/hhrg-113-ba16-wstate-slofchie-20140228.pdf (accessed October 11, 2016).

35. Philip Stafford and Nicole Bullock, "Small Investors Focus of Trading Shake-Up," *Financial Times*, May 11, 2015, https://www.ft.com/content/a20588a4-f7c0-11e4-8bd5-00144feab7de (accessed October 11, 2016), and David Weisberger and Paul Rosa, "Automated Equity Trading: The Evolution of Market Structure and Its Effect on Volatility and Liquidity," Two Sigma Securities, June 2013, https://www.twosigmasecurities.com/uploads/TSS.White%20Paper.Volatility.June%202013.pdf (accessed October 11, 2016).

36. Dale A. Oesterle, "Congress's 1975 Directions to the SEC for the Creation of a National Market System: Is the SEC Operating Outside the Mandate?" Ohio State Public Law *Working Paper* No. 11, May 2004, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=539723 (accessed October 11, 2016) (citing Senate Report No. 94-75, 94thCong., 1st Sess., p. 11 and H.R. Report No. 94-229, 94th Cong., 1st Sess., p. 93).

37. Dale A. Oesterle, "Regulation NMS: Has the SEC Exceeded Its Congressional Mandate to Facilitate a National Market System in Securities Trading?" *NYU Journal of Law and Business*, Vol. 1 (2005), p. 673.

38. H.R. Report No. 94-229, 94th Cong., 1st Sess., p. 92.

39. Financial Industry Regulatory Authority, "Rule 5310. Best Execution and Interpositioning," http://finra.complinet.com/en/display/display.html?rbid=2403&record_id=15739&element_id=10455&highlight=5310#r15739 (accessed October 11, 2016).

40. Stavros Gadinis, “Market Structure for Institutional Investors; Comparing the U.S. and E.U. Regimes,” *Virginia Law and Business Review*, Vol. 3 (2008), http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1947&context=facpubs (accessed October 11, 2016).
41. Ibid.
42. Ibid.
43. In 1994, led by Brandon Becker, the Division of Market Regulation released the Market 2000 Report. The report was largely an evaluation of the principles underlying the 1975 Act Amendments as they applied to the markets at the time. U.S. Securities and Exchange Commission, “Market 2000: An Examination of Current Equity market Developments,” Division of Market Regulation, 1994, https://www.sec.gov/divisions/marketreg/market2000.pdf (accessed October 11, 2016).
44. “Say-on-pay” votes are advisory votes by shareholders on executive compensation.
45. See, for instance, Mary Jo White, “Opening Remarks at Meeting of SEC Advisory Committee on Small & Emerging Companies,” March 4, 2015, http://www.sec.gov/news/statement/opening-remarks-to-acsec.html (accessed October 11, 2016).
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