WILLIAMS & JENSEN, PLLC

Fr: Alex Barcham and Thomas McGrath

Re: Security Traders Association 86th Annual Market Structure Conference – Day 2

Dt: October 3, 2019

<u>Summary</u>

On October 3, the Security Traders Association (STA) continued its 86th Annual Market Structure Conference. The panels at the conference included: (1) an interview with SEC Division of Trading and Markets Director Brett Redfearn; (2) The Consolidated Audit Trail; (3) a fireside discussion with Mehmet Kinak, T. Rowe Price, and Ronan Ryan, IEX; (4) Broker Dealers Response; (5) a speech by Steph Davis of Climb2Fly; (6) ETFs & Fixed Income; (7) The Value of the Public Markets; (8) Private & Venture Markets; and (9) Buy-Side Innovation, Rules, Regs, and More.

STA President and CEO Jim Toes explained that the House Financial Services Committee has a new Subcommittee on Diversity and Inclusion, noting that some STA Women in Finance members would be meeting with Congressional staff today.

<u>Interview: Brett Redfearn, Director, Division of Trading and Markets, Securities and Exchange Commission</u>

Moderator:
Dan Keegan, Global Co-Head of Equities and Securities Services (ESS), Citigroup

Dan Keegan (Citigroup) said more and more segments of the market are becoming interested in market structure, suggesting that this is partly a result of Redfearn's engagement. He stated that having so many parties involved makes it difficult to create consensus. He asked about Redfearn's experience at the SEC. **Brett Redfearn (Director, Division of Trading and Markets, SEC)** stated that he appreciates the large responsibility he holds. He suggested that the job is both demanding and rewarding.

Keegan said he was very supportive of the tick size pilot, but it faced challenges related to cost and structure. He asked about the status of the SEC's efforts on thinly traded stocks. He asked if there are certain stocks which will always be thinly traded or if the SEC and the market need to act. **Redfearn** said one of the first things he was involved in at the SEC was shutting down the tick size pilot. He noted that just because it did not solve the problem of thinly traded securities does not mean that the SEC cannot do something to address it. He emphasized that there are still significant issues around thinly traded stocks, pointing to the comments at last year's SEC roundtable. He questioned whether thinly traded stocks that have a limited number of trades per day should be on all traded on all 13 exchanges and at the same increments. He suggested that while there may not be a miraculous solution, there is potential for innovation in this segment. He stated that the SEC is looking at whether there are rules impeding innovation, adding that the SEC is interested in hearing proposals. He expressed hope the SEC can take some action in this area.

Keegan asked about the transaction fee pilot and the lessons learned from the tick size pilot, including how construct a pilot. He said Redfearn may be limited in what he can say due to the pending litigation. **Redfearn** asserted that the tick size pilot is not the model for the transaction fee pilot. He said the tick size pilot showed that the SEC should move on and end a pilot when the data tells them to. He stated that the Equity Market Structure Advisory Committee (EMSAC) originally focused on maker-taker and rebates, stating that the transaction fee pilot is meant to collect data in this area. **Keegan** asked about the NYSE counter-proposal on the no rebate bucket. He asked if the SEC seriously considered this proposal. **Redfearn** said the SEC read all 148 comments on the transaction fee pilot. He stated that there was a great deal of support for having a segment which did not include rebates. He said they slimmed down the pilot to just a no rebate bucket and a 10 mil bucket. **Keegan** asked about the SEC's interaction with the issuer community on this issue. **Redfearn** said they received some comment letters from issuers. He stated that he made a point of reaching out to the issuer community more on this and other issues.

Keegan said the SEC has also focused on retail investor fraud under Redfearn and Chairman Jay Clayton. He asked for an update on this effort. **Redfearn** said the SEC recently proposed changes to Rule 15c2-11. He noted that they held a full day roundtable on retail investor fraud, which included a lot of discussion on Rule 15c2-11. He stated that their proposal focuses on the piggybacking exception, which allows broker-dealers to publish quotes for a security in reliance of the quotations of another broker-deal that initially performed the review of the issuer's information. He noted that if an issuer is not keeping their information current, then there would be no more piggyback exception He emphasized that Chairman Clayton is heavily focused on retail investor fraud.

Keegan said there were commission price cuts in the retail broker space recently. He questioned what it means for the brokers' models, including payment for order flow and execution quality. He asked if these price cuts raise concerns to Redfearn. **Redfearn** said this was a new issue which he has not examined closely, but emphasized that best execution obligations do not change. He added that Rule 606 addresses retail orders and includes a requirement to disclose specific arrangements related to payment for order flow (PFOF). He noted it is good to see competition drive down costs.

