Testimony on U.S. Equity Market Structure by the U.S. Securities and Exchange Commission

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Chairmen Reed and Levin, Ranking Members Bunning and Coburn, and members of the Subcommittees:

Thank you for the opportunity to testify on behalf of the Securities and Exchange Commission concerning the U.S. equity market structure.

Market structure encompasses all aspects of the organization of a market, including the number and types of venues that trade a financial product and the rules by which they operate. Although these issues can be complex and the rules technical, a stable, fair, and efficient market structure is the backbone of the equity markets and an important engine of our economy.

My testimony today will note some important recent market structure developments and discuss the Commission's ongoing review of our market structure. In particular, we have undertaken a broad-based appraisal of both the strengths and weaknesses of our current equity market structure. This review includes an evaluation of recent market structure performance and an assessment of whether market structure rules have kept pace with recent significant changes in trading technology and practices. The goal of this evaluation is to effectively address any market structure weaknesses while preserving its strengths.

As will be described below, the Commission has recently moved to enhance regulators' capacity to monitor trading across all trading venues and to enforce the securities laws and regulations and self-regulatory organization (SRO) rules. These initiatives include publishing for public comment one proposal that would mandate the development and implementation of a consolidated audit trail system and another that would require large trader reporting.

In addition, the SEC published a concept release on equity market structure in January 2010 (the "Concept Release"). The Concept Release described the current market structure and then broadly requested comment from the public on three categories of issues: (1) the quality of performance of the current market structure, (2) high frequency trading, and (3) undisplayed liquidity in all its forms.

The Commission has received more than 200 comments on the Concept Release. A number of commenters identified benefits of the current market structure, in particular noting that it has fostered competition among trading venues and liquidity providers that has lowered spreads and brokerage commissions. These investors cautioned against regulatory changes that might lead to unintended consequences. Other commenters, however, raised concerns about the quality of price discovery and questioned whether the current market structure continues to offer a level playing field to investors in which all can participate meaningfully and fairly. These commenters suggested a variety of initiatives to address their concerns.

Following up on the written comments, the Commission hosted a public roundtable on market structure in June. The roundtable participants, who included listed companies, investors, exchanges, market makers, high frequency traders, broker-dealers, agency-only brokers, and economists, offered a wide range of perspectives and recommendations. The debate at the roundtable was spirited and extremely helpful to the Commission in its efforts to obtain a deep understanding of complex policy issues.

The Commission's job in the coming months will be to evaluate these issues in a responsible, timely, and comprehensive fashion, with particular focus on obtaining the appropriate data and analysis to support our decisions to proceed with or to table any particular initiative. A few basic principles will guide our actions.

I. Guiding Principles

A. Capital Formation and Investor Protection

At its most basic level, market structure must achieve two critical objectives: serving the interests of companies in efficient capital formation and the interests of investors in attaining their financial goals. Efficient capital formation and strong investor protection in our equity markets will promote economic growth and jobs, as well as the ability of individual Americans to realize economic security and invest for things such as retirement and college.

Equity markets support these objectives by helping to turn the savings of investors into capital for business, enabling a flow of funds from investors to entrepreneurs and back again through dividends and capital gains. Those who purchase stock in an initial public offering, for example, can have confidence that they will be able to sell that stock at a fair and efficient price in the secondary market when they need or want to do so. The values assigned to stocks in the secondary market, moreover, play an important role in the ability of companies to raise additional funding.

Healthy equity markets allocate capital efficiently and help ensure that investors and companies are able to reap the rewards of their efforts. If, however, the equity market structure breaks down – if it fails to provide the necessary fairness, stability, and efficiency – investors and companies may pull back, raising costs and reducing growth.

In sum, the interests of companies and investors lie at the heart of market structure. All of the securities industry professionals and entities that act as intermediaries between companies and investors play vitally important roles in our equity market structure, but their roles ultimately must serve the ends of capital formation and investor protection.

B. Competition and Price Discovery

To achieve efficient capital formation and strong investor protection, a market structure must secure the dual benefits of competition and effective price discovery. Competition among multiple markets and market making firms can benefit investors through specialized trading services, lower fees, and narrow spreads. When many markets and firms compete for order flow in the same stock, however, any structural inefficiencies can lead to order flow fragmentation and concerns about the quality of price discovery. If price discovery were to be impaired, it could cause the price of a company's stock to deviate from true consensus values and lead to excessive volatility that is harmful to both investors and companies.

