WILLIAMS & JENSEN, PLLC

Fr: Rebecca Konst and Alex Barcham

Re: Security Traders Association Annual Market Structure Conference – Day 2

Dt: October 1, 2015

Summary

On October 1, the Security Traders Association (STA) continued its 82st Annual Market Structure Conference. Panels on day 2 focused on options markets, the Tick Size Pilot, the future of exchanges, and technology and regulation. Speakers included Senator Ron Johnson (R-WI), Representative Sean Duffy (R-WI), SEC Division of Trading and Markets Director Stephen Luparello, FINRA Chairman and CEO Richard Ketchum, and other industry leaders.

Speaker: Senator Ron Johnson (R-WI)

Senator Ron Johnson (R-WI) stressed the need for a well-functioning financial system. He stated people need to be able to save for their retirement and get advice on what investments they make. **Johnson** noted there is a big difference in perspective when someone has spent time in the private sector. He stated the number one solution for the nation's current debt problems is economic growth. **Johnson** stated the free market competitive system is what has made this nation great and is an efficient allocator of equity. He stated opportunities are all about addressing weaknesses. He stated the U.S. is the world's biggest customer and economy. **Johnson** stated the U.S. can compete internationally if policies are shaped correctly. He noted the U.S. has abundant, cheap energy that also helps with manufacturing. He suggested the Administration's "cap and trade" policies will harm the economy.

Senator Johnson stated regulatory overreach is a "huge" weakness in the U.S. He stated a number of studies place that burden close to $2 trillion. He explained only 9 economies in the world are larger than $2 trillion. He explained the regulatory burden needs to be reduced. He acknowledged that regulations are needed to provide certainty but not to be overly burdensome. He stated another significant weakness in the U.S. is the uncompetitive tax system. He stated it is "simple math." He stated to get the economy growing a competitive tax system is needed. He stated the system should focus on raising revenue and stopping economic harm. He suggested a bifurcated system might help get a reformed tax system passed. He stated regulatory burden needs to be lessened and the price of energy needs to stop being arbitrarily "pushed up." **Johnson** stated an area of agreement needs to be the starting point for any political debate. He suggested both political parties want what is best for the economy and the nation.

Questions and Answers

Jim Toes (STA) asked what some other priorities are with the Committee on Homeland Security and Governmental Affairs. **Johnson** stated he and Senator Tom Carper (D-DE) developed a mission statement for the Committee: to enhance the economy and security of the nation. He stated for homeland security matters they are focused on cybersecurity, border security, countering terrorism, and a commitment to help the Secretary of Homeland Security. He stated in terms of oversight they are identifying abusive and duplicative programs. He noted 49 pieces of legislation

have been passed out of the Committee to streamline parts of the government. He stated they have focused on bipartisan legislation, which is an incremental gain.

A question was asked about finding malfeasance in order routing and about efficiency in the markets. **Johnson** stated when a hearing was held on this issue in the last Congress he asked whether trades are now cheaper and where the economic harm to the consumers is. He stated the difference is about ten cents regarding issues the hearing examined. He stated there is a great deal of efficiency in the marketplace now. **Johnson** stated there is so much information available, and consumers have choice and low costs. He added that the Department of Labor is attempting to limit information in its fiduciary proposal, which is something his Committee is looking to examine.

A question was asked about term limits. **Johnson** stated he would vote for them but it is something that might have "run its course." He suggested this would be a double-edged sword. He stated the federal government is complex and it takes time to understand it. He stated he would not support too short of a term limit. He stated the limit could be somewhere between 12 and 16 years. He stated the root cause of the problem is the size of the federal government. **Johnson** stated when he asks whether the federal government is dysfunctional he never hears people say that it is not broken. He stated the powers need to be given back to the states where it can actually be useful. He suggested DC does not solve many problems but actually makes many problems worse. He stated the solutions do not lie in Washington. **Johnson** stated policies need to be geared towards economic growth.

A question asked whether the political system is more polarized than ever before. **Johnson** stated he has only been in office since 2010. He stated there seemed to be more opportunities to work in a bipartisan manner in prior years. He stated over the years the gerrymandering of districts has changed the dynamics in the House. **Johnson** explained he attempts to focus on shared principles. He stated there needs to be a concentration on shared goals rather than an exploitation of divisions. He suggested the President has been the most divisive than other Presidents, pointing to the Executive Order on immigration immediately after the 2014 elections as being the most divisive action the President could have taken.

Toes asked for thoughts on Donald Trump. **Johnson** stated Trump agrees that the government is "incompetent" and the public is looking for someone who will "tell it like it is." He stated most people recognize that most politicians will not do that. **Johnson** stated the challenge of a conservative is to point out the truth, rather than promoting policies that continue to grow the government. Citing the $18 trillion deficit, **Johnson** expressed concern that no one is talking about the deficit anymore. He stated Trump is "tapping into" the contempt people have for Washington. He urged people to take power back and stop growing the federal government.

