Testimony of Eric Noll
Executive Vice President
The NASDAQ OMX Group, Inc.

Before:

U.S. House of Representatives
Committee Financial Services,
Subcommittee on Capital Markets, Insurance,
and Government Sponsored Enterprises

Tuesday, May 11, 2010

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Good afternoon Chairman Kanjorski and Ranking Member Garrett. Thank you for the opportunity to offer the perspective of the NASDAQ OMX Group, Inc. on the events of May 6th and what they suggest for future improvements in the U.S. equities markets. As Executive Vice President of NASDAQ's U.S. Transaction Services business, I have responsibility for all trading of equities and options on the NASDAQ Stock Market, as well as trading on NASDAQ's markets in Philadelphia and Boston, NASDAQ OMX PHLX and NASDAQ OMX BX.

NASDAQ understands the critical role and obligations of capital markets. We have been working closely with the Securities and Exchange Commission, the New York Stock Exchange, and other national securities exchanges to protect investors in the wake of the unusual trading events last Thursday. We met yesterday with Mary Schapiro and her staff to develop a coordinated strategy to combat market instability. We support the Commission's actions and we believe that existing market-wide circuit breakers can be improved quickly and effectively. NASDAQ and other markets are also acting jointly to assess the operation and rapid implementation of stock-by-stock circuit breakers. These changes will enhance the markets' ability to handle unusual trading events in the future.

NASDAQ is well qualified to assist the Commission at times of market stress. We are the world's largest exchange company. We list over 3,700 public companies, operate twenty-two markets and ten clearinghouses world-wide, provide technology to over 70 exchanges, clearing organizations and central securities depositories in over 50 countries, and regulate the trading and clearing of equities, options, commodities, and derivatives across the globe. We understand fully the role we play in serving and protecting millions of investors in the United States and around the world that rely on the safety and predictability of our markets to grow their savings and safeguard their futures.

Had I testified ***last*** Tuesday rather than today, I would have told you that the U.S. capital markets are the deepest, fairest, most effective markets in the world and a crown jewel in the U.S. economy. I would have told you that our cash equities markets have been and remain the economic engine of the world, allowing U.S. companies to raise trillions of dollars in capital and to spur new industries around the globe. I would have told you that cash equities markets functioned flawlessly and continuously during the financial meltdown of 2008 and 2009, unlike the credit and derivatives markets which failed.

Each of those statements remains as true today as it was last Tuesday. Our markets are strong, despite the seventeen minutes of unusual trading that occurred between 2:39 and 2:56p.m. on May 6th. In fact, the markets' rapid recovery from 2:46 and 2:56 that day confirms the resilience and continued strength of our markets even under extraordinary strain. We have been studying and will continue to study the data and behaviors recorded on May 6th. We must learn the lessons that are available from that day and prevent a repeat of those events to the greatest extent possible.

Our analysis is complicated somewhat by the fact that last Thursday's trading events appear to have involved the trading of equities, options, and futures. As you may have heard from the earlier panel with Mary Schapiro and Gary Gensler, Chairman of the Commodities Futures Trading Commission, one factor in Thursday's events was unusually heavy trading of the "E-Mini June," a popular futures product that tracks the expected value of the S&P 500 Index for June 2010. Trading of the E-Mini future correlates closely with equities and options that also track the S&P 500 Index, such as the SPY Exchange Traded Fund, as well as individual stocks that comprise that index, such as Proctor and Gamble.

To understand fully the events of May 6th, you have to understand the state of the markets heading into last week. Markets were nervous. Equity markets have experienced an unusually long and large upward price movement. From a market low below 1,300 on March 9, 2009, the NASDAQ composite index had risen steadily to 2,535 on April 26, 2010. Market analysts will tell you that following such gains of almost 100 percent, it is not unusual for markets to experience a price correction.

Markets were becoming increasingly volatile. NASDAQ monitors the CBOE Volatility Index or VIX, which measures the implied volatility of the S&P 500 expected over the next 30 days. From its inception in March 2004 through July 2007, the VIX generally measured below 20. The index rose during the financial crisis, reached a high of 89 on October 24, 2008, and then gradually declined throughout 2009 and early 2010. From February 26, 2010 through April 26, 2010, the VIX continuously stayed below 20, dropping below 16 on April 12th and April 20th. Volatility returned on April 27th, when the VIX once again broke above 20 and began rising steadily. By May 5th the VIX reached the upper 20s, and on May 6th and 7th it closed above 30.

