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Focusing on Fundamentals: The Path to Address Equity Market Structure

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I am truly honored to be here, particularly at your 80th annual market structure conference, which makes your conference even older than I am – by about a decade and a half. Thank you for that as well. The much "older than I am" occasions get fewer and farther between.

As market professionals, you obviously live the U.S. equity markets first hand, day in and day out. As an association, you have used your voice to focus attention on the value of our equity markets – an all-important engine for capital formation, job creation, and economic growth.

Like you, I believe that we must constantly strive to ensure that the U.S. equity markets continue to serve the interests of all investors. That mutual challenge must come fully of age and address today's, not yesterday's, markets. And today, I will speak about the path forward.

Attracting Investors and Public Companies

The success or failure of capital formation in the equity markets depends on two key constituencies – investors and public companies.

Without investors willing to accept the long-term risks and rewards of ownership in public companies, the equity markets cannot exist. This is equally true whether they participate in the markets directly or indirectly through institutional investors, like mutual or pension funds.

But even interested investors will be greatly limited in their choices if the equity markets do not provide an effective and efficient way for a broad range of public companies to access capital.

Companies directly raise capital in primary offerings, but it is the secondary market that makes these offerings viable. Without a robust secondary market, companies simply cannot attract the necessary interest from investors. A good secondary market assures investors will have an efficient means of liquidating their positions if and when they choose. And a strong secondary market generates price discovery that helps efficiently allocate capital to the companies most able to put it to productive uses.

Market structure plays an essential role in attracting investors and companies to the public equity markets. Our market structure should inspire confidence in investors and companies that they will be treated fairly and that the system will work efficiently. Without this confidence, our market structure can act as a headwind that will impede capital formation.

We are fortunate that the U.S. equity markets currently operate from a position of extraordinary strength. [1] The U.S. equity markets are rightly considered the envy of the world in terms of the companies they attract and their broad investor participation.

But markets continually evolve, and there are signs that require our attention. The number of U.S.-listed companies has declined to approximately 4,900 from a high of more than 8,000 in 1997.[2] And, while estimates of equity participation reached a high of 65% of U.S. households in 2007, they have since declined each year, despite the general rise in equity price levels.[3]

Understanding the Fundamentals

It is natural to ask whether these signs reflect problems in our present equity market structure, particularly given the sweeping transformations of recent years. As traders, you are well aware that trading today is high-tech, high-speed, and widely dispersed among many different trading venues.[4] The extremely short-term strategies of high-frequency trading firms represent more than half of all trading volume.[5] A steadily increasing percentage of trading occurs in "dark" venues, which now appear to execute more than half of the orders of long-term investors.[6] And technology itself has been a transformative force, enabling previously unimaginable methods for order generation, routing, and execution.

Although some have argued otherwise, these developments are not attributable solely to regulatory choices. Competition plays a powerful role. Well before Regulation NMS, market participants were trading in dark pools and trading with highly automated strategies. Many jurisdictions around the world with different regulatory structures than ours are dealing with analogous issues related to off-exchange venues and automated trading.

The SEC, of course, must be in a position to fully understand all aspects of today's equity market structure. I emphasized from before my first days as SEC Chair that addressing market structure issues would be one of my top priorities.

Back in 2010, the SEC took an important step when it published the Market Structure Concept Release that initiated a comprehensive review of equity market structure. Over the last year, we have intensified this effort, and I believe we should do more.

To address a difficult challenge successfully often starts with a focus on fundamentals. I am concerned that, as the complexity of our market structure has grown, so too has the complexity of the "diagnoses" offered and the "solutions" proffered. Some of those efforts and ideas may very well bear out, but, like batters in a slump who often turn to fundamental mechanics to rebuild and improve their swings, I believe we too must focus on a few important fundamentals in our review of equity market structure. Only with attention to these fundamentals can we get it right and address the issues smartly.

What are these fundamentals?

The first is that technology matters, and properly functioning markets demand it. Operational integrity was essential when markets depended on the technology of pen and paper and it is critical when they depend on sophisticated software.

The second fundamental is that we should identify and test our assumptions about market structure. In some cases, these assumptions seem almost accidental – for example, despite the marketplace's ability, and our explicit authority, to differentiate between stocks with different trading characteristics, today's market structure has evolved to be "one-size-fits-all." In other cases, our assumptions seem driven by long-standing market practices, statutes, or regulations – suggesting that because it always has been a certain way, it must remain that way.

