

WILLIAMS & JENSEN, PLLC

Fr: Alex Barcham and Thomas McGrath

Re: Security Traders Association 86th Annual Market Structure Conference – Day 1

Dt: October 2, 2019

Summary

On October 2, the Security Traders Association (STA) began its 86th Annual Market Structure Conference. The panels and discussions at the conference included opening remarks by STA President and CEO Jim Toes and STA Chairman Doug Clark, as well as: (1) Co-Keynote Address by Tal Cohen, EVP Nasdaq and Bryan Harkins, EVP Cboe Global Markets; (2) Liquidity in Equities; ETFs & Options; (3) an interview with Brian Conroy, President, Liquidnet; (4) the 2019 Dictum Meum Pactum Award; and (5) Closing Remarks.

Opening Remarks

STA President and CEO Jim Toes introduced the conference and described the panels which would be held, noting that they include regulatory and technology panels. He said STA is comprised by 20 affiliates in the U.S. and 4 in Canada. He thanked the leadership of the affiliates and the firms which support them.

STA Chairman Doug Clark pointed to the recent developments in market structure, suggesting that the Securities and Exchange Commission (SEC) has been ambitious in trying to enhance the secondary markets. He said not all of the SEC's efforts have been well-received by industry. He noted that market participants will have to deal with a variety of changes, including the transaction fee pilot, Rule 606 reform, a corporate debt market transparency pilot, market data fee changes, and many others. He said these changes create challenges, particularly for smaller firms which lack the resources to keep track of them all. He suggested that the wide range of changes makes the role of STA more important. He noted that there would be a breakout panel on Friday on Rule 606, which he would be participating in. **Clark** said STA presents education, advocacy, and networking opportunities. He emphasized the value of the STA in creating relationships within the industry. He noted that Chris Halverson has been chosen as the incoming STA Chairman, expressing confidence in his leadership, along with that of STA President Jim Toes. He commended the work of David Franasiak and Joel Oswald of Williams & Jensen. He thanked the firms which support STA and allow their staff to participate in the Annual Conference.

Co-Keynote Address: Tal Cohen, EVP Nasdaq and Bryan Harkins, EVP Cboe Global Markets

Moderator: Joe Gawronski, President, Rosenblatt Securities

Joe Gawronski (Rosenblatt Securities) noted that both Cohen and Harkins had taken on new responsibilities in the last year. He asked them to describe their new roles. **Tal Cohen (Nasdaq)** said a few months ago he took over Nasdaq's transaction businesses across North America. He stated that he has been working with the corporate listings team and with issuers, including

discussions on market structure and market quality. He said he has also been working with Nasdaq's private market group on innovation, suggesting that much of what they do in the public market translates well to the private markets. He stated they are looking at the crossroads between technology, regulation, and competition. He said they are examining how new technologies like blockchain will play out over time. **Bryan Harkins (Cboe Global Markets)** said over the last few years Cboe has done a lot of integration work, noting that they would be moving their C1 options platform onto BATS technology next week.

Gawronski asked about the larger state of affairs in equity market structure, stating that there is a lot of in-fighting in the industry, particularly between exchanges and brokers. He noted that the SEC recently proposed a requirement that National Market System (NMS) plan fees and fee changes be subject to the standard procedures for NMS plan amendments, adding that market data has been a highly contentious issue. **Cohen** said the SEC has been focused on disclosure and transparency, suggesting that they have taken a big step forward. He stated that Nasdaq is in support of the SEC's exchange-traded fund (ETF) proposal. He noted that the SEC is also working on capital formation, stating that Nasdaq supports this effort. He stated that the SEC's market data roundtable was an "inflection point" on the issue. He suggested that a lot has happened since the roundtable, noting that Nasdaq has shed a lot of transparency on its market data business. He said the Nasdaq has been supportive of broader governance and inclusion on market data filings, stating that Nasdaq supports giving the industry a voice in this area. **Gawronski** suggested that 2 or 3 years ago the exchanges did not support giving the industry a voice on market data. **Cohen** said Nasdaq has also worked on the distributed Securities Information Processor (SIP). He stated that he is encouraged that the concept of platform pricing theory has gotten out into the market. He said he is pleased with the progress on market data, but more needs to be done. **Gawronski** asked if the market data roundtable was a low point and if progress has been made since then. **Cohen** responded in the affirmative. He also raised concerns with the transaction fee pilot program, suggesting that it disadvantages certain issuers and disrupts the competitive balance between exchanges and alternative trading systems (ATSS). **Harkins** said Cboe does not take suing regulators lightly, pointing to the transaction fee pilot program. He said the no rebate bucket was the issue which led them to file a suit. He stated that Cboe would be willing to compromise, but the pilot is far too broad. He stated that industry participation will help to alleviate concerns with the SIP, but more work is needed on market data.