Fireside Chat
Moderator: **Brett Redfearn**, J.P. Morgan

Panelists
Richard Ketchum, FINRA
Steve Luparello, SEC Division of Trading and Markets

Discussion

Brett Redfearn (J.P. Morgan) stated there has been a lot of discussion by SEC Chair Mary Jo White regarding her market structure initiatives. He noted it has been an "eventful" summer with market events occurring on August 24, August 4 and July 8. He stated August 24 is on a lot of minds. He noted SEC Commissioner Kara Stein noted the SEC is looking at the issue. **Stephen Luparello (SEC Division of Trading and Markets)** stated in terms of August 24, he noted having a Consolidated Audit Trail (CAT) in place would help with an analysis of events like this. He stated while it is not as easy to access data the SEC does have access. He noted the Division of Trading and Markets along with the Division of Economic Risk Analysis (DERA) is doing a study on the event. He stated they are focused on volatility; the ways markets open, and how limit up/limit down works during the open and for ETFs. He stated it is too early to tell what the conclusions will be but they are working to get it out and that preliminary results should be out in the next few weeks. **Richard Ketchum (FINRA)** stated FINRA focuses on events like this as a regulator. He stated limit up/limit down essentially worked as predicted but did not work for two outliers, namely openings and exchange traded products (ETPs). **Ketchum** stated it is important to look at ETPs. He stated FINRA is looking at for those outliers and how humans acted. He stated they will look at the opening processes and ETPs, and they will provide input back on what market maker obligations should look like. **Luparello** stated no one wants excess volatility so it is right that FINRA is looking at that. He stated August 24 brought forth issues that the SEC was already looking at. He stated there have been iterations of the limit up/limit down" to improve the system. He noted conversations have been ongoing over proper reference prices.

Redfearn noted problems for openings. He stated for limit up/limit down reference bands for the first five minutes are needed. **Luparello** stated the SEC has charged the SROs to bring forth a recommendation. He stated if they can figure out ways to have reference prices in the first five minutes without creating halts, then they will. He stated too many halts is a bad thing. **Ketchum** stated either there should be a new reopening process or reference prices. He agreed that there cannot be multiple halts triggered. He suggested a way can be identified to resolve this problem. **Luparello** stated there are no single perfect solutions to this. He stated there are trade-offs between the different solutions.

Redfearn stated there is some data that if the markets hit a circuit breaker it might have made things better. **Ketchum** stated he is not certain. He stated with that timeframe it does not strike him that it would create a panic. He stated the biggest challenge is opening stocks and ETFs in an orderly way. He stated the issues arose from some lack of information. He stated the "thinking" behind the market wide circuit breakers is to give the markets time to "re-gather." He stated in looking at the situation it appears that the biggest challenge is reopening stocks, so it might make sense to make those circuits a little wider than they are. He stated that working into a circuit breaker faster might be a good thing. **Luparello** stated the report they are doing would have been twice as long if a circuit breaker was hit. He stated these market pauses allow people to pause and "make sure the world is not ending." He stated data provided to market participants has greatly improved. He stated people were not pulling out of the market because of a lack of market data.

Redfearn stated limit up/limit down seemed to work well. He noted the new issue of ETPs and pricing those stocks. He asked if the underlying stocks of an ETP are not open, whether that ETP should trade. **Luparello** stated this is a question the SEC is looking at. **Ketchum** stated there is no simple answer. He stated they are not derivative products but operate in similar ways. He noted the preference is to let things trade to get prices. **Redfearn** noted the issue with ADRs and the underlying stocks not being open.

Redfearn noted a number of market participants were uncertain over which trades would be broken. He asked whether limit up/limit down can be "cleaned up." **Luparello** noted he has had a lot of conversations over this. He stated the overlap between limit up/limit down and clearly erroneous execution rules is really close to being complete. He stated in the equities space those clearly erroneous bands are superseded by limit up/limit down.

Redfearn asked for thoughts on the August 4 event with the Nasdaq Trade Reporting Facility (TRF). **Ketchum** stated Nasdaq is committed to getting information out as soon as possible so people know whether it is a protracted halt. He stated from a firm standpoint the basic view is if it does not seem like a protracted halt, there should be no consequences for firms to continue to trade. He stated firms need written plans for what they will do in these situations. If protracted, **Ketchum** stated firms have the responsibility to halt trading or have alternatives. **Luparello** stated it is important to understand that an extended outage does not relieve the responsibility to do something with those trades. **Redfearn** stated August 4 was more of a blip. **Luparello** stated it is a judgment call and reason should play a role in that call. He stated a more extended outage is a different matter. He stated they have to be prepared to have alternatives.