This increased volatility is tied to the escalating financial crisis in Greece and the Eurozone. Although the turmoil in Greece has been percolating for several months, the potential harm seemed to sink in to U.S. markets only last week. Within the last two weeks credit ratings agencies lowered their rating of the sovereign debt of Greece, Spain and Portugal, roiling sovereign debt markets; the European Union and International Monetary Fund were working to fashion workable bailouts; and social tensions and violence escalated in Athens. The Euro has lost 15 percent of its value in the last six months, including seven percent in the last two weeks alone.

Against this backdrop, we arrive at a truly unique confluence of events at 2:35 p.m. on the afternoon of May 6th. First, the Dow Jones Industrial Average was already trading off 272 points for the day and 500 points in the last three days. Market conditions were already volatile.

Second, the Chicago Mercantile Exchange was beginning to experience unusual trading activity in the "E-Mini June" at the same time equities markets were experiencing heavy trading in highly correlated equities. As you can see in Figure 1, the E-Mini began experiencing heavy volumes and prices begin sinking rapidly at 2:42, just before equities prices sink rapidly. At 2:45:30, E-Mini trading becomes so volatile that the Chicago Mercantile Exchange triggered an automatic 5-second trading halt in E-Mini futures. The price of the E-Mini future immediately leveled off and began to climb rapidly. Equities followed that pattern shortly afterwards.

Third, the NYSE Arca Exchange began experiencing data communication issues that hindered the electronic linkages between it and NASDAQ, the BATS Exchange, and the Chicago Board Options Exchange. Under Regulation NMS, when a market is unable to communicate properly, other markets may stop sending orders to it because its liquidity is less unavailable. Figure 1 shows the period of time that linkages to NYSE Arca were disrupted.

Simultaneously, the NYSE began reporting multiple "Liquidity Replenishing Points" and "gap quotes" that impact the trading of individual stocks in the NYSE market. Under Regulation NMS, when the NYSE or any other market reports these conditions, other markets may stop routing orders to it.

This confluence of events caused a severe and rapid drop in the markets. From 2:39 to 2:47 p.m. the Dow dropped 723 points to 9869, its low for the day and down 995 points total from the prior close. From 2:47 to 2:56 the Dow recovered just as rapidly, risings 612 points from 9862 to 9974, down 387 points for the day. From 2:56 p.m. to the close the Dow rose another 45 points, ending the day down 342 points. Yesterday, the Dow rose 404 points.

The question we are here to answer is what exactly happened to equities markets from 2:39 to 2:56 p.m. on May 6th? As you know, the markets and market participants are subject to multiple layers of regulation; the Securities and Exchange Commission oversees trading and markets, including regular and special examinations of markets and market participants. NASDAQ and other markets have "collars" that limit the impact of individual market orders and circuit breakers that limit aggregate movement of market indices. During the key period, NASDAQ's market order collar prevented the execution of 4,268,000 shares that were outside the collar limits. Members have obligations to have procedures, controls, and systems in place to limit aberrant trading and control risk. The Financial Industry Regulatory Authority, acting as NASDAQ's agent, examines firms to ensure that those procedures, controls, and systems are in place and effective. Should these safeguards have prevented the rapid decline and recovery in the markets last Thursday? We have already begun to re-examine each of these safeguards in light of last week's events.

From a systems standpoint, NASDAQ's market operated continuously throughout the day and throughout the critical seven minutes. Each and every one of NASDAQ's electronic systems functioned as designed and as intended. Its execution engine functioned as designed. Its market data feeds functioned as designed. Its surveillance systems functioned as designed.

What did NASDAQ See and Do? NASDAQ operates the most heavily monitored exchanges in the world. NASDAQ's MarketWatch and Trading Operations departments monitor our equities markets from 6:30 a.m. to 8:00 p.m. using sophisticated technology that looks for trading anomalies, market rumors and manipulations. These departments process 17,000 phone calls in the average month and MarketWatch reviews more than 50,000 issuer press releases in the average year.

At 2:23pm NASDAQ's automated surveillance systems began issuing alerts in multiple securities exhibiting unusual price movements. In response to the alerts, NASDAQ's regulatory staff in the MarketWatch and Trading Operations departments began reviewing trading activity. NASDAQ's MarketWatch group uses high speed technology to oversee trading in the NASDAQ equity venues. On average the MarketWatch's surveillance system processes 1.9 billion equity related messages a day. On May 6 there was a large spike in surveillance alerts generated that coincided with the largest drops in the Dow.