Gawronski said Cboe has joined some of the lawsuits in this area. He asked how Cboe is approaching the outstanding lawsuits. **Harkins** said Cboe has not been as vocal as NYSE or Nasdaq. He said retail priority and the asymmetric speed bump are issues of focus for Cboe. He stated that currently exchanges primarily differentiate based on fees, suggesting that if that changes there will be far more areas of differentiation.

Gawronski said in April Nasdaq put forward its Total Markets proposal on market structure reforms. He noted that they also put out their Revitalize initiative in 2016. He asked about the Total Markets proposal and what issues are not getting enough "air time," but could solve equity market structure debates. **Cohen** said Total Markets was meant to put Nasdaq's views out there and lead to compromise. He said Total Markets was a comprehensive document and sought to address antiquated rules. He said they included in their document a proposal on the Order Protection Rule (OPR) to create a de minimis threshold from the rule. He stated intelligent tick size was a key issue which they felt was not getting enough "air time." He suggested that only 35 percent of the market today is trading at the optimal tick size, suggesting that this is a root cause of problems in the market. He said an intelligent tick size could reduce fragmentation, improve competition, reduce

trading costs, and lead to a healthier market. He noted that Amazon trades at a much wider spread than Microsoft or Apple. He suggested that solutions used in Europe could be effective in the U.S.

Gawronski said it is difficult to push regulatory changes in areas which do not receive much publicity. He stated that brokers frequently talk about high priced stocks. He asked if there is appetite on the issuer side to address this issue. **Cohen** said Nasdaq is home to most of those stocks. He stated that Nasdaq has worked a lot with issuers on this issue, including discussions on cost of capital and compensation to employees. He stated that they have showed issuers data indicating that if they split their stocks they might trade better. **Gawronski** asked if there is hope that something could happen in this area. **Harkins** suggested allowing the sale of fractional shares of firms like Amazon.

Gawronski asked about the areas of agreement and disagreement between the exchanges. **Harkins** said Nasdaq, NYSE and Cboe have supported governance changes to the SIP, including getting industry more involved. He said there are proposals to allow firms to only get subsets of SIP data, which he suggested is a smart idea. He stated that Cboe supports having a de minimis threshold for the OPR. He stated that one key area of disagreement is on suspending unlisted trading privileges (UTP) for thinly traded names, suggesting that it could lead to other problems related to market data and could create a single point of failure. He asserted that exchanges should be able to innovate to address thinly traded stocks, suggesting that suspending UTP would impede innovation.

Gawronski said the SEC recently adopted new rule on ETFs. He said the rule streamlines things for plain vanilla ETFs. He asked for the panelists' views on the rule. He asked about their views on active ETFs, suggesting that they could give a "shot in the arm" to the active management side. **Harkins** said the ETF rule was more than 200 pages. He said the SEC has granted more than 300 exemptive relief requests, which has created an uneven playing field. He said the custom basket feature will improve the market. **Cohen** commended the SEC for addressing this issue. He said the rule lowers the barriers for new ETF issuers. He said allowing ETFs to use custom baskets will lead to innovation on fixed income ETFs. He said the new disclosures on the website are good, but more standardization is needed. **Gawronski** suggested that the rule will reduce the day-to-day burdens on the SEC, which will give them more time to address big picture policy issues. **Harkins** expressed support for creating rules for ETFs, stressing that they needed their own rule set. **Cohen** pointed to Precidian as an example of an active ETF. He said Precidian will have asset gathering benefits, but he questioned whether it will have trading benefits. He said active ETFs will have long lasting impacts.

Gawronski said there has been a move to zero commission models for retail investor trading. He asked about the changes in this area. **Harkins** said there has been a race to zero, similar to what happened in the exchange space. He said Vanguard led a price war in the ETF space. He stated that brokers actually get a fairly small percentage of their revenue from trading. **Cohen** said Nasdaq is still considering what this change means for them. He stated that Nasdaq has been proactive in addressing this issue for both retail customers and wholesalers. He suggested that the race to zero will continue across business models, noting that there is an ETF which pays people to invest with them.

