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WRITTEN TESTIMONY OF DANIEL MATHISSON

on behalf of Credit Suisse

Before the Senate Banking Committee

Subcommittee on Securities, Insurance, and Investment

“Computerized Trading Venues: What Should the Rules of the Road Be?”

December 18, 2012

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 in the Index Arbitrage department, shortly after which he founded the Advanced Execution Services (AES) group, which executes trades on behalf of institutional clients using algorithmic techniques. Prior to joining Credit Suisse, he was the head equity trader at D.E. Shaw Securities, where he worked from 1992 – 2000.

Mr. Mathisson writes a 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 48,400 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 employs approximately 9,200 people in the United States, and 48,400 people globally.   We are one of the largest U.S broker-dealers, executing 12.4% of all U.S. equity volume in 2012. Most of that volume derives from our 1,600 institutional clients, which include the largest mutual funds and pension funds in America, representing the savings of tens of millions of Americans.

I have been working in the U.S. equity markets for more than 20 years, the last 12 of which have been at Credit Suisse in New York. This is the second time I have been given the privilege of appearing before this committee, and I appreciate the chance to appear here today.

Summary

Credit Suisse believes that equity market quality has improved markedly over the past two decades, and that the competition spurred by the adoption of Regulation ATS and Regulation NMS has benefited the average investor. However, there is still plenty of room for improvement in the market structure. Within the past decade, our nation's exchanges have transitioned to a for-profit model, after more than 200 years as not-for-profit, member-owned organizations. Despite their new for-profit status, exchanges have retained quasi-governmental status as SROs (Self-Regulatory Organizations), and exchanges still receive significant public funding through the market data revenue plans. We believe that this new model for the markets has proven itself to be costly to investors, unfair to broker-dealers, and rife with conflicts for the exchanges themselves. We suggest that ending exchanges' status as SROs and transferring those regulatory responsibilities to FINRA or the SEC would put all market players on a level playing field and would benefit the average investor by creating markets that would be simpler, less vulnerable to disruptions, and less expensive to operate.

1. Are the U.S. markets working effectively?

Although the markets are not perfect, 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 better than in the prior era. The empirical evidence shows that Regulation ATS 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.[2] The study found:

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.*

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

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 concluded there was no empirical evidence of negative market performance other than the increased cost of message traffic. Many other academic studies have found similarly positive results. A Rutgers University study released in September 2012 that examined data back to 1993 concluded that market quality breakdowns are 41% less frequent post-Reg NMS than prior to the rule.[3] A Feb. 2010 broad review of the equities markets by three well-respected professors concluded, "Virtually every dimension of U.S. equity market quality is now better than ever."[4]

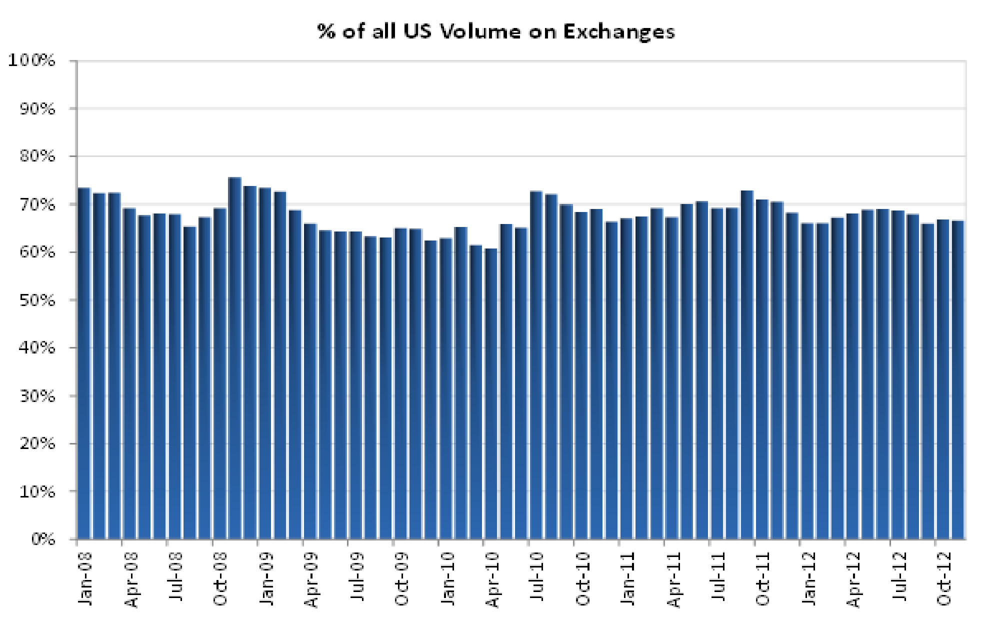
2. <u>Have liquidity and price discovery been impacted by the flow of stock trading volume to off-exchange venues?</u>

Implicit in this question is a statement that volume has been moving to off-exchange venues, which is factually incorrect. Over the past five years, volume has ***not*** shifted to off-exchange venues. Figure 1 shows the percentage of U.S. volume executed on exchanges from Jan 2008 through November 2012. As can be seen, the percentage of volume executed off-exchange has been remarkably constant over the past five years.