The third fundamental is that decisions should be based, to the extent possible, on empirical evidence. We recognize that the same evidence may be interpreted differently by parties with different assumptions, perspectives, and interests. But much of the current discussion around market structure seems rooted more in anecdote – and, at times, self-interest – than in evidence. If we want to make good decisions about our markets, empirical evidence provides, at the very least, a starting point for a principled dialogue about what – if anything – is to be changed in our market structure.

Let me briefly elaborate on each of these fundamentals.

Focusing on Operational Integrity

One clear, and to my mind indisputable, focus of our attention must be operational integrity. The technology systems that drive today's markets – and what will become their successors – are here to stay.

There are clear benefits that flow from technology. It has created tremendous efficiency, and many have seen significant improvements in trading costs and access to capital due to the technological revolution in our market structure over the last 15

years. But systems can fail or operate in unexpected or unintended ways. And the risk of that naturally increases as technology systems become faster, more pervasive, and more complex.

We all recognize that some risk of failure is inherent in any technology system. But that does not mean we should not always be striving toward zero tolerance for errors and interruptions. We must address these risks by striking the right balance of reliability, functionality, and cost.

Over the last year and a half, unfortunately, the U.S. equity and options markets have experienced a spate of events that call into question whether the markets have achieved the right balance. These include systems failures at exchanges and problems at broker-dealers with order routing systems. And recently, the equity markets experienced the August 22nd disruption in the dissemination of consolidated market data, which led to a trading halt in all NASDAQ-listed stocks for several hours.

We should not confuse these events as the byproducts of high-frequency trading or activity in dark venues, as some often do. These events involved relatively basic, albeit serious, errors. Many could have happened in a less complex market structure. But the persistent recurrence of these events can undermine the confidence of investors and public companies in the integrity of the U.S. equity market structure as a whole.

In 2010, the SEC took a very important step to address operational integrity at broker-dealers when it adopted the Market Access Rule.[7] The risk management controls it requires are a critically important aspect of market integrity in a structure where orders are generated and routed by computer algorithms that, when defective, can flood the market and rapidly exhaust normal supplies of liquidity.

That rule has now been in place for three years, yet the continued occurrence of failures in order routing systems and controls clearly shows there is still work to be done in implementing effective controls at broker-dealers. And the industry must continue to work on other protections, such as kill switches at exchanges, to address mistakes that slip through a broker-dealer's controls.

Broker-dealers, of course, are only part of our interconnected market system. Issues with operational integrity extend to exchanges, alternative trading platforms, and other systems.

The SEC and the industry are making progress in this area, but there is still much to do. For our part, this past March we proposed new Regulation SCI to bolster systems compliance and integrity.[8] I look forward to, and ask from you and other industry participants, a constructive and inclusive dialogue as we move forward.

Although we should move forward expeditiously with Regulation SCI, the shutdown of the NASDAQ consolidated data processor confirmed that we cannot wait for, nor rely solely on, this proposed regulation to address especially single points of failure where a disruption can have an impact across the entire national market system.

I met with executives of the exchanges last month and challenged them to together develop and implement the necessary steps to improve the resilience of the technology surrounding critical market infrastructures.[9] In short order, we expect to receive comprehensive action plans that address the standards necessary to establish highly resilient and robust systems for securities information processors. I have also asked the SEC staff to engage the exchanges, clearing agencies, and FINRA to conduct a "mapping" of other critical infrastructure systems and provide assessments of their robustness and resilience.

In addition, I asked the exchanges and FINRA to prioritize their efforts on a number of initiatives to assure that, when problems do occur, they are resolved promptly and in a way that maintains the confidence of investors.[10]

In all of these efforts, we must engage the full range of market participants, including broker-dealers and investors. I look forward to seeing the results of these efforts and their speedy implementation.

Challenging Our Market Structure Assumptions

We also need to rethink some of the assumptions that underlie today's market structure.

Assumptions matter. They confine the flexibility that we believe is available to us as regulators, and they do the same for you as market participants. It is important that we identify and test these assumptions because technology and trading practices constantly evolve, and even the "perfect" trading model for today quickly becomes obsolete. Trading venues of all types should have the flexibility, and the incentives, to competitively innovate to better meet the needs of their ultimate customers – investors and public companies.