Gawronski said the competitive market has changed for exchanges, pointing to the Members Exchange (MEMX) and the MIAX Equities Exchange. He noted that IEX has exited the listing space. He asked the panelists to discuss the competitive landscape for exchanges. **Harkins** stressed

the intensity of the competition in the exchange space. He said Cboe has a diverse business set, including equities and options. He stated that exchanges are trying new things and taking a holistic approach to their largest customers. **Cohen** said listing is a scale business which is capital intensive. He stressed that listings are not a duopoly between Nasdaq and NYSE, emphasizing that the market is global. He stated that Nasdaq's listing business is doing very well, but the market is very competitive. He said Nasdaq invests heavily in technology to ensure market quality. He noted that they provide a range of services, such as market surveillance.

An audience member asked if the SEC is constrained in how they can address the market. **Gawronski** said there are some changes that the SEC cannot make without legislation. **Cohen** said the industry should focus on root cause issues rather than symptoms. He stated that they should look at the OPR and the key elements of Regulation NMS. He said there needs to be a better balancing act around OPR. He stated that Europe has taken a thoughtful approach to regulatory reform, though he does not want to recreate MiFID II in the U.S. **Harkins** pointed to the complexity of the rulemaking process for the exchanges, while acknowledging that there are many advantages to being an exchange.

An audience member asked about Cohen's experience with speed bumps. **Cohen** described the differences between the Canadian and U.S. markets. He said Canada has asymmetric speed bumps in place, noting that non-protected markets have gained market share in Canada. He suggested that technology is usually able to bring the market back together. He said Nasdaq has been reticent to move on asymmetric speed bumps unless there are issues which cannot be solved in other ways.

An audience member asked about the exchanges' perspectives on mergers and acquisitions. **Harkins** said exchanges are always looking for ways to reach more users. He suggested that the Refinitiv deal was very large and would be a difficult integration. He said big cross-border deals are very tricky. **Cohen** said Nasdaq is comfortable with its organic strategy over the next 5-10 years. He stated that the next 12 months will be very interesting, pointing to Brexit and the protests in Hong Kong.

Panel: Liquidity in Equities; ETFs & Options

Moderator:

Sapna Patel, Head of Americas Market Structure & Liquidity Strategy, Morgan Stanley

Panelists:

Reggie Browne, Head of ETF Market Making, GTS-Mischler

Steve Cavoli, Executive Vice President, Markets, Virtu Financial

Steve Crutchfield, Head of Market Structure and Electronic Trading Strategy, Chicago Trading Company (CTC)

Sapna Patel (Morgan Stanley) asked how the panelists broadly view liquidity. She asked how they access and provide liquidity across asset classes. **Steve Cavoli (Virtu Financial)** said Virtu accesses liquidity both as an agent and as a principal. He stated that as an agent they seek to access liquidity efficiently based on client instructions. He said agents cannot use static routing tables and need to manage risk in real time. He said there is an increased focus on how firms are accessing the market and the transparency they provide to clients. **Steve Crutchfield (Chicago Trading Company)** said CTC is a pure liquidity provider and market maker in the options market. He stated that in the options market it is very unlikely that buyers and sellers will want the same item at the same time. He

said they options industry is working to bring down the amount of fragmentation in the market. He suggested that the market depends on market makers to streamline the market on a real time basis. He suggested that if the options markets migrated off exchange it would make trading much more difficult. **Reggie Browne (GTS-Mischler)** said GTS recently ported its business to a new platform. He said GTS is one of the largest specialist firms. He stated that the growth of ETFs has created a lot of demand for capital. He stressed that liquidity is not frictionless and there is a cost to risk transfer.