Section 11A of the Exchange Act directs the Commission to facilitate a national market system that achieves multiple objectives, including: competition among markets and broker-dealers, efficient execution of securities transactions, price transparency, best execution of investor orders, and an opportunity, consistent with other objectives, for investor orders to meet directly.

The Commission's market structure task is further complicated by the continual change that characterizes modern financial markets. Even if an optimally balanced market structure were achieved at any particular time, the dynamic forces of technology and competition are sure to generate new market conditions that will effectively – and sometimes rapidly – alter the balance. As a result, the Commission must regularly review its rules to assess whether they have kept pace with changing market conditions.

Our ongoing market structure review is focused on current, and potential future, market conditions, not those that existed in the past, and on whether the current rules continue to foster an appropriately balanced market structure that achieves all of the Exchange Act's objectives.

C. Surveillance, Inspection, and Enforcement

A final guiding principle for the Commission's market structure program is a recognition that the right rules are meaningless if they are not followed and enforced. All industry participants must know that the regulators are closely monitoring compliance and will take enforcement action against those who violate the rules. Consequently, the Commission is focused on obtaining the tools and resources necessary to better surveil trading, inspect regulated entities, and enforce the rules in today's highly automated, high speed and high volume markets.

II. Recent Market Structure Developments

A. Technology

The U.S. equity market structure has changed dramatically in recent years. A decade ago, most of the volume in stocks was executed manually, whether on the floor of an exchange or over the telephone between traders. Now nearly all orders are executed by fully automated systems at great speed. The fastest exchanges and trading venues are now able to accept, execute, and send a response to orders in less than one thousandth of a second.

Speed is not the only thing that has changed. As little as 5 years ago, the great majority of U.S. equities capitalization was traded on a listing market – the New York Stock Exchange (NYSE) – that executed nearly 80 percent or more of volume in those stocks. Today, the NYSE executes approximately 26 percent of the volume in its listed stocks. The remaining volume is split among 13 public exchanges, more than 30 dark pools, 3 electronic communication networks (ECNs), and more than 200 internalizing broker-dealers. Currently, approximately 30 percent of volume in U.S.-listed equities is executed in venues that do not display their liquidity or make it generally available to the public, reflecting an increase over the last year.

The evolution of trading technologies has dramatically increased the speed, capacity, and sophistication of the trading functions that are available to market participants. The new electronic market structure has opened the door for entirely new types of professional market participants. Today, proprietary trading firms play a dominant role by providing liquidity through the use of highly sophisticated trading systems capable of submitting many thousands of orders in a single second. These high frequency trading firms can generate more than a million trades in a single day and now account for more than 50 percent of equity market volume.

B. May 6 Trading Disruption

On May 6, 2010, two weeks after the end of the 90-day comment period for the Concept Release, the U.S. equity markets experienced one of the most significant price declines and reversals since 1929. While the decline in prices in broad market indexes on May 6 was not as steep and as persistent as the decline in October 1987 - when trading was slower and less reliant on technology - the broad market indexes, including the Dow Jones Industrial Average and S&P 500, dropped more than 5 percent in five minutes, only to almost entirely reverse the decline in a subsequent few minutes. Approximately 15 percent of stocks suffered even more severe declines and reversals of 10 percent or worse. These include two of the ten largest capitalization stocks, which declined 36.7 percent and 19.5 percent, during the half-hour disruption, only to recover nearly their full value.

At the worst end of the spectrum, 326 securities suffered declines of more than 60 percent from their 2:40 p.m. prices, leading the exchanges to "break" or cancel more than 20,000 trades. Many of these broken trades were executed at absurd prices of one penny or less per share. Nearly 70 percent of these broken trades were in exchange-traded funds (ETFs), whose pricing integrity depends in significant part on the price integrity of individual stocks and the activities of professional liquidity providing firms.

In September, the staffs of the SEC and the Commodity Futures Trading Commission (CFTC) published their second joint report on their inquiry into the day's events. Producing the report required an extraordinary amount of staff resources. On the securities side in particular, much of the time and effort was devoted to collecting and then painstakingly sifting through the data necessary to reconstruct trading. These efforts highlighted the pressing need for enhanced data functionalities in the securities markets.

The joint report lays out the multiple factors that in our view significantly contributed to the liquidity failure and disruptive trading on that day, outlining the complex interplay of multiple factors across the securities and futures markets. This interplay is significant because it demonstrates the need for a multi-faceted regulatory response that addresses the full scope of the risks in a comprehensive and responsible way.