Keegan pointed to the tremendous amount of focus on the SEC's market data roundtable, and that Redfearn mentioned at that roundtable the issues of transparency, governance, infrastructure, and financing (TGIF). He stated that there has been a great deal of activity in the market data space. He asked about the recent letter from SIFMA, ICI and others calling for additional input into governance. **Redfearn** expressed appreciation for industry engagement and comment letters. He said transparency is one of Clayton's fundamental principles for market structure. He said transparency was a driving principle behind the proposals on Rule 606 and on alternative trading systems (ATSs).

Keegan questioned why the industry does not have greater representation and voting rights related to the Securities Information Processor (SIP). He suggested that there is general support for making this change. **Redfearn** said governance was discussed quite a bit at the market data roundtable, with many calls for industry to have greater input on National Market System (NMS) Plans and the SIP. He said the governance structure goes back to the formation of the Plans in 1975. He stated that one exchange has proposed giving two votes to advisory committee members. He said there are also proposals related to confidentiality. He stated that the SEC is still considering what should be done. He said the SEC has questions and they are considering whether non-self regulatory organizations (SROs) should have votes on these plans and what should be the obligations of the non-SRO participants.

Keegan asked who should fund infrastructure efforts to enhance the SIP. He noted that there was a recent announcement around odd lots being part of the SIP. **Redfearn** said most broker-dealers already use proprietary data feeds which include odd lots. He stated that the SEC has asked whether the content of the SIP has kept up with the market, including odd lots and depth of book. He noted that they are also examining how to address the speed issues. He said the SEC is looking at how odd lots should be handled. He questioned what the difference notionally is between 100 shares at $10 and 10 shares at $100.

Keegan said the SEC recently put out a proposal on exchange fee filings. He asked what drove this proposal and where it stands. **Redfearn** said in May the SEC put out staff guidance, emphasizing that this is only the staff's views on how firms can meet their obligations. He said the guidance was meant to provide clarity about how it would affect others. He stated that the guidance encouraged firms to provide more evidence for the claims made in their fee filings, including how competitive forces are evident, whether there are reasonable substitutes, and platform theory recently.

Keegan asked about cross-asset market structure, noting that market data transcends asset classes. **Redfearn** said the market is "incredibly linked." He stated that the Flash Crash demonstrated how something from the futures market can spill over into the equities market. He noted that his focus goes across asset classes, pointing to the creation of the Fixed Income Market Structure Advisory Committee (FIMSAC). He said the FIMSAC has been very productive and would be holding its next meeting in November, likely in New York. He stated that the FIMSAC has made recommendations, including a block pilot program and new issue reference data. He said in the past the SEC was rightly criticized for not focusing enough on fixed income, suggesting that they have worked to address this.

Keegan said the SEC took action on unbundling in September 2017 by imposing a 30 month moratorium. He stated that the moratorium will end in 9 months. He asked about Redfearn's views on potential SEC action. **Redfearn** said this issue is a big priority for the SEC. He stated that they are looking to provide more information to the market on what is next, but they have not yet reached that point. He said in the "near-ish future" they will provide more information on what will happen on the no-action relief which expires in 9 months, and also 28(e) of the Exchange Act. He noted that they are working with European regulators and have expressed their concerns to them. He said they have asked the European regulators about the impact on small brokers and small asset managers, as well as what it might mean for smaller issuer companies. He noted there is a concern of a possible impact on capital raising for companies. **Keegan** asked about the interplay with global regulators. **Redfearn** said there are very different regimes in the U.S. and Europe on payment for research. He noted that the SEC previously put out no-action relief. He emphasized that the SEC is working closely with the European regulators. He suggested that industry look at the EU directives to see how they could be modified to address issues in the U.S.

Keegan asked what issues Redfearn is concerned will emerge during the next bout of volatility. **Redfearn** stressed the need for the industry to look at once every ten years or once in a generation events. He noted that market-wide circuit breakers and Limit Up/Limit Down (LULD) are now in place. He said the market just moves very fast now, suggesting that not all problems can be blamed on algorithmic or high speed trading. He said there are still questions about how the circuit breakers and LULD would work in practice today, as there are a lot of new variables in the market. **Keegan** said new rules and regulations have been put in place to prevent market shocks, but the next event will not be the same as the last one. He suggested the industry does not do enough testing.

Redfearn suggested that there should be a more robust market wide test on a circuit breaker event. He said they should look at and simulate behavior in addition to technology.