Redfearn noted the outage at the NYSE on July 8. He noted several key issues, such as reliance on the floor for closing and the plan to use the last print to hit the tape. He stated NYSE announced using Nasdaq as a backup plan for the close. **Luparello** stated NYSE and Nasdaq are hard at work on this. He noted this is a priority of the SEC. He stated this made it clear that identifying an alternative is needed otherwise the close will be "sloppy." He stated the conversations since July 8 have been productive and he expects rule filings soon. He suggested if rule changes are not seen then the SEC may take a stronger approach.

Noting forecasts for a hurricane, **Redfearn** mentioned reliance on physical locations and asked whether a backup automated auction is needed. **Luparello** agreed that a backup is needed. He stated the constituencies demanded that. He stated the issue is whether the structures are in place to host an auction and whether people can get there. He stated the firms seem to have figured this out. He stated there needs to be clarity on what the alternatives are.

Redfearn asked about the Tick Size Pilot. He noted the data collection requirement starting on November 6, and he asked whether that date will be pushed back because the FAQs have not yet been released. **Luparello** stated there are certain things which need to happen between now and November, including FAQs and rule filings. He stated the expectation is that those will happen soon, but he suggested it seems unlikely that those will happen within the needed timeline. He stated the SEC will not insist on a certain date if it will cause issues.

Redfearn stated FINRA has announced they will help with the data gathering through OATS. He asked whether industry participants will have OATS as a choice. **Ketchum** expressed hope that the FAQs will be out soon. He explained FINRA is having conversations on the specifications for the data gathered. He noted the goal is standardized data. He stated if there are meaningful burdens for some firms then they will keep having discussions.

Redfearn asked whether there are some of the low hanging fruit for the SEC in terms of market structure. **Luparello** stated Chair White laid out a good agenda, and there are a handful of things that can be done sooner rather than later. He noted the debate of the Equity Market Structure

Advisory Committee, which is helpful. He explained that the Division of Trading and Markets initiatives compete for time with other SEC rulemaking mandates. **Luparello** stated they hope to release a proposal around enhanced transparency relating to the operation of ATSs and greater transparency around order routing obligations. He stated after those they will focus on a disruptive trading rule.

Redfearn asked what a disruptive trading rule might look like. **Luparello** stated part of it is finding examples. He stated it would not look too different from the remnants of the tick test rule.

Redfearn asked about ATS transparency. **Ketchum** stated a proposal was filed in June and that FINRA is working on the comments. He stated the hope is that it will move forward. He noted concerns were raised about the timeframe for the disclosures. He stated the goal is that the timeframes could be contracted further than the two weeks proposed.

Questions and Answers

A question was asked about the dealer registration rule. **Luparello** stated it is "still alive", but more clarity is needed and the SEC continues to work on it. **Ketchum** stated FINRA has a proposal for CAT fee exemptions. He stated conversations are being had to understand the data. He stated they are committed to having the SEC requirements revenue neutral for FINRA.

Speaker- Scott Warren, The OCC

Scott Warren (The OCC) stated coming out of the financial crisis there have been new regulations and regulators. He stated ensuring OCC's business conduct meets these new needs and the needs of market participants has been a big task. He noted several gaps in OCC management were found, but the OCC has committed to closing those gaps. He suggested work is still needed. **Warren** explained some of the changes that are taking place. He stated a well-capitalized OCC is important to the industry. He stated OCC's capital base was determined to be too low. He stated systemically important clearing agencies were notified that capital standards were being raised. He stated OCC's primary regulator has proposed to incorporate these standards into regulations for OCC. He stated OCC needed to accumulate significant levels of capital to comply with these proposed requirements. **Warren** stated $97 million in equity has been gathered. **Warren** stated in March 2014 an amendment was adopted for enhanced standards for Financial Market Utilities (FMUs). He stated OCC's total capital requirement is $346 million. **Warren** stated the OCC filed the capital plan and it was approved in March 2015. He noted a stay was filed but the SEC has since raised the stay. **Warren** stated access to liquidity is important to OCC as a Central Counterparty Clearinghouse (CCP). He stated it has been difficult to find banks to participate in liquidity projects. He noted an agreement with CalPERS to build liquidity. He noted the work on stock loan clearing, work to make more inventory available, and work on preventing erroneous trades. He stated standards have been worked on and are designed to prevent bad trades, and the expectation is for compliance and implementation by the middle of 2016.

Questions and Answers

A question was asked whether CalPERS would be a backstop. **Warren** stated CalPERS would be a backup liquidity facility. He stated it is a backstop because of its cost.

