WRITTEN TESTIMONY OF DANIEL MATHISSON
on behalf of Credit Suisse

Before the House Financial Services Committee

Subcommittee on Capital Markets and Government Sponsored Enterprises

"Market Structure: Ensuring Orderly, Efficient, Innovative and Competitive Markets for Issuers and Investors"

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Witness Background Statement

Dan Mathisson is the Head of U.S. Equity Trading for Credit Suisse. He is responsible for block trading, program trading, and electronic trading at Credit Suisse.

Mr. Mathisson joined Credit Suisse in 2000 as a trader, shortly after which he founded the Advanced Execution Services (AES) group, which grew to be the leading electronic trading franchise on the Street. Prior to joining Credit Suisse, he was the head equity trader at D.E. Shaw Securities.

Mr. Mathisson writes a regular column about trading and markets for Traders Magazine. In 2011 he was named one of the "Top Ten Innovators of the Decade" by Advanced Trading magazine, which cited him for creating the modern algorithmic trading desk. Mr. Mathisson received a B.A. in Economics from the University of Michigan, and he is a Chartered Financial Analyst.

Introduction

Good morning and thank you for giving me the opportunity to share my views on the best structure for our nation's stock markets. My name is Dan Mathisson, and I am the Head of U.S. Equity Trading for Credit Suisse[1].

The U.S. broker-dealer subsidiary of Credit Suisse Group has been operating continuously in the United States since 1932, when the First Boston Corporation was

[1] Credit Suisse provides its clients with private banking, investment banking and asset management services worldwide. Credit Suisse offers advisory services, comprehensive solutions and innovative products to companies, institutional clients and high-net-worth private clients globally, as well as retail clients in Switzerland. Credit Suisse is active in over 50 countries and employs approximately 48,700 people. Credit Suisse is comprised of a number of legal entities around the world and is headquartered in Zurich. The registered shares (CSGN) of Credit Suisse's parent company, Credit Suisse Group AG, are listed in Switzerland and, in the form of American Depositary Shares (CS), in New York. Further information about Credit Suisse can be found at www.credit-suisse.com.

founded. Today, Credit Suisse is the highest volume broker-dealer in the U.S.[2], and Credit Suisse owns and operates Crossfinder, which has been the largest Alternative Trading System (ATS) in the U.S. every month since May of 2009.[3]

I have been working in the U.S. equity markets for 20 years, the last 12 of which have been at Credit Suisse. I appreciate the chance to appear here today.

Summary

Credit Suisse believes that equity market quality has improved markedly over the past two decades, but there is still room for improvement. We suggest four policy changes, each of which is designed to make markets more reliable than they are today, or to reduce costs for investors.

Are the U.S. markets working effectively?

Credit Suisse believes that the market structure changes of the past 20 years have been successful in their goal of creating equity markets that are more fair, orderly, and efficient than in the prior era. The empirical evidence shows that Regulation ATS, decimalization, and Regulation NMS have led to an increase in liquidity and a decrease in the total number of market disruptions. We have found this holds true for both large and small issuers.

Credit Suisse recently completed a broad survey of market quality in the U.S. equity market, and found that in every empirical measure, the U.S. markets are functioning better than ever.[4] The study found:

[2] Bloomberg RANK, Credit Suisse was #1 in volume in S&P500 stocks for full year 2011.
[3] Rosenblatt Surveys, May 2009 – April 2012

Positives:

- *Overnight market volatility in 2012 is at a 15-year low*.
- *Intraday market volatility has been steadily decreasing since 2005.*
- *Bid-Ask spreads in the U.S. are the tightest in the developed world.*
- *Bid-Ask spreads have been clearly and steadily declining since Reg NMS was introduced, controlling for volatility.*
- *Average size of bids and offers has increased since 2004.*
- *The number of market disruptions, a.k.a. "mini flash crashes", has been decreasing since 2000.*

Negatives:

- *Quote flickering has increased, with the number of daily changes in the NBBO (National Best Bid Offer) per million shares traded at an all-time high in 2011.*

Overall the study failed to find any empirical evidence of negative market performance other than the increased cost of message traffic. However, two events over the previous 26 months do appear to have caused outflows from equity funds, signaling a loss in investor confidence. These two events were the "Flash Crash" of May 2010, and the chaotic Facebook IPO of May 2012.