At 2:30 p.m. the Chicago Board Options Exchange issued a communication stating "The CBOE has declared Self Help against the NYSE/ARCA as of 1:30 CT. The NYSE/ARCA is out of NBBO and unavailable for linkage. All CBOE systems are running normally." Under SEC Rule 611 under Regulation NMS, CBOE's announcement signaled that CBOE had stopped attempting to trade with NYSE Arca pending renewed communication from that exchange

At 2:36:59 NASDAQ systems detected a data disruption at the NYSE Arca Exchange and NASDAQ also declared "Self Help" against that Exchange. At 2:42 p.m., NASDAQ published a "System Status" update on its member website stating "NASDAQ has declared Self Help against NYSE ARCA (ARCA) as/of 14:36:59 E.T. All NASDAQ systems are operating normally."

At 2:43 p.m. NASDAQ issued another System Status update stating that NASDAQ OMX BX had also declared Self Help against NYSE Arca as of 14:38:40. All NASDAQ systems were operating normally.

At 2:45:30, trading in E-Mini futures became so volatile and negative that the Chicago Mercantile Exchange triggered an automatic 5-second "lock" that limited the downward price movement of E-Mini futures trades. This price lock differs from a trading halt; trading continues but prices are constrained from declining beyond the lock limit price.

At 2:48 p.m., NASDAQ MarketWatch communicated with NYSE Arca's regulatory staff. NYSE Arca staff confirmed that they also had seen unusual trading activity. Neither market had received any communication from members regarding system malfunctions or errant orders that might have contributed to price movements.

At 2:49 p.m. The BATS Exchange declared Self-Help against the NYSE Arca Exchange.

At 3:00, NASDAQ staff opened an internal call including key NASDAQ personnel from multiple departments. NASDAQ uses this procedure where necessary to gather knowledge quickly and to respond effectively to unusual trading activity. The call lasted until nearly 1 a.m. the following morning.

At 3:16 p.m. NASDAQ took the lead and initiated a market-wide call for the entire national market system. The triggering of a market-wide call is designed to establish communication and ensure coordination among exchanges that trade the same securities. It has become a critical procedure for exchanges to manage events such as this that involve cross-market trading activity. At 3:56 p.m. observers from the SEC's MarketWatch and Trading and Markets staff joined the market-wide call initiated by NASDAQ.

At this point, NASDAQ began focusing communication on the identification and treatment of "clearly erroneous trades", those trades that might be broken or unwound as a result of the market events. NASDAQ issued the following System Status update on its website at 3:37 p.m. NASDAQ is currently working with other markets to review the broad market activity that occurred between 2PM and 3PM today. NASDAQ will advise when more information is known."

At approximately 4:00 p.m. the markets jointly determined to review and potentially break trades that occurred between 2:40 and 3:00 p.m. The markets briefly considered breaking trades executed at 2:30 p.m. and after but they then decided collectively upon the 2:40 p.m. start time instead. This focused the exchanges on the core period. Trades outside this period were still eligible for review by individual exchanges under their own authority. At 4:24 p.m. NASDAQ issued another System Status update announcing the decision to review trades that occurred between 2:40 and 3:00 p.m.

After determining which trades to review, the markets continued to discuss which trades to break. There was significant debate among the exchanges regarding the proper break point for trades executed between 2:40 and 3:00 p.m. After extended discussion, the exchanges agreed on a joint market ruling to cancel trades during the review period that deviated by greater than 60 percent from the consolidated last sale price in that security at 14:40:00 or immediately prior. NASDAQ announced that decision to its members via a System Status update published at 6:03 p.m.

NASDAQ staff continued reviewing trades until after midnight on May 7th. NASDAQ regularly communicated rulings to its members by issuing System Status updates at 8:24 p.m., and 12:25 a.m. Additionally, at 8:28 p.m. NASDAQ issued a press release describing the market events and NASDAQ's decision to break trades made in conjunction with all other exchanges. It is important that trades be broken quickly, if at all, to avoid negative impact on clearing and settlement.