[3] See Cheng Gao and Bruce Mizrach, Rutgers University, "Market Quality Breakdowns in Equities", Sept. 2012.

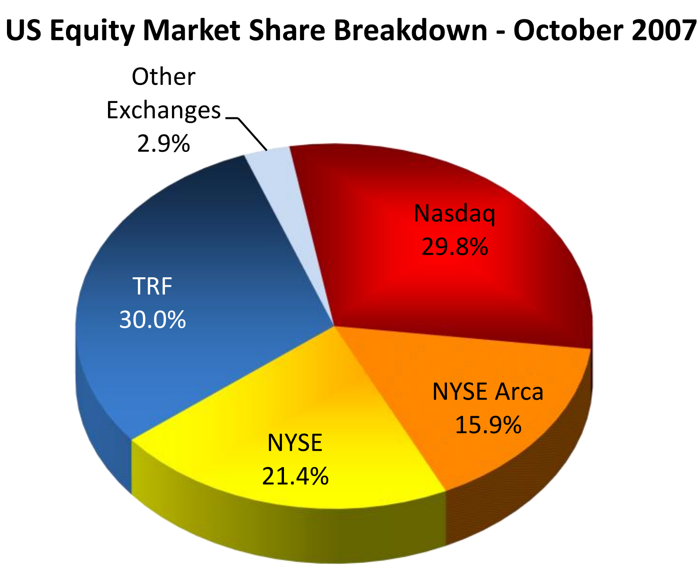
[4] James Angel, Lawrence Harris, Chester Spratt, "Equity Trading in the 21st Century", Feb 23, 2010.

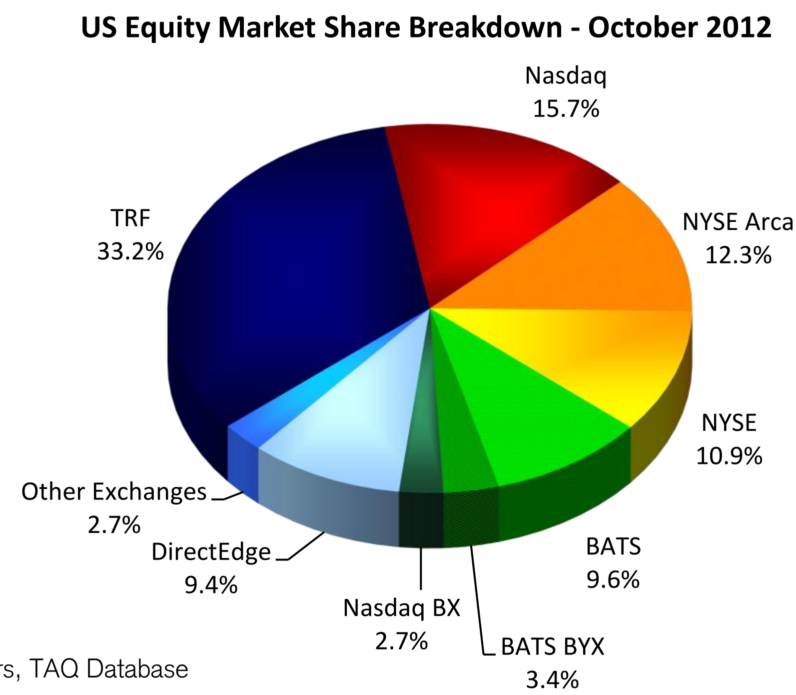
Figure 1: % of U.S. Equity Volume Executed On Exchanges, Jan 2008- Nov 2012



Source: Reuters, TAQ Database

Figure 2: Breakdown of Exchange Volume by venue, Oct. 2007 vs. Oct. 2012





Source: Reuters, TAQ Database

While the level of on-exchange vs. off-exchange volume has stayed remarkably constant, there has been a shift in volume from NYSE and Nasdaq to two new exchanges: BATS and DirectEdge. As seen in Figure 2, from October 2007 to October 2012, Nasdaq and the NYSE floor lost a combined 24.6 points of market share. New exchanges BATS and DirectEdge gained 22.4 points over that same period. Virtually all of the loss in the traditional exchanges' market share is explained by the rise of these two well-managed and efficient exchange competitors.