Patel asked about thinning liquidity across asset classes. **Crutchfield** said CTC carefully examines derivatives, stating that there is a data showing a significant reduction in liquidity near the top of the book. He pointed to the impact of machine learning and extreme speed. He said bank capital rules under Basel failed to recognize the netting impact of centrally cleared derivatives, which he asserted makes no sense. He expressed support for the Options Market Stability Act ([H.R. 4233](#)), suggesting it would address this issue. **Cavoli** emphasized the importance of being able to cross-margin. He said not being able to cross-margin could impede Virtu's ability to provide liquidity during times of stress. He noted that Virtu alone has 12 percent market share in names trading 100,000 shares or less. He stated that there is a "ton of liquidity" in these names. He stated that Virtu is the only firm which has its level of institutional flow, retail flow, and market making ability, which allows them to meet client demand. **Browne** said marketplace transparency is needed across asset classes, pointing to fixed income ETFs. He said his biggest concerns are around transparency and market access. He pointed to proposals around fixed income, suggesting that the industry is going backwards in terms of price transparency in the marketplace.

Patel asked about the proliferation of product types, questioning whether there are too many. **Cavoli** said having more products which are interesting to investors is good to the extent they are liquid and correlated. He noted that Virtu makes a market in gold, noting that their hedges are varied, disbursed, and across asset classes. He stated that it is a good thing for them to have more products which allow them to hedge. **Browne** said the private market is growing faster than the public market. He suggested that the corporate bond markets are growing rapidly. He pointed to significant fragmentation of the options market, adding that there is not a lot of transparency in prices. He said there is a large number of Committee on Uniform Securities Identification Procedures (CUSIPs) in fixed income, and he noted that ETFs have brought transparency. **Crutchfield** said a challenge with market capacity for CTC is exchange proliferation. He said they have seen a proliferation of exchanges trading identical products, suggesting that there is a misalignment of incentives. He said market makers and order routers have to connect to all of the exchanges, which creates burdens. He stated that misaligned incentives will drive further exchange proliferation and liquidity fragmentation. He said this makes it more difficult for market makers to provide liquidity, which can lead to a worse investor experience. He stated that one proposal is to address the OPR, suggesting that this is an idea worth considering but it has some challenges. **Cavoli** noted he was referring to a healthy proliferation of products, not exchanges, unless one is talking about MEMX.

Patel said there are 16 options exchanges and there will soon be 16 equity exchanges. She asked if this creates risk and barriers to entry for market makers. **Crutchfield** said the barriers to becoming a liquidity provider have grown. **Patel** said many market makers have exited the options space. She asked why Virtu is trying to get into this space. **Cavoli** pointed to the scale of Virtu's operation, stressing that scale is paramount in this area. He said Virtu has access to a wide variety of markets and a lot of liquidity. He suggested that now is the right time for them to get into the options

market. **Browne** said there needs to be a balance between medallions and competition. He said there should be a higher burden for keeping exchange medallions on the shelf. He suggested that the OPR could be addressed, as could the benefits of being a self-regulatory organization (SRO). He suggested that the retail experience has never been better than it is today. He stressed the importance of scale and marketplace resiliency.

Patel asked about the transaction fee pilot. She said the pilot is partly live, but much of it is held up in litigation. She asked about the impact on issuers. She noted that ETFs which track the same indices could be put into different baskets, suggesting that the pilot could pick winners and losers. **Browne** said issuers do not want to be unfairly put in buckets which may disadvantage them. He said the pilot came out of the Equity Market Structure Advisory Committee (EMSAC) after thoughtful debate. He suggested that the pilot may not be in its final format. **Patel** asked about the impact of the pilot on liquidity provision. **Cavoli** said Virtu likes lower fees. He suggested that access fees are a result of the OPR. He stated that there is a conflict between brokers and clients on routing. He stressed the need to provide transparency to clients. He suggested that he does not want the government too involved in brokering the client-broker relationship. He stressed the need to proceed very carefully in addressing this issue. He asserted that brokers need to be able to provide clear and transparent explanations to clients about how routing decisions were made, suggesting that the market is moving in that direction. **Browne** said ETFs are growing rapidly, stressing the importance of household engagement. He suggested that if there is a change in administration there could be a debate around a financial transaction tax (FTT), which he would oppose.

Patel said there is SEC and Congressional focus on thinly traded stocks. She asked if there is a market structure solution, such as suspending UTP or creating venture exchanges. **Cavoli** said there are “marginal” things which could be done, but investor interest and float are the biggest drivers. He said the SEC’s study on thinly traded names showed that where there is investor interest a stock trades differently than where there is not investor interest. He asserted that investor interest is the greatest driver to trading. **Crutchfield** said CTC is cognizant of the importance of liquidity to well-functioning markets. He stated that there need to be properly aligned incentives to encourage liquidity provision. He said some market structure changes are needed, but regulatory changes can only do so much to drive a market.