Ultimately, NASDAQ broke 10,468 trades representing 1,410,692 shares in 236 unique securities. Of the trades broken, 3,549 trades occurred between 2:40 and 2:47 p.m., and

6,919 trades occurred between 2:47 and 3:00 p.m. In other words, almost 65 percent of the broken trades occurred after the market began recovering at 2:46:30. Of the 236 securities affected, 20 were listed on NASDAQ and 216 were listed on NYSE or its NYSE Arca and NYSE Amex markets.

Why Do The Markets Break Trades? Markets break executed trades when the price discovery process ceases to function properly and trade prices cease to reflect a true market. For such circumstances, the SEC has approved uniform clearly erroneous rules across all U.S. cash equities markets giving the exchanges the self-regulatory authority to cancel clearly erroneous trades executed by their systems. The exchanges can review trades and exercise this authority on their own initiative in response to extraordinary market conditions, or, upon the timely request of a party to a particular trade(s). Trade-break authority exists to nullify trades that take place in market conditions where errors, be they human or technological, or other unanticipated events, preclude fair and proper price-discovery. The primary topic of the market-wide call was to determine whether the exchanges would coordinate their regulatory efforts to break trades that were considered "clearly erroneous."

NASDAQ's clearly erroneous trade policies strive to maximize consistency, transparency and finality regarding trade-break decisions. NASDAQ pioneered the use of standardized numerical parameters that seek to define how far a trade must deviate from previous transactions in order to be considered erroneous. By focusing on objective numerical criteria rather than subjective criteria, NASDAQ avoids even the appearance of bias in the trade break process. These standardized criteria have now been adopted by all U.S. exchanges. It is important to remember that every trade has two parties – generally one will be happy to break the trade and avoid a loss while the other will want to keep the trade and any gain he or she has made. Therefore, it is important that NASDAQ use its authority only where necessary.

One key component to NASDAQ's approach to clearly erroneous trade processing is the belief that it is important, where possible, to allow transactions priced close to the inside market or other reference price to stand, even if the transactions directly resulted from a mistake or system error. This ensures that market participants have economic incentives to develop and maintain internal controls with a goal of preventing erroneous trading activity. NASDAQ refers market participants for investigation by the Financial Industry Regulatory Authority ("FINRA") in its capacity as NASDAQ's regulatory services provider in all circumstances where a firm's erroneous trades raise questions as to the adequacy of the firm's computer systems and internal controls.

What Lessons Can We Learn From Trading On May 6th?

NASDAQ's preliminary analysis indicates that unusual trading activity on May 6th was triggered by a confluence of unusual events, including events outside the cash equities markets. Aggressive, nervous selling of S&P 500 futures migrated to trading of closely correlated cash equities. Cash equity markets then experienced several challenging conditions. NASDAQ systems functioned continuously and as designed; NASDAQ experienced no system malfunctions or aberrations. Preliminarily, NASDAQ has detected no system malfunction or errant trade by a NASDAQ member interacting with the NASDAQ Stock Market. No NASDAQ member has identified to NASDAQ a system error or aberration within their own systems. NASDAQ continues to investigate Thursday's events, but has at present located no "smoking gun" that single-handedly caused or explains Thursday's events.

NASDAQ supports the rapid and holistic response by the Securities and Exchange Commission. We support the Commission's recommendation to update market-wide circuit breakers that limit large price changes. The proposed circuit breaker would automatically halt trading in all stocks and in all markets in measured stages. Trading will be halted for fifteen minutes when the Standard and Poors 500 Index declines by five percent; for one hour when the Index declines by 10 percent; and for the remainder of the trading day when the Index declines by 20 percent.

NASDAQ also supports the Commission's desire to explore cross-market single-stock trading halts. The important characteristics of such a halt would be consistency across all markets, initiation by the primary market, and an orderly resumption of trading via the primary market. NASDAQ also suggests a flexible approach that recognizes that stocks trade in different ways, rather than a one-size-fits-all approach that treats all stocks identically.

Finally, NASDAQ is exploring other ideas which may encourage high-quality and continuous quoting on all markets. Other options to consider which may reduce the number of events which arise in the first place are (1) requiring priced orders rather than market orders; (2) eliminating or limiting the practice of "stub quoting;" and (3) creating better incentives to provide liquidity during periods of market stress. NASDAQ has already been a leader in promoting more aggressive risk management controls for al orders entered into all market centers. NASDAQ has actively supported the Commission's proposal to improve regulation of all forms of market access that create systemic risk in our markets.

Thank you again for the opportunity to share our views. I am happy to respond to any questions you may have.