Reduce the likelihood of another Flash Crash: eliminate market orders.

The Flash Crash revealed a serious flaw in our market structure – on May 6, 2010, there were no mechanisms in the market to stop panicked investors from selling

[4] Ana Avramovic, "Who Let the Bots Out?" Credit Suisse Trading Strategy, May 2012. Also see "June 2012 Chartbook", Credit Suisse Trading Strategy.

stocks all the way down to zero. Credit Suisse believes that the new Limit Up / Limit Down rule and the new market-wide circuit breakers, recently passed by the SEC and scheduled to go live in February 2013, will be effective at preventing another flash crash, and we enthusiastically support these new rules.

In addition to these new rules, we recommend going a step further to prevent disruptions, by eliminating the market order. An order to sell "at the market" is inherently dangerous, being a limit order with a price of zero. A buy market order is even more frightening, being a buy order with a limit of infinity. The order type is based on faith that the other side will materialize at a reasonable price, which is unlike how people buy or sell almost everything else. Yet the majority of orders in the equities market from mom and pop investors are sent at the market. If liquidity dries up, as happened on the day of the Flash Crash, the constant flow of retail market orders guarantees that stocks will trade at prices that are disconnected from their fundamental valuation.

We believe that eliminating the market order would reduce disruptions and aid in the goal of achieving a fair and orderly market. Germany, Brazil, Hong Kong, and many other major markets already require investors to enter a price limit on every order. We recommend that the U.S. follow these markets.[5]

Reduce the likelihood of another Facebook IPO situation: restore moral hazard to exchanges.

[5] For more on this topic, see "Market Madness", by Dan Mathisson, Traders Magazine, May 19, 2010. http://www.tradersmagazine.com/news/flash-crash-opinion-mathisson-105736-1.html

The Facebook IPO on May 18, 2012 revealed that an exchange technology breakdown can cause significant chaos in the markets and undermine investor confidence. We believe the best way to reduce the chances of similar technology problems from occurring in the future is to remove protections which grant exchanges "absolute immunity" from liability. As Self-Regulatory Organizations (SROs), exchanges have been considered by courts to be quasi-governmental units. This afforded them immunity from liability judgments in situations where the exchange was at fault. Absolute immunity may have made sense when exchanges were not-for-profit, member-owned regulatory organizations. But today, the NYSE and all exchanges are for-profit enterprises that are not particularly different from broker-dealers. While they still have a few vestigial regulatory functions, the vast majority of their regulatory responsibilities is outsourced to FINRA.

Exchanges now function as broker-dealers in many ways. For example, Nasdaq recently announced they would compete with broker-dealers by selling execution algorithms, which involve significantly more complex technology than simply crossing stock like the Facebook IPO.[6] Complex trading technology like algorithms should go through rigorous QA (Quality Assurance) testing, and maximum caution should be exercised when rolling out new programs. We believe that providers of trading technology will naturally exercise greater caution if they have material liability when their

[6] "Nasdaq to Offer Algorithms, Competing with Brokers", by Nina Mehta, Bloomberg News, May 14, 2012. Article quotes Professor Bruce Weber saying, "Before electronic trading really took off, it was clear where the exchange function ended and the brokerage function began. That line is getting blurred."

technology fails. Restoring exchanges' moral hazard would be an important step towards creating a more reliable marketplace.

This is especially important since Regulation NMS does not allow broker-dealers to ignore an exchange's bids or offers, essentially compelling brokers to trade with every exchange, whether or not they find an exchange's technology to be reliable, and whether or not they find the exchange's liability policy to be fair and equitable. Policy-makers should examine whether it still makes sense for exchanges to be considered governmental entities, given that they are no longer member-owned, no longer not-for-profit, and no longer have much of a direct regulatory function.