Keegan said it is challenging to reach consensus on any issue in the industry. He commended Redfearn's leadership in trying to reach consensus. He asked how Redfearn chooses which issues to focus on and how he finds the courage to deal with the "arrows" being shot at him when he cannot placate all industries. **Redfearn** said consensus is ideal, stating that they were able to find consensus on issues like ATSs and dark pools. However, he noted that there are other issues where consensus is not possible, but the SEC should not shy away from those areas. He stated that they focus on ensuring that rules are fair, equitable, and do not impose undue burdens.

<u>Fireside: The Consolidated Audit Trail</u>

Moderator:
Judy McDonald, Associate Director and Head of Compliance Technology, Enterprise Risk and Enterprise Order Management, Susquehanna International Group (SIG)

Panelists:
Shelly Bohlin, Chief Operating Officer of FINRA CAT LLC
Manisha Kimmel, Senior Policy Advisor, Regulatory Reporting, SEC

Judy McDonald (Susquehanna International Group) asked about the structure of FINRA CAT. **Shelly Bohlin (FINRA CAT)** said FINRA was chosen as the CAT plan processor. She noted that FINRA CAT is a wholly owned subsidiary of FINRA and is subject to direct oversight by the SEC.

McDonald said Bohlin and Kimmel have both been in their jobs for about 9 months. She asked about the surprises they have encountered. **Manisha Kimmel (SEC)** said she was surprised by the interaction across the various divisions of the SEC. She asserted the divisions have all worked together to ensure the CAT data is usable. **Bohlin** said there are many different facets and aspects to the CAT. She said the challenge is ensuring that FINRA CAT can adequately communicate with industry, which they are continuing to improve.

McDonald asked what advice they would like to have gotten before taking over their roles. **Kimmel** said working on CAT requires thick skin, as people have many opinions on CAT. She stated that her issues of focus include personally identifiable information (PII) and access to CAT data. She said she views CAT as a productivity tool, so she was surprised it became a partisan issue. **Bohlin** stated that there are many different constituencies involved, noting that options have their own set of challenges. She said the industry has been actively engaged in bringing in solutions, commending the progress which has been made.

McDonald said the process of building the CAT has not always gone smoothly, but there has been an uptick in the last 9 months. She asked if there should be a "post mortem" to find lessons learned from the process. **Kimmel** said CAT needs to be managed like a large-scale technology project. She noted that the proposed amendments included an operational transparency component and a financial accountability component. She explained that the transparency component requires submission of an implementation plan and progress reports. She stated that the financial accountability amendments include milestones for implementation leading up to full implementation. She said if the SROs do not reach those milestones the amounts they can collect from the industry are reduced. **McDonald** said some industry members are worried about disrupting collaboration. **Kimmel** responded that the proposal sets guideposts. **Bohlin** agreed that CAT is a large-scale technology project which is multi-faceted and complex. She stressed the importance of information sharing and technology.

McDonald asked about the recommendations from EMSAC. **Kimmel** noted that she was previously an EMSAC member and she supports their recommendations. She noted that one recommendation was around data-driven decision making. She stated that they also issued a recommendation on NMS plan governance. She suggested that the NMS plan issues go beyond CAT and would be best addressed outside of CAT. She said EMSAC recommended giving the industry more input into NMS plans, noting that there was previously a lack of industry inclusion on CAT planning and suggesting that a lot of progress has been made. She stated that the last recommendation dealt with regulatory duplication, noting that SRO obligations do not change after they receive CAT data. She emphasized that CAT data is only meant to be used for regulatory purposes. She suggested that there are several ways CAT data obligations can be used, such as through restructuring support agreements (RSA).

McDonald said CAT functionality is being delivered incrementally. She asked what the SEC can do with CAT data prior to industry reporting. **Kimmel** said there are multiple things they can do just using the SRO data, such as looking at LULD and spoofing. **McDonald** asked if CAT data could be used instead of pilot programs when it is completed. **Kimmel** responded that she hopes so. **McDonald** suggested that analytics could be applied to CAT. **Kimmel** agreed that this is their goal.

McDonald asked about cybersecurity and the CAT. She said CAT would create an unprecedented repository. She asked what is being done to secure PII, as well as order and transaction data. **Kimmel** said every aspect of CAT is scrutinized from a security perspective. She emphasized the sheer number of security requirements in the CAT plan today. She said the SROs are required to subject themselves to third party penetration tests and audits. She said the SEC's proposal would remove Social Security numbers and certain other information, which she supports. **McDonald** said the proposal goes a long way in addressing the issues around identity theft. **Bohlin** said identity theft is an area of focus and the plan to limit the data collected is a good step.