C. Investor Views about Market Structure

Since the events of May 6, some investors are questioning the integrity and fairness of the U.S. market structure. Many individual investors, for example, have submitted comments to the Commission that are highly critical of the current market structure. Retail broker-dealers have told us that their customers – individual investors – have pulled back from participating in the equity markets since May 6. Some institutional investors also have submitted comments outlining their market structure concerns after May 6. These concerns included the transitory nature of a large percentage of liquidity, an uneven playing field created by data latency and co-location, and trading tactics employed to detect the presence of large blocks and trade ahead of them.

On the other hand, many institutional investors (such as mutual funds and pension funds who often represent the interests of many individuals investing indirectly in equities) who commented on the Concept Release believed that their trading costs had declined in recent years, that technology had fostered competition among trading venues and liquidity providers, improved the efficiency of trading, narrowed spreads, and that their brokerage commissions have never been lower. These investors highlighted important benefits in the current market structure that should be preserved.

III. Responding to Developments in Market Structure Under Existing Authority

A principal lesson of the financial crisis is that, because today's financial markets and their participants are dynamic, fast-moving, and innovative, the regulators who oversee them must continuously improve their knowledge and skills to regulate effectively. In response to the ever-changing nature of our financial system, the SEC's Office of Compliance, Investigations and Examinations (OCIE) and our Division of Enforcement have adopted new approaches to promote fair, orderly and efficient operation of the markets.

A vigorous examination program not only reduces the opportunities for wrongdoing and fraud, but also provides early warning about emerging trends and potential weaknesses in compliance programs. As described in more detail below, over the past year, we have begun reforming OCIE in response to developing Wall Street practices and lessons learned from recent fraud investigations.

Enforcement is another critical element to fair and effective markets. Swift and vigorous prosecution of emerging schemes designed to circumvent the law is at the heart of the agency's efforts to promote investor confidence in the integrity of the marketplace.

A. Market Surveillance and Inspections

In response to the dramatic changes that recently have developed in our markets, the Commission is employing an interdisciplinary approach designed to bring together subject matter experts from across the agency to identify, analyze and address issues that arise.

Recognizing the sweeping industry and market changes that have occurred in the past few years, OCIE, under new leadership, recently completed a critical self-assessment of its national examination program, not only of SROs, but also of broker-dealers and other regulated entities. As a result of that self-assessment, OCIE determined that it needed to develop a more risk-focused strategic plan to address SRO oversight of individual market centers.

OCIE is in the process of implementing its new SRO examination program this year. In addition to its ongoing examination responsibilities, OCIE staff currently is conducting risk assessment evaluations of each of the 13 registered exchanges and the options and equities markets that they operate. This assessment has been informed by recent market events, including the events of May 6, and will include an overview of key risk areas including conflicts of interest, corporate governance, regulatory structure, and market oversight and surveillance.

OCIE expects to use the findings of these examinations to create a comprehensive risk matrix for each of the exchanges and use that risk-based approach to inform future examinations. In addition, the exam findings will provide the SEC with the ability to address cross-market issues more holistically, by, for example, articulating common risk factors and better practices that can be adopted by all markets.

B. Enforcement Response

While market structure is primarily a regulatory challenge, an enforcement response is available and appropriate where market participants violate the law. The SEC's Division of Enforcement is devoting significant investigative resources to determine whether various market participants have engaged in conduct that unlawfully exploited the fragmentation of the markets, intentionally contributed to market volatility or manipulated the price and volume of securities at the expense of innocent investors.

The Enforcement Division's Market Abuse Unit is one of five specialized units established earlier this year to conduct specialized investigations and develop expertise in particularly high risk program areas. The Market Abuse Unit is helping to coordinate the Commission's enforcement response to complex abusive trading practices and market participants seeking unlawfully to exploit current market structure. The Unit is planning an Analysis and Detection Center, to be staffed, budget permitting, with specialists having expertise in algorithmic trading strategies, trading abuse, quantitative analysis, market structure and data architecture. By concentrating expertise in these areas, the Division of Enforcement can more efficiently and effectively identify potentially abusive trading practices that pose the greatest risk of harm to investors.

Investigating manipulation cases is often difficult, particularly given the speed and volume with which trading is occurring in today's markets. The Enforcement Division is committed to discovering manipulation schemes at their incipient stages. The SEC has had recent success, for example, through close coordination with criminal authorities, who are able to use law enforcement techniques that are proactive, and may yield stronger evidence of scienter – or manipulative intent.

That said, while traditional law enforcement approaches to investigating manipulation schemes are often effective, they alone are insufficient to police today's markets for potentially manipulative practices involving high frequency, algorithmic and large volume trading. The Commission needs significant upgrades to our systems and analytical resources to be able to effectively identify manipulations as they occur in today's markets. For example, we need the tools that will enable us to keep up with market participants who are placing thousands of orders per second.