Panel: "Listed Options: Where have all the market makers gone?"

Moderator: **Andy Nybo**, TABB Group

Panelists
Paul Jiganti, IMC Financial Markets
Steve Crutchfield, NYSE
Denis Medvedsek, Two Sigma Securities

Andy Nybo (TABB Group) stated this panel is looking at where all the market makers have gone. He noted there is fragmentation and the markets are relatively flat. He stated there is a lot of volatility but volumes are not increasing. He stated market makers account for about a half of all transactions but they have been disappearing. He stated equity market structure is a big focus, but asked whether the options markets are broken. **Paul Jiganti (IMC Financial Markets)** stated the markets are not broken. He stated there is more smart market making going on. He suggested during this evolution some things need to be changed. He explained one reason there has been a change in the market is that liquidity is pushed to the top 50 issues. He stated liquidity has changed to an auction process. He stated if the goal is displayed liquidity then the auction process needs to be reconsidered.

Nybo asked whether there are too many options exchanges. **Steve Crutchfield (NYSE)** stated the market structure has become more complex, but the options markets are not broken. He noted academic research that points to options as part of an investment strategy can add to the return of a portfolio. He stated the options asset class adds opportunities for investors. He noted the data on average spreads on penny pilot options widened on ten out of twelve exchanges and fewer executions are occurring at the quoted price. He stated the way the market operates is evolving.

Nybo asked whether the challenges facing market makers are insurmountable. **Denis Medvedsek (Two Sigma Securities)** stated the options market making business is a business of scale. He stated it is not realistic to ever have a market with a large number of successful liquidity providers. He suggested the challenges in the industry can be traced to the decline in volumes but the options market volumes have fared well. He stated volatility is also a challenge. He noted there have been healthy market responses to these challenges. **Medvedsek** stated no exchanges have gone out of business. He stated there are only 7 exchange operators. He stated fragmentation is a by-product of a healthy competitive market.

Nybo stated at some point the exchanges are competing for every order. He asked at what point it is not healthy to have too much competition. He asked whether exchange rules are getting too complex. **Jiganti** stated the complexity does not make the market bad. He stated the "weight" on the other side is needed. He stated the "pendulum" will go "back and forth" but it is the best way to get to the best answer. He suggested the end product should be better. He stated the problem is it is expensive for liquidity providers. **Medvedsek** stated no one wakes up and asks how they can make the world more complex. He stated client solutions tend to be complex. **Crutchfield** stated the exchanges now have harmonized obvious error rules. He noted work to harmonize other rules. He stated the industry has been focused on risk and adding rules and structures to help market makers control risks. He explained quote validation for market makers have been added, and order price validation on a pre-open basis has also been added.

Nybo asked about internalization, the focus on dark pools, and auction protocols at the exchanges. **Jiganti** stated it is something to be concerned about. He stated if the goal is displayed liquidity, giving market makers some benefits makes the most sense. **Medvedsek** stated the benefits of consolidators are good for the markets. He stated the mechanism for internalization is simple in the

options market. He stated internalization provides better execution quality and the driver of the auctions is the demand from retail broker-dealers. **Jiganti** stated because the wholesale model exists the liquidity providers need to be rewarded. **Crutchfield** stated it is important to "baseline" the auctions properly. He stated auctions have their place in the markets. He stated auctions allow market makers to wait for the "good order" to come it. He suggested consolidators have an important role to play in the industry but considering the consequences is important.

Nybo asked whether it is time for a TRF in options. **Medvedsek** stated the options markets are different from the equities market. He stated there is fragmentation in the options markets and there is already a natural fragmentation in the product itself. He stated to link the risks it is important to have market makers. He stated a TRF in options is not necessary or beneficial. **Jiganti** stated the options markets have an answer to the TRF.

Nybo noted the challenges of the industry. He suggested that the government can do irreparable harm to the industry. He asked what key issues should be focused on. **Jiganti** noted that former House Ways and Means Committee Chairman Camp had a derivatives tax draft proposal which would have significant impact on the options market. **Jiganti** added that the Department of Labor (DOL) proposal to restrict trading options in IRAs would take away choice from IRA investors. **Crutchfield** stated the Camp proposal is would require claiming a gain when there is actually no cash behind it. He also expressed concerns about changes to the Internal Revenue Code which also need to be more "sensitive." **Medvedsek** stated the Camp proposal would be a disincentive for people taking prudent risk management actions.