3. <u>How does the current market structure impact market integrity or investor confidence?</u>

Credit Suisse believes that the current market structure is not optimal for investor protection and market integrity. The aftermath of the Facebook IPO on May 18, 2012 revealed a significant flaw in the existing market structure. As has been widely reported, the Nasdaq exchange experienced extensive system failures during the initial public offering of Facebook Inc., causing others to suffer losses estimated to exceed $500 million.[5] Nonetheless, Nasdaq has only offered a $62 million settlement to those that suffered losses due to Nasdaq's failures, an offer it views as an "accommodation," given its view that it is legally immune from liability.[6]

Because the Exchange Act of 1934 vests the exchanges with self-regulatory authority, courts have traditionally afforded exchanges "absolute immunity" from civil

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[5] Ashley Lau, *Nasdaq Defends Facebook Compensation Plan-Letter to SEC*, REUTERS, Sep. 19, 2012, *available at* http://www.reuters.com/article/2012/09/19/us-nasdaq-facebook-letter-idUSBRE88I18V20120919.

[6] *See Self-Regulatory Organizations; The NASDAQ Stock Market LLC; Notice of Filing of Proposed Rule Change to Amend Rule 4626 – Limitation of Liability*, Exchange Act Release No. 67507 at 4 (July 26, 2012).

liability for damages arising in connection with their regulatory operations.[7] The basis for this is the common law doctrine of sovereign immunity, under which a government entity may not be held liable for acts taken in its official capacity. Because an exchange is empowered to perform a "quasi-governmental" regulatory function, courts have found that exchanges "stand in the shoes" of the SEC, and they receive the same immunity that the SEC would be granted.[8]

It is a dangerous situation when a for-profit enterprise can cause half a billion dollars of losses for others, and not have the risk of being held legally liable. Instead of bearing the cost of its own failures, Nasdaq believes that "the risks associated with system malfunctions should be allocated among all exchange members, rather than being borne solely by the exchange."[9] In other words, Nasdaq asserts that the costs should be borne by the shareholders of the for-profit broker-dealers that suffered the harm, rather than the shareholders of the for-profit exchange that caused the harm.

The contrast to recent events involving Knight Capital Group is striking. On August 1, 2012, a system error caused a Knight Capital Group broker-dealer subsidiary to send a slew of erroneous orders, resulting in $440 million in losses. Since Knight is not an exchange, and therefore does not benefit from sovereign immunity, rather than externalizing these costs on the market as a whole, Knight's shareholders suffered the losses.[10]

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[7] *See, e.g.*, Barbara v. NYSE, 99 F.3d 49 (2d Cir. 1996); DL Capital Group, LLC v. Nasdaq Stock Market, Inc., 409 F.3d 93 (2d Cir. 2005).
[8] *See, e.g.*, D'Alessio v. NYSE, 258 F.3d 93 (2d Cir. 2001).
[9] *Id.* at 28.
[10] *See, e.g.*, Scott Patterson, *SEC Nixed Knight's Plea for a Do-Over*, WALL ST. J., Aug. 6, 2012, *available at* http://online.wsj.com/article/SB10000872396390444246904577571113923528168.html.

A fundamental principle of the law is that if a private enterprise wrongfully causes harm to others, it may be held liable to pay for the financial damages that ensue. In conducting its operations and implementing new systems, a broker-dealer must consider the risks and potential costs of potential liability and act accordingly. An exchange, on the other hand, may operate in a reckless manner.

Sovereign immunity may have made sense when exchanges were not-for-profit, member-owned regulatory organizations that existed for the good of their members. 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, they outsource the vast majority of their regulatory responsibilities to FINRA.

Exchanges now function as broker-dealers in many ways. For example, Nasdaq announced in May of 2012 they would compete with broker-dealers by selling execution algorithms, which involve significantly more complex technology than simply crossing stock like the Facebook IPO.[11] Complex trading technology like algorithms should go through rigorous quality assurance testing, and maximum caution should be exercised when rolling out these types of programs. We believe that providers of trading technology will naturally exercise greater caution if they have material liability when their technology fails.

Repairing this problem in the current market structure is especially important since Regulation NMS does not allow broker-dealers to ignore an exchange's bids or

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[11] "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."

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. [12] Policy makers should examine whether it still makes sense for exchanges to be considered quasi-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.