Are exchanges and dark pools on a level playing field?

Regulation ATS was specifically passed to allow broker-dealers to create electronic crossing networks that automated their traditional job of crossing client orders. ATS's, a subset of which are known as "dark pools", therefore operate under a different regulatory structure than exchanges. Dark pools are estimated today to execute approximately 14% of the volume in the U.S. market. Nasdaq and NYSE have claimed that regulators need to ensure that exchanges and dark pools are on a "level playing field" to protect the for-profit exchanges from losing further market share.[7] However, the "level the playing field" argument has the situation backwards, because there is a clear and massive economic advantage to being an exchange. Within the past five years, two major ATS's, BATS and DirectEdge, both voluntarily chose to become exchanges, spending millions of dollars and devoting years of effort to make the switch. They

[7] See "U.S. Market Structure Overview: Briefing for House Staff", Nasdaq / NYSE, June 12, 2012

became exchanges because they wanted to benefit from the four big advantages that exchanges have over crossing venues organized under Reg ATS:

The 4 big economic advantages exchanges have over ATS's:

1) Exchanges have absolute immunity on errors, having historically been considered quasi-governmental entities.[8] Courts have typically ruled that exchange immunity holds even in cases of gross negligence or willful misconduct. ATS's are regular businesses that have liability for their actions.
2) Exchanges receive "tape revenue". The CTA (Consolidated Tape Association) has a legal monopoly on providing a consolidated stream of real-time data from our nation's stock markets. The CTA makes a profit of approximately $400 million per year, which is then rebated to its participant exchanges based on a complex formula. The revenue that exchanges receive from these rebates is significant – for example, Nasdaq reported receiving $116 million in rebates in 2011 from the CTA. ATS's do not receive tape revenue.
3) Exchanges pay no clearing fees. An ATS is a party to both sides of each transaction that passes through it, while an exchange merely facilitates the transaction. Therefore ATS's pay tens of millions of dollars in clearing fees annually, whereas exchanges pay no clearing fees.
4) Exchanges have no net capital requirements. Because they are not a party to the transactions that occur on their systems, exchanges do not need to hold capital to stand behind their trades.

[8] "Nasdaq Exchange Immunity May Limit Losses From Facebook Claims", by Nina Mehta, Bloomberg News, June 13, 2012.

So with exchanges having four significant economic advantages, why haven't all the ATS's followed BATS's and DirectEdge's lead and become exchanges? The primary reason is that most of the remaining large ATS's are owned by a single broker-dealer, and current regulatory restrictions makes it impossible for a broker-dealer to own more than 20% of an exchange. Therefore broker-dealers would have to spin off 80% of their ATS's to become exchanges.

We agree with the exchanges that the regulators should "level the playing field" between dark pools and exchanges, and we suggest that the best way to do this would be to eliminate the 20% maximum on broker-dealer exchange ownership. We believe that if this restriction was lifted, most of the major ATS's would choose to become exchanges, after which the playing field would be level.

Why do some investors choose to use dark pools?

Dark pools help long-term investors by giving them an avenue to trade without revealing sensitive trading intentions to short-term traders. No one is compelled to use a dark pool - we believe that the 14% market share that dark pools have collectively achieved is a sign that investors have found they are beneficial. We believe that much of the debate over dark pools is misguided and is fueled by a desire of the old-school exchanges to avoid healthy competition.

The irony of the exchanges' frustration at the success of dark pools is that the exchanges themselves are likely responsible for much of the growth of dark pools, due to their own policies that may scare away long-term investors from posting bids or offers on exchanges. Exchanges create significant revenue selling high-speed data feeds that

deliver information faster than the consolidated tape[9], and which contain data fields that are not available on the consolidated tape. Large investors may choose to use dark pools to avoid this dissemination of additional information that occurs when they use exchanges.