McDonald asked what the SEC is doing to ensure that broker-dealers do not pay an excessive portion of CAT costs. **Kimmel** said the Exchange Act requires that fee filings must be fair, equitable and not impose undue burdens. **McDonald** asked about the cost drivers for CAT. **Bohlin** said the largest cost drivers are the technology costs, pointing to the massive amount of data storage needed. She said there are also project management costs.

McDonald asked how the panelists would define a successful CAT. **Kimmel** said her goal is for every panel at future STA conferences to use data derived from the CAT. **Bohlin** said her goal is for CAT to provide data which can be usefully served up to regulators.

<u>Fireside: Mehmet Kinak, T. Rowe Price, and Ronan Ryan, IEX</u>
Moderator:
Melissa Hinmon, Director of Equity Trading, Glenmede Investment Management LP

Melissa Hinmon (Glenmede Investment Management) asked about the CAT and Rule 606. **Mehmet Kinak (T. Rowe Price)** suggested that the CAT is "probably necessary," suggesting that the explanation of the Flash Crash is still "fuzzy." He said the buy side has sought more transparency under Rule 606 for a long time. He described the routing data they receive from brokers as "shitty," stressing the need for standardization and suggesting that Rule 606 will help with this. **Hinmon** asked if IEX Astral is still necessary given the changes to Rule 606. **Ronan Ryan (IEX)** suggested that there is still a demand for Astral from the buy side, noting that IEX is close to rolling it out.

Hinmon asked about the reaction to Virtu buying ITG. **Kinak** said there was fear about the impact of this transaction. He said there was concern that Virtu would blur the lines between their businesses. He asserted that he feels safe that they will not misuse the data, but others are concerned.

Hinmon asked if Astral will be filed with the SEC and audited. **Ryan** said their documentation assures brokers that the data will be walled off. He emphasized that no one on the IEX exchange will be able to see Astral data. He said they will be completely separate entities under the IEX Group.

Hinmon asked for Kinak's views on the transaction fee pilot. **Kinak** said he raised concerns to the SEC about maker-taker pricing model going back to 2010. He suggested that maker-taker is the root of many problems in the market, contending that it affects order routing. He suggested that Regulation NMS is also a root cause of issues in the market, stating that he is an advocate for eliminating the Order Protection Rule (OPR). He suggested that the largest and most liquid stocks do not need a rebate to drive trading. He said the EMSAC looked at alternatives to the transaction fee pilot, but ultimately always came back to reducing access fees. He disputed claims that the pilot program will hurt issuers, challenging the letter submitted by Home Depot. He asserted that the people who oppose the pilot benefit from the conflict.

Hinmon said on August 9, IEX filed to modify its fee schedule. She asked why they did so. **Ryan** said they filed to charge for ports. He noted that they previously signed onto a letter to the SEC on exchange market data and technology costs, which helped lead to the SEC market data roundtable. He noted that IEX does not charge for market data. He said IEX put out a white paper in January 2019 breaking down their cost structure. He said they decided to charge for ports to provide an example for how exchanges should charge for technology. He stated that they chose to charge for ports, noting that 22 percent of the ports connected to IEX were not used at all. He said they have proposed to give away the first five ports for free and charge for any additional ports. He stated that the way the exchanges charge for technology is egregious.

Hinmon said the all-in cost to trade on IEX is higher than the cost to trade on NYSE or Nasdaq. She asked why IEX does not lower its transaction cost in order to gain market share. **Ryan** said it is not true that lowering transaction costs would expand IEX's market share. He questioned who NYSE and Nasdaq are cheaper for than IEX. He said IEX writes checks back to broker members on a monthly basis. He suggested that for 70 percent of trades, one side is paying 30 mils, which is much higher than IEX's 9 mil rate. He suggested that looking at average transaction costs is foolish, comparing it to looking at the average wealth a town with 999 poor people and one billionaire.

Hinmon said IEX and Nasdaq have looked at segmenting the market, such as through the IEX Discretionary Peg (DPeg). She asked if this is a natural evolution of the market and if it is a concern for the buy side. **Ryan** said this is a good idea, suggesting that there is no real segregation. **Kinak** said segmentation is an important function that the exchanges are trying to solve for. He said

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exchanges have to offer fair access to everyone, which is challenging. He emphasized the importance of the quote, stressing that the quote must stay clean. He suggested that the quotes do not stay clean when speed bumps are introduced. He said he is fine with segregating clients as long as the quote stays clean.