Patel asked about asymmetric speed bumps and the OPR. **Browne** asserted that free markets and technology will bring innovation around the speed bump. He contended that the marketplace adapts quickly. **Crutchfield** said CTC supports Cboe’s asymmetric delay proposal and has supported similar proposals in the past. He suggested that doing these experiments is worthwhile. **Cavoli** said Virtu does not like getting picked off, but stressed that the length of the speed bump must be set appropriately. **Crutchfield** emphasized that getting picked off results in worse prices for investors.

An audience member asked what the panelists would like to see the exchanges change, besides market data. **Brown** said he would like to see them change their market data policies.

An audience member asked if there should be more stringent obligations for market makers. **Cavoli** said rebates are a key incentive for market makers. He said he recognizes the desire for stronger market maker obligations, but expressed concern with their impact. **Crutchfield** stressed the need to have a balance between benefits and obligations.

An audience member asked how the corporate bond transparency pilot will affect the fixed income market. **Browne** suggested that it will lead to more ETFs and indexing. He suggested that transparency will bring more innovation and competition to the marketplace.

Patel asked what changes the panelists would like to see in the market. **Brown** asserted that the mutual fund space will move into entirely ETFs over the next 20 years. **Crutchfield** said he would like to see a proposal similar to the Cboe speed bump tried in the options space. **Cavoli** said he would like to see additional transparency and changes to Rules 605 and 606.

Interview: Brian Conroy, President, Liquidnet

Moderator: John Donahue, Executive Director, National Organization of Investment Professionals (NOIP)

John Donahue (NOIP) said this discussion will focus on industry change. He noted Brian Conroy has worked on the buy-side, sell-side, as a hedge fund manager, and in asset management. He asked Conroy about his experience working for Goldman Sachs right out of school. **Brian Conroy (Liquidnet)** clarified that he first spent time as a football coach but said he then oversaw a change in trading operations that included a wave of electronic and algorithmic trading. **Donahue** asked about Conroy's experience at SAC Capital Management. **Conroy** said he served as Head of Trading and oversaw the integration of algorithmic trading business at its nascent stage in order to integrate sophisticated metrics into performance. **Donahue** asked about Conroy's time as Head of Global Equity Trading for Fidelity. **Conroy** recalled work at Fidelity to unbundle before MiFID II and said this brought the firm's commissions down over 40 percent. **Donahue** noted that the number of active managers decreased during Conroy's tenure. **Conroy** emphasized that the integration of electronic tools has substantially changed trading over the past decades and predicted the next wave of change will occur in the investment process. He said working in the asset management space revealed to him the sophistication of the market, and he argued that active managers need to incorporate new technologies including machine learning. **Donahue** noted Conroy had a short stint on the broker-dealer side of Fidelity. **Conroy** recalled there were concerns about counterparty risk and Fidelity's exposure to markets in that business. He said that as a person with sell-side experience, he recognized the need for more sophisticated tools on the buy-side. He explained that he worked to develop an "algo wheel" to facilitate comparisons between different brokers' algorithms. He argued the sell-side worries more about competing than solving buy-side challenges and suggested this approach should change.

Donahue asked about Conroy's transition to Liquidnet. **Conroy** explained he left Fidelity to move closer to his wife's family but said he became involved in Liquidnet due to his interest in making the investment process more sophisticated. He advocated for integrating artificial intelligence (AI) to augment the investment process. He listed Liquidnet initiatives, including the creation of outsourced capabilities for the investment management business. **Donahue** asked whether Liquidnet is more geared toward reducing costs or improving performance for the buy-side. **Conroy** replied Liquidnet attempts to do both. He recalled recent conversations with the heads of large investment banks during which they informed him about reductions in their traders from 120 to 10 over the past decade. He added the buy-side has observed a roughly 50 percent decrease in traders and predicted the trend will continue. He argued that this reduction will require traders to become a bigger part of the investment process.