Additional dissemination of information scares institutional traders away, because big institutions and the brokers who trade on their behalf expend a great deal of effort figuring out ways to buy and sell large amounts of stock while minimizing signaling to the marketplace that a large investor is buying or selling. Traders use a variety of techniques to reduce trading signals. There are four main types of signals that can reveal a trader's intentions to others: traditional phone calls, electronic messages like "IOIs" (Indications of Interest), patterns within the "tape", and displayed bids and offers. Of these four types of signals, displayed bids and offers are the most obvious and therefore the most dangerous for investors. Therefore, the decision to display a bid or an offer is not made lightly by an institutional trader.

Before computerized "dark pools" existed, traders often chose to keep their bids and offers undisplayed, to avoid sending a signal of their trading intentions to the marketplace. This was accomplished by giving a "not-held" order to the floor brokers on the exchange who would then keep sensitive orders "in their pocket". The broker would literally drop the order ticket in his pocket, without displaying it to the world, while keeping his eyes and ears open for the other side of the trade. This process also occurred at the specialist post on the exchanges, and in the "upstairs" market, where brokers would hold client orders while looking for the other side.

[9] In 2011, Nasdaq OMX reported generating $334 million in total market data revenues; NYSE Euronext reported $371 million.

A “dark pool” automates this age-old process. Traders drop orders into the computer’s “pocket.” The computer, just like the floor broker of old, does not tell anyone about the order in its pool. If the other side of the trade happens to also drop into the pool, the computer matches the two orders, and a trade occurs.

Computerized dark pools have been around since 1987. They exist because they fill a need: the need for an institutional investor to be able to trade without telling the entire world that a new buyer or seller has entered the marketplace. Since decimalization, the number of shares required to be considered potentially “market-moving” has decreased, as the average trade size dropped from over 1400 shares in 1999, to under 300 in 2009. In a decimalized environment of constant small trades, even very small orders can benefit from dark pools.

Questions have been raised about whether dark pools contribute to “price discovery.” Dark pools must report all trades to the consolidated tape immediately, and their prints are a valuable source of “last trade” data. When buying a house, buyers determine the appropriate price based on the prices at which similar houses actually sold in the neighborhood. Asking prices are interesting, but actual home sales are far more important. To assert that “last trade” data from dark pools does not contribute to price discovery is disingenuous.

Conclusion

Credit Suisse suggests four policy changes, each of which is designed to make markets more reliable than they are today, reduce investor cost, or increase fairness for investors:

1) **Repeal the rules that give for-profit exchanges immunity from liability.** Restoring moral hazard to the exchanges will increase exchange management's level of caution on new technology rollouts and QA (Quality Assurance) procedures, and reduce the odds of future situations like the chaos that hit the market on the day of the Facebook IPO.
2) **Eliminate the market order.** A sell "at the market" is an order to sell with a price of zero. A buy "at the market" is an order to buy with a price of infinity. An easy way to reduce the chances of large gaps in prices is to force investors to enter a limit price on every order.
3) **Perform a review of the pricing and rebate system operated by the consolidated tape plans.** The CTA plans collect approximately $400 million a year from the investing public, which then get rebated to the for-profit exchanges that collectively run the plans. These plans were set up in November 1972, when the SEC adopted Rule 17a-15. After 40 years, we believe the current tape revenue model is obsolete and rife with problems, and we recommend a full review of the tape revenue system.
4) **Lift the restrictions that limit broker-dealers to 20% ownership in exchanges.** Now that most exchanges outsource most of their regulatory functions to FINRA, we believe that this restriction is obsolete. Exchanges and ATS's are both for-profit, technology-intensive firms performing mostly the same tasks. We suggest repealing this rule and allowing ATS's to become exchanges and therefore compete on a level playing field.

Thank you for the opportunity to appear today and I will be happy to answer any questions that you may have.

Dan Mathisson

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