Challenging assumptions is a key part of the comprehensive review of market structure that started with the Concept Release, and I think it is the part that is often emphasized in discussions of a "holistic" review of market structure.

One-Size-Fits-All Market Structure

I believe that one unspoken assumption about our listed equity market structure has been that it must be a "one-size-fits-all" structure. For the most part, market rules and trading mechanisms are today the same regardless of wide variations in the "size" of public companies.

STA has been a leading voice for market structure rules that fit the particular needs of smaller companies. Similarly, our Advisory Committee on Small and Emerging Companies submitted recommendations earlier this year with the goal of improving market structure for smaller companies.[11]

In 1975, Congress gave the SEC authority to facilitate the establishment of a national market system, including authority to establish subsystems for stocks with unique trading characteristics.[12] This authority permits different types of stocks to be treated differently. We should consider how we can better use the data currently available to us to inform those decisions and how we can develop empirical analytics to help us measure success or failure.

As one step in this direction, I have instructed the SEC staff to move forward on earlier efforts to work with the exchanges as they develop and, if possible, present to the Commission for its consideration a plan to implement a pilot program that would allow smaller companies to use wider tick sizes.

Exchange Competition and Self-Regulatory Model

Another set of assumptions about our current market structure is related to the nature of exchange competition and the nature of the self-regulatory model itself.

Equity exchanges today operate fully electronic, high-speed trading systems using a business model that mostly was developed by electronic communications networks, or ECNs, prior to Regulation NMS.[13] Indeed, in many ways, today's exchanges are yesterday's ECNs.

Exchanges differ from ECNs, however, in significant respects. Exchanges, for example, continue to exercise self-regulatory functions, even as they operate as for-profit entities.

This model for exchanges has encountered challenges. As I noted earlier, for example, the "lit" exchanges no longer attract even one-half of long-term investor orders.

From time to time, equity exchanges have adopted trading models that use different fee structures or attempt to focus on different priorities, such as order size or retail investor participation.[14] These models have been met with mixed success, which raises the question as to whether exchanges have a real opportunity to develop different trading models that preserve pricing transparency and are more attractive to investors.

As is true for all important aspects of our current market structure, the current nature of exchange competition and the self-regulatory model should be fully evaluated in light of the evolving market structure and trading practices. This evaluation should include whether the current exchange regulatory structure continues to meet the needs of investors and public companies. Does it provide sufficient flexibility for exchanges to implement transparent trading models that can effectively compete for investor orders? Does the current approach to self-regulation limit or support exchange trading models?

This evaluation should also assess how trading venues can better balance their commercial incentives and regulatory responsibilities. For example, is there an appropriate balance for exchanges in key areas, such as the maintenance of critical market infrastructure? And are off-exchange venues subject to appropriate regulatory requirements for the types of business they today conduct?

Grounding Market Structure Assessments in Empirical Evidence

The SEC's 2010 Concept Release[15] asked some of these and other questions about the performance of the post-Regulation NMS market structure generally. It also asked commenters for data to support their responses. Strikingly, little such data was provided.

This is a significant issue. We – and you – are best positioned to assess and develop any proposed changes to market structure, whether they are initiated by us or through competition among participants, if we have meaningful empirical evidence.

Data alone, of course, will not reconcile all of the widely differing and often conflicting views on market structure. But the right data can be used to test hypotheses, identify and eliminate potential problems, and narrow and focus the debate to the real issues. Investors, companies, and markets all demand – and deserve – as much.

Developing Better Sources

For our part, we are engaging in a wide-ranging effort to seek out better sources of data to better assess today's complex markets.

These sources include MIDAS, the market information and data analysis system that the SEC staff began operating in January. The SEC also adopted the Large Trader Reporting Rule,[16] which began last year to more efficiently collect information on most of the trading activity of key market participants, including high-frequency traders. In addition, the SEC adopted the Consolidated Audit Trail Rule,[17] which, when implemented, should significantly enhance the ability of regulators to monitor the equity markets. In the meantime, SEC staff is using FINRA's existing audit trail data to analyze equity trading, particularly in the off-exchange markets.