Similarly, the fragmentation of trading at different market centers means trading data often has format, compatibility and clock-synchronization differences, making it difficult to quickly identify a complete picture of a single trader's market activities on a timely basis. The prevalence of high-volume trading through direct market access providers requires that investigative staff trace the trading back through multiple layers of intermediaries to identify the original trader. Because the staff must manually evaluate each layer of data before it can request the next, the lack of advanced data analysis tools can both delay our investigations and make it more difficult to identify the trader whose conduct is of ultimate interest. Enforcement staff is currently focusing on whether certain trading practices occur that potentially give rise to federal securities law violations. Such practices include layering or spoofing, improper order cancellation activities or "quote stuffing," the use of order anticipation and momentum ignition strategies undertaken for a manipulative purpose, passive market making practices that incentivize possible manipulative quoting activity, abusive co-location and data latency arbitrage activity in potential violation of Regulation NMS, use of Direct Market Access arrangements to conceal manipulative trading activity and conduit entity market manipulation.

We must stress that our investigative efforts in these areas at this stage are fact finding in nature and the pendency of an investigation does not mean that the Commission or its staff has determined that abuses have occurred. It is premature to predict whether enforcement actions will result from these matters, but the sustained specialized knowledge and insights we gain will inform the agency's regulation and lead to greater efficiency and effectiveness in our investigations.

IV. Steps to Strengthen the Equity Market Structure

It is vital that the rules that govern market structure and market participant behavior support equity markets that warrant the full confidence of investors and listed companies. The Commission recently has adopted a number of important initiatives to further this goal:

- Less than two weeks after May 6, the Commission posted for comment proposed exchange rules that would halt trading for certain individual stocks if their price moved 10 percent in a five minute period. Barely more than six weeks after the event, exchanges began putting in place a pilot uniform circuit breaker program for S&P 500 stocks. In September, the program was extended to stocks in the Russell 1000 Index and specified exchange-traded products. The aim of this program is to halt trading under disorderly market conditions, which in turn should help restore investor confidence by ensuring that markets operate only when they can effectively carry out their critical price-discovery functions.

- In September, the Commission approved pilot exchange rules designed to bring order and transparency to the process of breaking "clearly erroneous" trades. On May 6, nearly 20,000 trades were invalidated for stocks that traded 60 percent or more away from their price at 2:40 PM. That 60 percent benchmark, however, was set after the fact. We now have consistent rules in place governing clearly erroneous trades that will apply to any future disruption.

- In November, the Commission approved exchange rules to enhance the quotation standards for market makers. In particular, the new rules eliminate "stub quotes" – a bid to buy or an offer to sell a stock at a price so far away from the prevailing market that it is not intended to be executed, such as a bid to buy at a penny or an offer to sell at $100,000. Executions against stub quotes represented a significant proportion of the trades that were executed at extreme prices on May 6 and were subsequently broken.

- Also in November, the Commission took an important step to promote market stability by adopting a new market access rule. Broker-dealers that access the markets themselves or offer market access to customers will be required to put in place appropriate pre-trade risk management controls and supervisory procedures. The rule effectively prohibits broker-dealers from providing customers with "unfiltered" access to an exchange or alternative trading system. By helping ensure that broker-dealers appropriately control the risks of market access, the rule should prevent broker-dealers from engaging in practices that threaten the financial condition of other market participants and clearing organizations, as well as the integrity of trading on the securities markets.

In addition to these adopted rules, the Commission has proposed large trader reporting requirements and a consolidated audit trail system to improve our ability to regulate the equity markets. These proposals would tremendously enhance regulators' ability to identify significant market participants, collect information on their activity, and analyze their trading behavior. Both of these initiatives seek to address significant shortcomings in the agency's present ability to collect and monitor data in an efficient and scalable manner and to address discrete market structure problems.

Today, there is not any standardized, automated system to collect data across the various trading venues, products and market participants. Each market has its own individual and often incomplete data collection system, and as a result, regulators tracking suspicious activity or reconstructing an unusual event must obtain and merge a sometimes immense volume of disparate data from a number of different markets. And even then, the data does not always reveal who traded which security, and when. To obtain individual trader information the SEC must make a series of manual requests that can take days or even weeks to fulfill. In brief, the Commission's tools for collecting data and surveilling our markets do not incorporate the technology currently used by those we regulate.