4. <u>Are exchanges and dark pools on a "level playing field"?</u>

Regulation ATS was specifically passed to allow broker-dealers to create electronic crossing networks that automated their traditional job of crossing client orders. ATSs, a subset of which are known as "dark pools", operate under a very different regulatory structure than exchanges. 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.[13] However, their "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 ATSs, BATS and DirectEdge, both voluntarily chose to become exchanges[14], spending millions of dollars and devoting years of effort to make the switch. In describing its history, the parent company of BATS

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[12] *See* Regulation NMS Rule 611(a).
[13] See "U.S. Market Structure Overview: Briefing for House Staff", Nasdaq / NYSE, June 12, 2012
[14] *See* In re the Applications of EDGX Exchange, Inc., and EDGA Exchange, Inc. for Registration as National Securities Exchanges, Exchange Act Release No. 61698 (Mar. 12, 2010); In the Application of BATS Exchange, Inc. for Registration as a National Securities Exchange, Exchange Act Release No. 58375 (Aug. 18, 2008) [hereinafter *BATS Exchange Registration Order*].

Exchange explained that it converted from an ATS to an exchange in order "to participate in and earn market data fees from the U.S. tape plans [and] reduce our clearing costs…."[15] While many ATSs have applied to the SEC to convert to exchange status, and all were willing to accept exchange responsibilities,[16] we are not aware of a single exchange that has tried to convert to ATS status. While exchange status does come with some burdens, clearly market participants are happy to accept those costs in return for the five significant advantages of being an exchange.

The 5 big advantages exchanges have over ATSs:

1) **Exchanges have absolute immunity on errors**, having historically been considered quasi-governmental entities.[17] Courts have typically ruled that exchange immunity holds even in cases of gross negligence or willful misconduct. An ATS is a regular business that has liability for its 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 distributed to its participant exchanges based on a complex formula. ATSs do not receive tape revenue.

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[15] *See* Amendment No. 5 to Form S-1, BATS Global Markets, Inc. (Mar. 21, 2012) at 2, *available at* http://sec.gov/Archives/edgar/data/1519917/000119312512125661/d179347ds1a.htm [hereinafter *BATS Form S-1*].

[16] *See, e.g.*, SEC Special Study: Electronic Communication Networks and After-Hours Trading, at n.27 (referring to the applications of Island ECN, NextTrade and Archipelago), *available at* http://www.sec.gov/news/studies/ecnafter.htm.

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

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 ATSs pay significant clearing fees, whereas exchanges pay no clearing fees.
4) **Exchanges have no net capital requirements**. An ATS operator must meet stringent net capital requirements. Exchanges face no such requirement.
5) **Exchanges can display bids and offers directly into the National Market System.** An ATS cannot display a bid or offer directly into the National Market System. Instead, an ATS must pay an exchange to display bids and offers on their behalf.[18]

5. <u>How has the operating model of exchanges been influenced by their change from not-for-profit organizations to for-profit companies?</u>

Since becoming for-profit companies, exchanges have a fiduciary responsibility to their shareholders to maximize profits. A major source of revenue and profit for the exchanges comes from the sale of market data.

The exchanges, together with FINRA, have a government-granted monopoly over the sale of market data to the public — including the fees from market data generated by off-exchange trading. The Consolidated Tape Association (the "CTA"), which administers the consolidated tape on behalf of the exchanges and FINRA, charges high fees to the investing public for real-time market data. While there is no

[18] FINRA hosts an "Alternate Display Facility" to allow ATSs to display their bids and offers, but due to outdated technology, this service is not operational as of December 2012.

systematic transparency into the CTA's finances, some information can be gleaned from the exchanges' parent companies' public financial disclosures:

- ***NASDAQ:*** The NASDAQ OMX Group, Inc. reported earning $115 million of net U.S. tape revenue from the CTA during 2011.[19] This amount is separate from, and in addition to, the $135 million NASDAQ earned from the sale of proprietary U.S. market data products.

- ***NYSE:*** NYSE Euronext earned $193 million from market data relating to U.S. equity trading in 2011, although it is not entirely clear from their disclosure whether this includes revenue unrelated to the U.S. consolidated tape plans.[20]

- ***BATS:*** BATS Global Markets, Inc. earned $55.4 million from its share of revenue from the U.S. tape plans in 2011.[21]

The estimated $400 million in market data revenues that the CTA distributes to the exchanges are after operational and administrative expenses have been paid. Given that real-time data is a government-granted monopoly, and market data prices are not set by the market and are not subject to competition, the investing public is arguably being overcharged for market data by approximately $400 million a year.