Panel: "The Tick Pilot: Now the hard part"
Moderator: **Vlad Khandros**, UBS

Panelist
Jay Biancamano, Fidessa
Matt Lavicka, Goldman Sachs
Phil MacKintosh, KCG
Sapna Patel, Morgan Stanley
Frank Hatheway, Nasdaq

Discussion

Vlad Khandros (UBS) stated the Tick Pilot has been a main focus of the markets for years. He stated the biggest question right now is what the general process has been and what the implementation timeline is. **Matt Lavicka (Goldman Sachs)** noted the implementation of Regulation NMS was very different from the Tick Size Pilot. He stated the process for the pilot is "broken" because the SEC has handed over the implementation to an NMS plan.

Khandros asked what the vendors are doing. **Jay Biancamano (Fidessa)** stated they are planning from six months to two years out. He stated they do not have the "specs" for this pilot, so these "unknowns" will affect how this is built out. He expressed concern because they do not know how long it will actually take to build this out and they are uncertain who they will be reporting to.

Khandros asked what this might do for liquidity. **Sapna Patel (Morgan Stanley)** stated the big focus is on the preliminary deadline in November for data collection. She stated the reporting requirement is not too far away. She stated the buy side and vendors need information before they

can start doing the work. She explained a lot of conversations are being held around when they will know the issuer names in the different buckets and the requirements for the reporting. She noted costs will be increased in order to comply with the requirements of the pilot. **Lavicka** stated the operational risk being introduced is "unwarranted." He stated it is not clear why this is being done. He stated this pilot will introduce complexity into the markets at the same time that Regulation SCI is being introduced to reduce complexity.

Khandros noted the tick pilot legislation had "massive support." He asked why there was support for the pilot. **Frank Hatheway (Nasdaq)** stated this is about making access to capital cheaper and easier for small companies. He explained liquidity "prices in" and is hard to get. He stated another notion is sponsorship. He explained that "sits behind" the trade-at requirement. **Hatheway** stated this pilot will look at what happens to liquidity and the incentives. He stated decimalization was not a "plan." He stated the markets are not set up the same as they were. **Lavicka** asked why the SEC cannot pass a rule. **Hatheway** stated this pilot followed Congressional pressure.

Khandros asked how market makers are viewing the "baskets" involved. **Phil MacKintosh (KCG)** stated he is hearing that market makers might pull out of these markets and that this pilot will add ten basis points to every trade involved in the pilot. He stated this is not going to make trading cheaper from a market making perspective.

Khandros noted there was a lot of concern over the third bucket with the trade-at provision. **Biancamano** stated in Canada and Australia spreads did not improve. He stated when quoted spreads go up it is a cost to the end users. He stated if effective spreads go up then there will be less trading and costs will be passed on to the consumer. **Hatheway** stated this is not structured like the Canadian trade-at. **Patel** stated investors are looking at the trade-at bucket and deciding the extra cost is not "worth it." She noted the costs to the retail investor were not considered. **Hatheway** stated the costs were considered. He stated each type of order is included in the data requirement but the results have yet to be seen.

Khandros noted concerns over increases in block trading and a larger increase in dealer costs. **Patel** stated for the third bucket there is a "dummy block" exemption. She stated they are looking at how to leverage that to reduce costs. **MacKintosh** stated the whole point of wider spreads that it will increase block trading. **Hatheway** stated issuers are excited about seeing how nickel spreads will be helpful.

Khandros asked what the drivers are for issuers. **Hatheway** stated they would like institutions to be able to buy and sell their stocks more often. **MacKintosh** stated they should split their stock to increase liquidity. **Biancamano** asked about the pre-IPO companies and whether the smaller ticks will delay them in going to IPO. **Hatheway** stated companies do not think about liquidity much. He stated post-IPO liquidity is an issue. **MacKintosh** stated he did a study of small-cap spreads and he found that they are the tightest in the world. **Hatheway** stated U.S. small-cap is larger than small-cap anywhere else. **MacKintosh** stated it seems to be an index issue and not a size of stock issue.

Khandros asked whether other issues should be considered to improve liquidity in small-cap stocks. He noted other markets have compressed ticks rather than widening them. **MacKintosh** stated he would like to see the pilot for $300 million and below. He stated possible different rules should be considered for those outside an institutional benchmark. **Lavicka** stated more liquidity aggregating around the bid/offer is the goal. He stated the access fee issue needs to be addressed as well.

Khandros asked whether the access fees will be revisited. **Lavicka** stated one cannot discuss tick sizes without looking at fees. **Hatheway** stated review of the access fees cannot be done under this plan because it would look too much like price setting.

Khandros asked how to get more direct involvement from the retail side in the implementation process. **Hatheway** stated as part of the implementation process there is a data working group that consists of market participants. He stated that is informal involvement. **Patel** stated the buy side and sell side should have been involved in the construction of the pilot. She suggested the feedback should not have been collected after the fact. **Lavicka** stated the "table" is not well defined. He stated the SEC is not driving this pilot and there is no clear lead for implementation. **Hatheway** suggested the market participants need to consider how the plan process should proceed moving forward.