We also are paying close attention to initiatives of foreign regulators who are dealing with market structure issues analogous to ours.[18]

Engaging the Public Debate

Our next immediate step is to start making this empirical information, which we are already using extensively, publicly available to help inform the broader market structure debate. All should have an opportunity to consider the issues with the benefit of the information we have and are using.

So, today, I am pleased to announce a new initiative we are launching that is designed to promote a fuller empirical understanding of the equity markets. SEC staff has prepared and assembled resources and data on the SEC's web site focusing exclusively on equity market structure. The new web site should be available as early as next week and will serve as a central location for us to publicly share evolving data, research, and analysis.

Part of this initiative will be to disseminate data and related observations drawn from MIDAS that address the nature and quality of displayed liquidity across the full range of U.S.-listed equities –from the life-time of quotes, to the speed of the market, to the nature of order cancellations.

Every day MIDAS collects one billion records, time-stamped to the microsecond. The information comes from the consolidated tapes and the proprietary feeds of each exchange, and includes posted orders and quotes, modifications and cancellations, and trade executions both on- and off-exchange. Typically, only sophisticated market participants have had access to all of this data, and fewer still have had the ability to process it.

The web site will allow users to explore key market metrics and trends based on aggregate analyses of tens of billions of MIDAS records over the last year. Not only are we making these analyses available, we're making them accessible. With the click of a mouse, results will be available in clear, easy-to-read charts and graphs.

We expect this new tool to transform the debate on market structure by focusing it as never before on data, not anecdote.

To give an illustration, the staff has developed a data series tracking the total volume of visible orders at all the price levels sent to our public exchanges and comparing this volume to the total volume of shares actually traded. As expected, only a small percentage of orders sent to exchanges are not cancelled and actually result in trades. But perhaps less expected is that cancellation rates for orders in exchange-traded products can generally be five to ten times larger than for corporate stocks.[19] Such observations highlight how different types of equity products can vary in their effects on markets and their structure.

Staff has also used this data to compare the speed at which exchange orders are cancelled to the speed at which orders are executed. Recent data on corporate stocks shows that almost two-thirds of all orders "rest" for half a second or longer. Though we can clearly see that quotes are sometimes cancelled within a millisecond or faster, the data show that the high-speed market is not dominated by such cancellations. In fact, over a quarter of all exchange-based trades in corporate stocks are executed against orders that have rested for only half a second or less. These findings not only provide an empirical basis for measuring and tracking the speed of today's markets, but also suggest that even short-lived quotes are generally accessible by at least some traders.

The new web site will also feature staff research papers based on a variety of data sources and staff reviews that identify and assemble information from the expanding economic literature on market structure topics. One paper, using order audit trail data on off-exchange trading, provides key metrics describing the underlying nature of off-exchange trading by the 44 alternative trading systems that trade equity securities. The staff's primary observation is that ATS trading looks very similar in many respects to exchange trading.[20] Another paper summarizes current studies that address market fragmentation – both visible and dark. Additional research papers and reviews are already planned.

We are very excited about this new initiative and we look forward to your feedback.

Conclusion

Gathering, disseminating, and analyzing data, testing assumptions about our complex, dispersed marketplace, and ensuring the integrity of market technology are the fundamental steps that are needed to address today's market structure concerns in a responsible manner.

Participation of STA members, other market participants, and the broader public is needed to advance these measures. In many cases, a little homework may address a concern or identify a necessary action for the SEC or the industry. In others, these measures may generate more questions and require additional analysis, providing the building blocks for more complex initiatives.

Ultimately, we must be able to show investors and companies that concerns about the current U.S. equity market structure can be properly diagnosed and, when needed, properly addressed. This is a very high priority for me. I am confident that this goal can be achieved and that the U.S. equity markets will continue to work well for investors so that they can both drive capital formation and participate in the benefits of economic growth.

Thank you.

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[1] By the end of 2012, U.S. equity markets served more than 4,900 listed companies, and the market capitalization of these companies was more than $18 trillion – more than five times greater than any other jurisdiction. Source: World Federation of Exchanges (statistics available at http://www.world-exchanges.org/statistics/annual-query-tool). In addition, 52% of all U.S. households are estimated to have some form of equity investment. Source: Gallup (available at http://www.gallup.com/poll/162353/stock-ownership-stays-record-low.aspx).

[2] Source: World Federation of Exchanges (statistics available at http://www.world-exchanges.org/statistics/annual-query-tool).