Donahue recalled the need for expertise and liquidity surrounding the emergence of dark pools in the mid-2000s. He said firms believed that they could always find outside expertise. **Conroy** argued there is now more strategic capital in the market and said this requires fewer traders. He explained this frees up buy-side traders to work with portfolio managers more easily than they could in the past. **Donahue** asked about a recent *Financial Times* article by a former Fidelity president regarding machine learning. **Conroy** acknowledged there is a lot of talk about big data, natural language processing (NLP), and machine learning and stressed these technologies will become increasingly important. He said the proliferation of data has reached the point where no human can process the information. He stated Liquidnet based its business model on new technologies and built its own model by purchasing firms that perform NLP and machine learning. He added Liquidnet is working with 10 asset managers to “fine tune” a system that would provide traders with information processing and recommendations. **Donahue** asked if it is easier to sell products in this current marketplace. **Conroy** noted passive asset managers have outpaced active managers in the U.S. and predicted they soon will in international markets as well. He advocated for the asset management industry to outsource more of its processes and tools. He said the sell-side needs to do the same to reduce redundant processes. He compared Liquidnet’s goal of creating a global investment network to what Amazon has created in the retail space. He identified the firm’s goal as allowing firms that are attempting to beat indices to better connect.

An audience member asked about the difference in regulatory structures between the U.S. and Europe. **Conroy** identified the biggest difference as MiFID II but suggested there might be a different regime in the United Kingdom (UK) as a result of Brexit. He stated 40 percent of asset managers in the U.S. are operating as if they are governed under MiFID II and predicted more firms will migrate to an unbundled approach.

Donahue referenced Charles Schwab’s announcement of a zero dollar commission rates. He asked about retail order flow mechanisms. **Conroy** said there should always be a cautionary approach to getting something for free. He highlighted the benefit of being a diversified firm. He argued that industry tends towards efficiency.

Donahue asked about the corporate bond industry. **Conroy** predicted that it will experience a dramatic transition. He said that a significant portion of changes will entail the electronification of existing workflow. He pointed to signs of increased block trading in dark pools. He noted Liquidnet is engaged in connecting 1,500 global investors in a workflow to receive information compatible with their order management systems (OMS) and combine it with street research.

Donahue attributed historical market changes to new technologies and regulatory events. He said these changes generally come in waves and asked what is set to change in equity markets. **Conroy** praised U.S. equity markets and said changes are not “in the minutiae” given the widespread adoption of new technologies. He reiterated that the change will be in investment process. He advised buy-side traders to become part of the investment process in addition to ensuring best execution. He listed portfolio construction and dramatic cost reductions as the top concerns for asset managers.

Donahue said one threat to buy-side traders is outsourced trading. He asserted Fidelity will never outsource trading but said other firms are beginning to outsource. **Conroy** responded by saying “never say never.” He argued that becoming ruthlessly efficient requires outsourcing and incorporating technologies in ways never before seen. He said that AI and alternative data allows

firms to get investment theses more quickly. He predicted there will be a significant change in markets between active and passive investing in the next 20 years.

2019 Dictum Meum Pactum Award

Canadian Security Traders Association (CSTA) President Peggy Bowie was presented with the STA's 2019 Dictum Meum Pactum Award.

Doug Clark explained the Dictum Meum Pactum Award recognizes individuals who demonstrate a commitment to improving the financial services industry. He announced this year's recipient as Peggy Bowie. He noted she is the President and one of the founders of the Canadian Security Traders Association (CSTA). **Peggy Bowie** expressed gratitude for receiving the award, particularly thanking her husband and sons for their support. She explained that she joined STA to give securities traders input on the rules that govern them. She cautioned against bad rules and excessive regulations, calling them impediments to fair and transparent markets.

Closing Remarks

Speakers:

Jonathan Kellner, CEO, Members Exchange (MEMX)

JJ Kinahan, Chief Market Strategist, Forbes

Steve Quirk, Executive Vice President, Trading and Education, TD Ameritrade

Presentations

Joseph Mecane (Citadel) said this panel would discuss the most important topics from previous panels as well as recent industry announcements.

Jonathan Kellner (MEMX) asked JJ Kinahan to comment on Schwab's announcement of zero dollar commissions. **JJ Kinahan (TD Ameritrade)** clarified that TD Ameritrade also announced zero dollar commissions. He said that a big fear on the brokerage side has been zero dollar commissions and he expressed surprise about the timing of Schwab's announcement. He stated TD Ameritrade is confident that it offers an amazing opportunity given its range of platforms and services. **Mecane** said retail firms have been planning for this over the years by diversifying and asset gathering. However, he acknowledged the timing was surprising. He argued this will be viewed in retrospect as an event that dramatically changed industry and another beneficial change for retail investors. He attributed favorable conditions for retail investors to competitive pressures and regulatory changes, and he predicted these trends will continue. **Kinahan** expressed agreement, saying the advantage for market makers has leveled off in recent years in favor of retail.