Questions and Answers

A question was asked whether liquidity is worse today. **Hatheway** stated liquidity has gotten worse in the small-caps following the crisis. He stated whether changing tick will help remains to be seen. He stated institutional trading costs worsened and stayed that way for small-caps following the crisis. **MacKintosh** stated he did research which showed that small-cap prices actually recovered faster.

A question was asked when the criteria for determining success will be received. **Hatheway** stated anything in the industry is ultimately up to the SEC and Congress. He stated the SEC will take the responses of the industry into account. He noted that "striking" results will carry more weight.

Khandros asked whether this pilot will actually happen. **Lavicka** stated this cannot happen in November. He stated there is too much uncertainty but it will happen. **Patel** stated it may end early if investors do not trade in these names. **Lavicka** stated the complexity is altering the data that would be gathered.

Speaker- Representative Sean Duffy (R-QI)

Representative Sean Duffy (R-WI) stated he and Representative John Carney (D-DE) had a bipartisan idea to help emerging growth companies (EGCs). He stated when the JOBS Act was passed it encouraged companies to go public so the Small Cap Liquidity Reform Act was intended to help companies maximize liquidity once they went public. He stated the thought was that widened tick sizes would improve these emerging growth companies' liquidity. He stated the bill passed 57 to 0 in the Committee and passed the House by a vote of 412 to 4. **Duffy** stated EGCs provide some of the biggest job growth in the nation. He stated the SEC was given the discretion to implement a pilot that would actually work. He explained the SEC acknowledged the importance of facilitating liquidity within EGCs. He stated the SEC took the initiative to launch a pilot program for two years with the exchanges and FINRA. **Duffy** stated there is broad agreement that the data gathered from the pilot will help with future reforms. He expressed commitment to work on a pilot program that will work for the markets.

Representative Duffy noted he chairs the Oversight Subcommittee on the House Financial Services Committee. He stated the House Financial Services Committee has responsibility for a large swath of the economy. He expressed concern that some regulators have not complied with requests for information or documents from Congress. He noted Chair Mary Jo White has done the best job among the regulators in answering questions and replying to requests from Congress. However, **Duffy** expressed concern that the SEC is becoming more political, noting that since 2009 there have

been over 20 party line votes at the SEC. He noted yesterday the Committee marked up five bills, once of which is H.R. 414 "the Burdensome Data Collection Repeal Act", which would repeal the requirement that companies publish CEO pay ratio information. **Duffy** noted the rule passed the SEC by a 3 to 2 vote and there are concerns that the rule will not actually accomplish what was intended. **Duffy** suggested this type of rulemaking is a distraction from the core mission of the SEC. He noted as this Administration "wraps up", the Administration will make an effort to finalize rules, and therefore there is an increased need for the Oversight Subcommittee to review these actions. **Duffy** asked for the industry to point to areas which might need oversight.

Panel: The Future of Exchanges

Moderator:
Jon Werts, Bank of America Merrill Lynch

Panelists:
Bryan Harkins, BATS Global Markets
Walt Smith, NASDAQ
Stacey Cunningham, NYSE Group
Nick Thadeney, TMX Group

Jon Werts (Bank of America Merrill Lynch) said there were very few operational issues on August 24, but there were issues with pricing and how to open the markets. He asked how similar pricing issues can be avoided in the future. **Stacey Cunningham (NYSE)** said NYSE's opening process is designed to prioritize price discovery over speed. She said NYSE's openings are far less volatile than fully electronic openings, suggesting that fully electronic exchanges are 50 percent more volatile. She said NYSE's model is designed to protect investors and listed companies. She contended that human judgment limits volatility. She stated that a NYSE study found that more than 90 percent of respondents would prefer to wait a few minutes and reduce volatility, rather than start precisely at 9:30 am. She said the profiles of ETFs and ETF investors have changed greatly over the past few years, and that NYSE is looking at the ETFs in regards to limit up/limit down. **Bryan Harkins (BATS Global Markets)** said NYSE did no better than NASDAQ on August 24 when you look at the S&P 1500. He suggested that NYSE did not limit volatility and its actions may have limited transparency. **Nick Thadeney (TMX Group)** said ETF owners and operators were not happy with the outcomes in a number of instruments. He said the system did not work the way it should have and the exchanges need to make improvements. He stated that August 24 showed flaws in the TMX opening process and TMX is looking at changes as a result. **Walt Smith (NASDAQ)** said there is a robust, vibrant ecosystem, but NASDAQ is looking at ways to enhance its opening process.