[3] Source: Gallup (available at http://www.gallup.com/poll/162353/stock-ownership-stays-record-low.aspx).

[4] Securities Exchange Act Release No. 61358, "Concept Release on Equity Market Structure," 75 FR 3594, 3598 (January 21, 2010) ("Market Structure Concept Release") (trading volume divided among many different exchanges, ATSs, and internalizing broker-dealers).

[5] Market Structure Concept Release, 75 FR at 3606.

[6] Rule 606 of Regulation NMS, 17 CFR 242.606, requires brokers to prepare quarterly reports on the trading venues to which they route customer orders. For the quarter ending June 30, 2013, these reports from large retail brokers and institutional agency brokers generally indicate that they routed a majority or more of their customer orders to off-exchange dark venues.

[7] Securities Exchange Act Release No. 63241, "Risk Management Controls for Broker-Dealers with Market Access," 75 FR 69792 (November 15, 2010).

[8] Securities Exchange Act Release No. 69077, "Regulation Systems Compliance and Integrity," 78 FR 18084 (March 25, 2013).

[9] SEC Chair White Statement on Meeting With Leaders of Exchanges, September 12, 2013 (available at http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370539804861).

[10] Id. These initiatives include improving the process of declaring and communicating trading halts, breaking erroneous trades, and reopening the market following significant market events.

[11] Letter dated March 21, 2013, from Stephen M. Graham and M. Christine Jacobs, Co-Chairs, Advisory Committee on Small and Emerging Companies, to The Honorable Elisse B. Walter, Chairman, U.S. Securities and Exchange Commission (available at http://www.sec.gov/info/smallbus/acsec/acsec-recommendation-032113-emerg-co-ltr.pdf) (recommending a separate U.S. equity market that would facilitate trading in the securities of small and emerging companies); letter dated March 21, 2013, from Stephen M. Graham and M. Christine Jacobs, Co-Chairs, Advisory Committee on Small and Emerging Companies, to The Honorable Elisse B. Walter, Chairman, U.S. Securities and Exchange Commission (available at http://www.sec.gov/info/smallbus/acsec/acsec-recommendation-032113-spread-tick-size.pdf) (providing recommendations regarding trading spreads for smaller exchange-listed companies).

[12] Section 11A(a)(2) of the Securities Exchange Act of 1934, 15 U.S.C. § 78k-1.

[13] Among other things, exchanges generally are "agnostic" when it comes to their participants, at least in principle. For the most part, orders from all participants are treated alike, and market makers have both few advantages and few obligations. Exchanges also generally charge significant access fees to liquidity taking orders and then rebate nearly all of the fees to liquidity providing orders. And exchanges offer tools that facilitate short-term algorithmic trading, such as co-located servers, complex order types, and data feeds with detailed order information.

[14] The NASDAQ Philadelphia Exchange, for example, launched a trading model focused on size of orders rather than speed, but attracted little volume. The NYSE and other exchanges have launched retail investor programs that, at least thus far, also have attracted little volume. And some exchanges have adopted different fee models, charging liquidity providers instead of liquidity takers.

[15] Market Structure Concept Release, 75 FR at 3596 ("To more fully understand the effects of these and other changes in equity trading, the Commission is conducting a comprehensive review of equity market structure. It is assessing whether market structure rules have kept pace with, among other things, changes in trading technology and practices.").

[16] Securities Exchange Act Release No. 64976, "Large Trader Reporting," 76 FR 46960 (August 3, 2011).

[17] Securities Exchange Act Release No. 67457, "Consolidated Audit Trail," 77 FR 45722 (August 1, 2012).

[18] Market structure initiatives in other countries include regulatory steps related to high frequency trading and dark trading venues that have been implemented in Europe, Canada, and Australia, all of which may generate interesting empirical data that could help assess the considerations of similar measures in the United States.

[19] Higher cancellation rates do not suggest that there is anything inherently wrong with ETPs, and there are some well-understood reasons why cancellation rates for ETPs may, on average, be higher than for stocks. Every time an ETP component stock changes price, for example, market makers need to update their quotes – including cancelling their prior quotes – for the ETP.

[20] For example, approximately 70% of reported trades at both ATSs and exchanges are precisely 100 shares. And though five ATSs have average order sizes that exceed 1,000 shares, this volume represents only 3% of total ATS volume.

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