The proposed consolidated audit trail rule would require the exchanges and FINRA to jointly develop a national market system (NMS) plan to create, implement, and maintain a consolidated audit trail in the form of a newly-created central repository. The information would capture each step in the life of the order, from receipt or origination of an order, through the modification, cancellation, routing and execution of an order. Notably, this information would include information identifying the "ultimate customer" who generated the order. And, it would require members to "tag" each order with a unique order identifier that would stay with that order throughout its life.

If implemented, the consolidated audit trail would, for the first time, allow SROs and the Commission to track trade data across multiple markets, products and participants simultaneously. It would allow us to rapidly reconstruct trading activity and to more quickly analyze both suspicious trading behavior and unusual market events. It is important to recognize, however, that the consolidated audit trail is a major change in the technology infrastructure for our equity markets, and thus will require some time to fully implement. In addition, in order to fully use this new infrastructure, the Commission's own technology and human resources will need to be expanded well beyond their current levels.

We also are examining the circuit breaker mechanisms that directly limit price volatility. These include the recently adopted circuit breakers for individual stocks, as well as the longstanding broad market circuit breakers that apply across the securities and futures markets. While they have worked well, the individual stock circuit breakers adopted since May 6 may need to be further enhanced. They were important first steps that could be implemented quickly to address the worst aspects of excessive volatility, and as such were approved on a pilot basis. Now that we have some experience with them, however, we better understand some of their limitations and shortcomings.

For example, we are working with the exchanges to consider a limit up/limit down procedure that would directly prohibit trades outside specified parameters, while allowing trading to continue within those parameters. Such a procedure could prevent many anomalous trades from ever occurring, as well as limiting the disruptive effect of those that do occur.

In addition to these new circuit breakers for individual securities, the futures and securities markets long have had circuit breakers for the broad market that, when triggered, pause trading in futures, stocks, and options. None were triggered, however, during the severe market disruption on May 6. We are assessing whether various aspects of the broad market circuit breakers need to be modified or updated in light of today's market structure.

We also are examining a wide range of other market structure issues. These include the Commission's proposals with respect to flash orders and undisplayed liquidity, issues arising out of May 6 (such as large order execution algorithms that can operate in unexpected ways and the role of registered market makers), and the broad policy issues raised in the Concept Release.

One of these is the issue of competition and fragmentation. As previously noted, trading volume in U.S.-listed stocks is split among many different venues. These include exchanges that display quotations that are made widely available to the public and non-public markets that do not display quotations at all. These venues offer a wide range of choices that many investors value highly to meet their diverse needs.

The emergence of multiple trading venues that offer investors the benefits of greater competition also has made our market structure more complex. Market participants use a multitude of information sources and routing strategies in their efforts to obtain best execution of orders across all the different venues. The venues, in turn, compete vigorously to attract this order flow by, among other things, distributing proprietary market data feeds that are separate from the consolidated data feeds that are made widely available to the public. We are assessing initiatives to improve transparency of order handling and execution practices that were supported by many commenters on the Concept Release.

In addition, orders executed in non-public trading venues such as dark pools and internalizing broker-dealers now account for nearly 30 percent of volume, up from approximately 25 percent one year ago. We are considering the effect of these venues on public price discovery and market stability. Many institutional investors value the opportunity to trade in dark venues because of a fear that trading in the public markets in large sizes will cause prices to run away from them. We will explore all aspects of this issue to reach a balanced conclusion. At the end of the day, investors of all types must have confidence that our market structure provides high-quality price discovery and the tools they need to meet their investment objectives in a fair and efficient manner.

In sum, we must look comprehensively at the issues, identify if and where the current market structure is not fulfilling its guiding principles, and take appropriate steps in a balanced way that also preserves the strengths of the current market structure. As noted above, the Commission's guiding principle must be to encourage a market structure that promotes capital formation and protects investors. We must also be mindful of the need for strong empirical analysis to support our actions, and of the potentially significant risk of harm to the markets that might arise from unintended consequences. In addition, we must continue to support and staff these and other market structure initiatives with appropriate levels of expertise.

V. Conclusion

The structure of today's markets offers many advantages to investors. We should not attempt to turn the clock back to the days of trading crowds on exchange floors. But we must continue to carefully analyze the issues raised by our Concept Release and by the events of May 6 to determine whether our market structure rules have kept pace with the new trading realities and to identify whether there are ways to improve our markets, provide additional transparency and increase investor protections.

As we move ahead, we look forward to working closely with Congress to continue addressing these critical market structure issues.

Thank you for inviting me here to discuss the developments in market structure. I look forward to answering your questions.