Historically, the SEC has justified granting exchanges the exclusive right to sell market data as a form of user tax to fund the exchanges' regulatory expenses. In 1999,

[19] NASDAQ OMX Group, Inc., 2011 Form 10-K at 57, *available at* http://sec.gov/Archives/edgar/data/1120193/000119312512077518/d259668d10k.htm.
[20] NYSE Euronext, 2011 Form 10-K at 60, *available at* http://sec.gov/Archives/edgar/data/1368007/000119312512086538/d275617d10k.htm [hereinafter *NYSE 2011 Form 10-K*].
[21] *See BATS Form S-1, supra* note 15 at 18, 39.

the SEC stated that exchanges are entitled to market data revenues to offset the cost of regulating their markets.[22] However, the amounts earned by the exchanges today far exceed their regulatory expenses and act as a major profit center for exchanges.

In Congressional testimony, the CEO of NYSE Euronext estimated that it would "spend nearly $85 million for U.S. equity market surveillance in 2012."[23] This is far outpaced by the market data revenue NYSE Euronext earns, which appears to have totaled $193 million in 2011 from market data relating to U.S. equities trading.[24] NASDAQ OMX Group earned $115 million of net U.S. tape revenue during 2011, but spent only $35 million on regulatory expenses across the entire holding company—apparently even including regulatory expenses relating to their non-U.S. exchanges. BATS Global Markets, Inc. earned $55.4 million from its share of the U.S. tape plans in 2011. But it spent only one tenth of this amount on regulatory expenses of $5.5 million in 2011, including costs under its outsourcing agreements for regulatory services to be provided by other SROs.[25]

The enormous revenues from market data are way out of proportion with the costs of exchanges' self-regulatory responsibilities. Market data revenue has simply become a government-granted windfall at the expense of the investing public.

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[22] *See* Concept Release: Regulation of Market Information Fees and Revenue, Exchange Act Release No. 42208 (Dec. 9, 1999) [hereinafter *SEC 1999 Market Data Concept Release*].

[23] *2012 Market Structure Hearings, supra* note **Error! Bookmark not defined.** (statement of Duncan Niederauer, CEO, NYSE Euronext), *available at* http://financialservices.house.gov/uploadedfiles/hhrg-112-ba16-wstate-dniederauer-20120620.pdf.

[24] NYSE Euronext, 2011 Form 10-K at 60, *available at* http://sec.gov/Archives/edgar/data/1368007/000119312512086538/d275617d10k.htm [hereinafter *NYSE 2011 Form 10-K*].

[25] *See BATS Form S-1, supra* note 15 at 73-74.

Furthermore, the current tape revenue system potentially encourages odd distortions in the markets. Because the CTA allocates revenue to the exchanges based on a complex formula involving variables such as each exchange's number of quotations, for-profit exchanges try to set policies and services that will increase the level of quoting activity. We believe this is a major factor in why quote flickering has markedly increased, with the number of daily changes in the NBBO (National Best Bid Offer) per million shares traded recently climbing to an all-time high.[26] It is logical to assume that if the tape revenue system were reformed, quote flickering would be seen as a wasteful expense rather than a lucrative source of revenue.

6. What regulatory or legislative changes should be considered by regulators or Congress?

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

1) **Remove the SRO status of the for-profit exchanges.** For-profit entities should not be shielded from liability for damages that arise as a result of their own actions. For-profit entities should not be able to audit and regulate their competitors. Exchanges have already transferred most of their regulatory tasks to FINRA. It is time for Congress to revoke their special quasi-governmental status and government privileges.

2) **Perform a review of the pricing and rebate system operated by the consolidated tape plans.** The CTA plans collect over $400 million a

[26] Ana Avramovic, "Who Let the Bots Out?" Credit Suisse Trading Strategy, May 2012.

year from the investing public, most of which then gets rebated to the for-profit exchanges that collectively run the plans. Forty years after these plans were established,[27] we believe the tape revenue model is obsolete. In the current system, the investing public overpays for market data, and the exchanges receive a government-granted windfall.

3) **Lift the restrictions that limit broker-dealers to 20% ownership in exchanges.** Although there is no rule or law limiting broker-dealer ownership in exchanges, there is a precedent set by the regulators to cap broker-dealer ownership of an exchange at 20%. Allowing broker-owned ATSs to follow in the footsteps of BATS and DirectEdge and become exchanges would level the playing field between exchanges and ATSs, ultimately resulting in lower costs for investors.

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

Respectfully submitted,

Daniel Mathisson

December 18, 2012

[27] The SEC adopted Rule 17a-15 in November 1972, establishing the current tape plans.