Werts asked if the industry should consider eliminating market orders. **Thadeney** noted that his former employer eliminated market orders. He suggested that much of the issue on August 24 was a result of market orders. **Cunningham** said stop orders were also an issue. **Thadeney** suggested that market orders are not as relevant as they used to be. **Harkins** said many brokers are changing their defaults and working to provide additional education. He suggested that education does not go far enough.

Werts pointed to the increased scrutiny regarding dark pools. He asked what role dark pools should play in the market and if changes are needed. **Cunningham** said there is a place in the market for dark pools, but additional transparency is needed. She stated that dark pools should be on a level

playing field with exchanges and other venues. **Harkins** said dark pools are held to standards of disclosure. **Smith** said he views dark trading as a complement to exchanges. He noted that 60 percent of trading takes place on exchange. **Thadeney** said the structure is different in Canada, as dark markets are treated the same as other markets. He suggested that dark pools have a role for specific transactional needs.

Werts asked if exchanges need to be international and multi-asset to survive. **Harkins** said exchanges needs to be versatile to compete. He suggested that the exchanges represented operate on economies of scale. He said there are 13 exchanges in the options market, most of which are running multiple markets. He stated that it can be difficult for companies which lack economies of scale to compete, because of the importance of pricing.

Werts said equity and option volumes are essentially flat. He asked what asset classes the panelists are looking at. **Smith** said NASDAQ has an interest rate platform in Europe, and NASDAQ may get more aggressive in the FX market. **Thadeney** questioned whether exchanges need to be in a myriad of asset classes.

Werts said a common complaint about exchanges is the lack of uniqueness, suggesting that exchanges are largely the same except for pricing differences. **Harkins** said some exchanges serve a niche and can charge more. He stated that in order to gain a large market share exchanges need to be largely the same. **Cunningham** said NYSE is working to simplify the markets to promote transparency and investor confidence. She stated that NYSE's model is based on limiting short-term volatility for long-term investors. She said NYSE is looking at mid-day auctions for less liquid stocks.

Werts said there is a major investor confidence problem in the U.S., even though data shows that things have never been better for retail investors. He asked what can be done to win back investor confidence. **Smith** said the exchanges should work collaboratively to promote investor confidence. **Thadeney** emphasized that the equity markets are not rigged, suggesting that this narrative hurts everyone in the market. He suggested that the equity markets are far more transparent than the bond and FX markets. **Werts** responded that investors do not have FX positions in their 401(k) accounts, and that spreads in equity markets have never been tighter. **Cunningham** said the exchanges can come together to alert customers to developments like limit up/limit down. **Harkins** expressed concern that investors feel a need to "beat the pros", and he stressed the need to do a better job educating the public. **Cunningham** said education is especially needed in the ETF space. **Thadeney** noted that TMX operates a venture marketplace to allow small entrepreneurs to gain access to capital. He said suitability rules for retail portfolios have tightened greatly. He suggested that the "age of conservatism" has led to a decline in people buying single stocks.

Werts said transaction costs at exchanges are very tight, but market data and technology fees seem to be rising. He asked if this is going to continue. **Harkins** suggested that BATS has the lowest market data fees, adding that BATS did not charge for market data until July 2015. **Cunningham** said there is competition in market data and participants do not have to purchase NYSE's market data products. **Smith** said exchanges are constantly reinvesting to make their systems faster and more resilient. **Thadeney** said any new marketplace must connect to everything, suggesting that market participants should not have to connect everywhere. **Harkins** said the market should examine what should be a protected quote.

Werts asked why IEX would want to be an exchange rather than an ATS. He asked if the exchanges consider IEX a threat. **Smith** said NASDAQ views IEX as a competitor, suggesting that they did a good job as an ATS. He emphasized the challenges of being a national exchange. **Cunningham** said she supports IEX's broader goals. She noted that IEX has already increased its number of order types. **Harkins** said exchanges must either be unique or have scale. He said IEX makes up for being expensive by being unique. He questioned how IEX's operations, such as the delay, will translate from being an ATS to being an exchange. **Thadeney** said TMX recently opened a speedbump, which the regulators deemed to be non-protected. He questioned whether IEX will be deemed protected or non-protected. **Smith** said NASDAQ tried to implement a speedbump at PSX, but was not allowed to. He expressed interest in the comment letters on IEX.

An audience member asked how exchanges selling co-location benefit buy side traders. **Cunningham** said co-location helps to provide equal access to exchanges. **Harkins** noted that BATS does not sell co-location.

An audience member, in regards to ETFs, asked whether derivatives should be traded when the underlying is not being traded. **Cunningham** said there is not a consensus on this issue. She said NYSE is looking at ways to protect investors. **Thadeney** noted that mutual funds have owned international securities for years, suggesting that this is similar to what ETFs do.