Mecane asked Kellner about his perspective on the Order Protection Rule. **Kellner** called the de minimis requirement proposal "interesting." He acknowledged the importance of innovation but said a de minimis rule to get one or two percent to be a protected quote could burden exchanges, as it could be too expensive and create a barrier for new exchanges. He expressed preference for having a potential exchange launch as an ATS as a solution to this issue. He explained that MEMX is launching as an exchange because it believes it has a business model to achieve market share. **Kinahan** emphasized the importance of competition and suggested that adopting a de minimis rule should include a probationary period to allow a new exchange to compete. **Kellner** said most new exchanges are not going to charge for market data or connectivity. **Mecane** brought up questions

about best execution obligations, pointing to a case of an unprotected venue with liquidity. **Kellner** said it would be difficult to opt out of that market.

Kinahan noted speedbump proposals and asked whether they should exist and what position MEMX is taking on the issue. **Mecane** noted Citadel has a general opposition to speedbumps. He explained the goal of asymmetric speed bumps as giving the liquidity provider time to cancel their quote. He called this a bad direction for market structure. He said the optionality would help in some strategies but would create a “lowest common denominator” scenario by removing competitive incentives. He argued it would have negative consequences for non-sophisticated participants and is the wrong direction to go. **Kellner** emphasized that MEMX did not consider speedbumps and is instead attempting to simplify the market. He contended that simplifying the market with newer technologies will create a more deterministic exchange that allows market makers to better manage risk and allows institutional investors to model performance in algorithms.

Kinahan asked how MEMX is competing on technology. **MEMX** stressed that technology evolves quickly and said the technologies to build an exchange have already changed since five years prior. He argued MEMX’s focus on incorporating technologies gives it a competitive advantage. He provided the example of hyper convergence infrastructure, which he explained is a more compressed space into which MEMX can put more computing power and networking to build an exchange on one rack as opposed to 20 racks. He acknowledged that other exchanges are running with strong technology but said MEMX will provide more stability by running across only one rack. He added it will create more simplicity in the exchange built to provide more deterministic outcomes. He identified the cloud as another example of a technology that will allow MEMX to offer more efficient products. He stated MEMX will deliver data on the cloud, which will allow firms to access the data at lower costs.

An audience member asked if retail will trade more with zero dollar commissions and whether that is a good outcome. **Kinahan** expressed hope that retail ultimately trades more, but not in the short-term. He highlighted that TD Ameritrade spends a significant amount of time on education, noting 35 percent of its trades are derivative trades. He explained that TD Ameritrade is able to do this because it engages its customers. He identified the biggest challenge for retail investors as managing their limited capital, and said TD Ameritrade educates its investors on how derivatives can be used. He explained TD Ameritrade launched a mobile application as well as established the TD Ameritrade network to help with investor education. He noted it is expensive and timely for retail firms to get new customers and expressed concern about losing customers without having time to educate them on an investment strategy. He reiterated concern about retail customers significantly scaling up their trading without education. **Mecane** asked about the elasticity of demand with commissions and if people think of trades in terms of marginal costs of trading. **Kinahan** emphasized that people do consider commission costs. He said they care mostly about the average cost per-trade over time. He said the more sophisticated the investor, the more they understand what is and is not negotiable.

An audience member asked if a better environment for retail means a worse market for institutions. **Mecane** replied the relative difference in trading on retail platforms has diminished. He said it continues to get cheaper to trade on retail platforms and predicted that the relative proportion of retail investment will increase. He clarified this is not necessarily bad for institutions but merely a change in the sources of liquidity. **Kellner** said it is not a zero sum game, as both benefit from innovation. He said there have been improvements for institutional brokers, including developing

ATs for block investments. **Kinahan** said more retail volume has translated into better product offerings.

Mecane referenced the SEC's recent proposal requiring all NMS plan fee changes to go out for notice and comment. **Kinahan** replied that despite complaints about prices, everyone acknowledges the value of market data. He said the SEC proposal is more aimed at how prices are set. He noted the SIP committee has been more transparent, but he advocated for granting voting rights for market participants in order to take the next step to improve market data price transparency. He expressed confidence that suspicion regarding fee increases would diminish with more transparency. **Kellner** noted MEMX is not going to initially charge for market data or connectivity fees but will charge for those over time. He said it will have a different model based on efficiency and transparency to give industry a better understanding of the costs and markups reflected in the prices. He recognized there are competing thoughts about what to include in SIPs, particularly mentioning odd lots. He argued it is time for meaningful change on governance issues and more competition. He also pointed to concern about single points of failure. He emphasized that exchanges should still be able to charge for market data. **Kinahan** stated TD Ameritrade is the largest redistributor of SIP data and added that audits are more complicated than necessary. He said there are possible changes to ease that process. **Mecane** suggested there is broad agreement on the need for governance changes.

Kellner asked if there are concerns about investments in a low interest rate climate. **Kinahan** noted TD Ameritrade reviews its clients' data and reports an Investor Movement Index (IMX). He explained the data is published monthly, and the IMX evaluates client exposure based on information from traders who make at least one trade monthly. He stated the results have shown that clients have been very cautious and have lowered exposure almost every month this year. He gave the example of Apple, which is the number one stock held by the firm's clients but has been a net sell nearly every month this year. He explained that millennial clients invest disproportionately in marijuana stocks but argued this could be a reasonable investment for them given the changing legislative landscape and time horizon for those investors. He emphasized that investors, including those making only one trade monthly, are attuned to the market. He acknowledged that the other stock which has garnered interest from millennial investors is Uber, which has not performed well. He particularly highlighted the importance of educating investors on the time horizons for their investments. **Mecane** noted Citadel observes a lot of ETF flows and tracks asset allocations. He said that over recent months it has also observed a reduction in international exposure and an increased interest in fixed-income investments at the retail level. He added Citadel also looks at initial public offerings (IPOs) and said there is a substantial amount of uncertainty regarding the future IPO calendar. He suggested there is a sense of nervousness in companies looking to go public which may cause them to delay their IPOs until 2020. He also highlighted the conversation surrounding direct listing transactions, saying the venture capital (VC) community has expressed concern about being "shortchanged" in the IPO process. He argued there is momentum towards moving the capital raising structure to a direct listing process.

Kinahan noted the U.S. is approaching an election year and asked if the issue of highest concern is the financial transaction tax (FTT). He stated the idea is gaining traction in the media. **Mecane** replied Citadel is very focused on this issue, particularly during election seasons. He emphasized that most of the fees would ultimately be passed on to Main Street retail investors or pension funds. He explained that most European markets which get referenced in this conversation chose to include a significant number of exceptions when implementing their tax, and as a result observe little revenue

gains or impacts to liquidity. However, he contended that the current U.S. proposals would have a far more significant impact. He expressed the hope for a low likelihood of moving forward with these proposals. **Kellner** contended it would not be good for liquidity and spreads if the tax was implemented. He said when MEMX gets its exchange license it is committed to advocating on behalf of its investors on this issue. **Kinahan** stressed that under Senator Bernie Sanders' (I-VT) FTT plan, which is 50 basis points on equities, the costs would be passed through to clients. He explained that the proposal would result in the average client trade paying \$160 in taxes on investment trade. He noted that after Italy passed its FTT, it raised only 18 percent of projected revenue as a result. He added that France took in under 50 percent of expected revenue from its tax. He stated a number of Congressional offices he visited with were equally resistant to the tax, while others argued the tax might be necessary to address record federal deficits.

An audience member asked if there are too many ETFs, and too many strikes in the options market. **Mecane** expressed little concern about the number of ETFs because products will fail if they have insufficient assets. **Kinahan** said that a lot of the liquidity has gone to 25 or 50 names and described it as "self-selecting." He stated new retail investors are often overwhelmed by the number of strikes in the options market. He asked how hard it is to constantly quote. **Mecane** said it is difficult and inefficient on the options side.

Kellner asked why exchanges have struggled to bring in retail liquidity. **Mecane** attributed the failure of retail programs on exchanges to strategic changes at the exchange level. However, he argued that retail is coming back into focus for exchanges. He said the intention has never been to compete with wholesalers. He argued that the ability of wholesalers to use capital to improve the retail experience is difficult for exchanges to compete with. **Kinahan** said TD Ameritrade will support anything that is good for its clients, including price improvement through exchange programs.