Speaker: Stacey Gilbert, Susquehanna Financial Group

Stacey Gilbert (Susquehanna Financial Group) said Susquehanna is one of the largest privately held financial services firms. She stated that her job is to look at the options market and determine future price moves. She pointed to the explosion in the growth of options over the past two decades. She said a call option gives the investor the right, but not the obligation, to buy an asset, while a put option gives the investor the right, but not the obligation, to sell an asset. She suggested that stocks represent the current status of the market, while options represent the future.

Gilbert said options allow investors to the estimate the implied stock price distributions and back-out the probability of stocks finishing above or below certain levels. She emphasized the changes in how options are being priced. She said there is an understanding that if there is a major move in the market, it will more likely be to the down side. She suggested that single assets, such as crude oil, have a higher probability of "crashing up" than the broader market. **Gilbert** stated that the Chinese market is volatile. She suggested that investors are willing to pay 2000 basis points to short Deutsche X-trackers Harvest CSI 300 China A-Shares.

Panel: Technology, Regulation and the Value Add
Moderator:
Jennifer Hadiaris, Deutsche Bank

Panelists:
John Lowrey, Citi
David Lewis, Franklin Templeton
Jonathan Kellner, Instinet
Fred Mason, JP Morgan Asset Management

Jennifer Hadiaris (Deutsche Bank) asked where there are opportunities for innovation going forward. **Jonathan Kellner (Instinet)** said companies always face a "buy vs. build" decision regarding new technology. He said the buy side has brought more of its technology building in-house. He suggested that customers are looking to better understand order routing and market structure. **John Lowrey (Citi)** said the buy side makes decisions based on whether they can provide an advantage to their clients. **Lowrey** said firms are always looking to improve the decision making process for clients. He suggested that banks need to focus on how they can provide liquidity and capital. **Fred Mason (JP Morgan Asset Management)** said JP Morgan has both bought and built its technology. He said JP Morgan has looked to leverage successes in different regions around the world.

Hadiaris said there has been a trend towards the buy side building their own technology. She asked why this is occurring. **Lowrey** said the technology challenges are "quite profound." He stated that the retail market tends to lead the market in terms of technology. He said there will be challenges in integrating new technologies with traditional models. **Kellner** said there are still significant opportunities for innovation. **David Lewis (Franklin Templeton)** said Franklin Templeton still uses small venders. **Mason** said JP Morgan is a fiduciary to its clients and has a duty to put them first. He said JP Morgan aggressively pursues new technology solutions. He emphasized the benefits of long-term partnerships between the buy side and the sell side. He said JP Morgan recently named a Global Head of Trading Research. He suggested that many vendors do not understand the totality of the market, but can help with certain elements of a trade. He said JP Morgan is focused on achieving incremental basis point savings for their clients.

Hadiaris asked if firms are required to dedicate resources to their regulatory needs before focusing on innovation. **Lowrey** said Citi's regulatory costs are very high. He stated that the EU recently released a "startling set of regulations," which go against the EU's tradition of principle-based regulation. He said the EU has called for controls and testing for algorithms, which will force firms to verify that their technology works. He suggested that this will drive up the costs for firms. **Kellner** said firms are dedicating more and more resources to regulatory compliance, while still trying to be responsive to client needs. He suggested that interesting products will emerge as a result of regulation. **Lewis** pointed to the regulatory burdens associated with MiFID. He suggested that regulations will not prevent innovation, but will reduce brokers' profits at they deal with regulation. He said the buy side has been represented more in recent regulatory processes than it has in the past. **Mason** said regulatory costs have gone up for the buy side, which he described as "the cost of doing business." He said returns will be reduced on the buy and sell sides in the short-term, but emphasized the importance of protecting clients.

Hadiaris asked about the differences in ability to compete for talent between the buy side and the sell side. **Lewis** said hiring is focusing more and more on technology knowledge. He said firms are hiring younger talent with technology knowledge to help them improve their internal processes. He disputed claims that talent is migrating away from the buy side. **Mason** emphasized the talents of the young people entering the market. He suggested that the desire of young people to go into finance has been hurt by the headlines. **Kellner** said there are competitive challenges in hiring technology staff, but there is a lot of talent in the market.

Hadiaris asked what areas the panelists would focus on for innovation. **Kellner** said there is opportunity to innovate in other asset classes, such as FX.

Speaker: Christine Sandler, Barclays

Christine Sandler (Barclays) emphasized the benefits of diversity in the workforce. She suggested that diverse groups are more innovative than homogenous groups. She noted that STA has created the Women in Finance Task Force to be a resource in diversity efforts. She said the Task Force has a goal of determining the value-add of diversity. She said they are also focused on the unique challenges of minority women. She said the Task Force could play a role in creating best practices. She stated that the Task Force can also help member firms to recruit diverse candidates for jobs.