Hinmon asked how IEX's new liquidity program differs from the prior program attempted by NYSE. **Ryan** said IEX is incenting attested retail orders to trade at the mid-point on IEX. He suggested that the program just started and will be ramped up slowly. He said it is hard to know if the program will be successful, but it is worth trying.

Hinmon asked about changing market hours. **Kinak** said it would make a lot of sense to shift market hours 30 minutes earlier. He suggested that this would have a lot of benefits, such as overlap with Europe. He suggested that it would also give firms more time to run their overnight technology processes. He asserted that this would not affect liquidity. He noted that Europe is considering a similar change.

<u>Panel: Broker Dealers Response</u>

Moderator:
Joe Wald, CEO and Founder, Clearpool

Panelists:
Heidi Fischer, Head of Electronic Trading, Instinet
Jack Miller, Head of Trading, Baird
Pankil Patel, Head of Electronic Trading Americas, Bank of America Merrill Lynch
Andrew Volz, Managing Director, Head of Prime Brokerage Services, JonesTrading

Joe Wald (Clearpool) asked how brokers are responding to new regulations around transparency and Rule 606. **Heidi Fischer (Instinet)** said there has been a push towards automation, noting that Instinet has been focused on allowing partners to access their services in an "a la carte" fashion. **Pankil Patel (Bank of America Merrill Lynch)** said clients are looking to strike the right balance in their trading process as they move towards electronification. He stated that brokers do not need to be full scale to everybody. He suggested that there are opportunities for broker-dealers to differentiate themselves. **Andrew Volz (Jones Trading)** said Jones is one of the few firms excited about Rule 606 changes. He said the regulatory environment keeps adding costs, which is leading firms to focus on their strengths. **Jack Miller (Baird)** said there are very real commercial pressures on both the buy and sell sides, due to fee compression and the shift in assets from active to passive management.

Wald said the buy side is hyper-focused on both costs and execution quality. He asked how a balance can be struck between the two. **Miller** said the brokers are trying to strike this balance. **Volz** said he spends a lot of time walking firms through the notional costs of slippage. He said there is a "we want cheap" attitude on the buy side, stating that he has worked to convince them of the value of quality. He said it is up to brokers to use Rule 606 data to demonstrate their execution quality to clients. He stated that they have a responsibility to educate clients. **Patel** said best execution is evolving due to decoupling. He stated that brokers are looking for partnerships with the sell side. He said they want to be able to measure every segment of their execution process. **Fischer** said the changes have affected how the sell side is hiring, leading to a greater focus on technology.

Wald said best execution is different for everyone. He asked how brokers are working with clients on best execution. **Volz** said they are working to provide clients with a good package of transaction cost analysis (TCA) data. He stated that they educate clients on what is appropriate in terms of best execution. **Fischer** stressed the need for brokers to have strategic conversations with clients about what they are looking for and then use their platforms to best meet those goals. **Patel** said the brokers should be striving to open up the "black box" around their platforms, so they can optimize for clients. **Miller** emphasized the importance of having strategic conversations with clients about what they are looking for, both initially and on an on-going basis. He stressed the importance of providing context to clients about TCA data.

Wald asked about the influence of MiFID II and its "contagion" to the U.S. **Miller** said MiFID II is a huge deal, suggesting that it is as big of a change as Regulation NMS was. He pointed to the changes around research, suggested that its impact has reached the U.S. He said the separation of research and execution has been accelerating. He asserted that this change is not conflict free. **Volz** said the buy side is split on whether MiFID II will be implemented in the U.S. **Patel** stated that MiFID II has led to a further push towards the quantitative side. He said MiFID II is changing the landscape for brokers, including who they hire. He said brokers are competing with the tech sector for data scientists, which is difficult. **Fischer** said firms are moving more towards third party analytics. She said clients are looking more quantitatively at data. She suggested that in Europe people are reducing the number of brokers and strategies they are using, so that they can better understand how everything is working. She contended that this is actually impeding innovation.

Wald said Rule 606 is meant to shine a spotlight on broker routing practices. He asked what the impact of the changes will be when they are implemented. **Fischer** said people are refocusing on the bottom line of their performance, rather than on the specifics of how they are routing. She suggested that a similar trend will occur with Rule 606. **Volz** said he is skeptical that the changes to Rule 606 will really change trading practices in the long term. **Miller** said he does not believe Rule 606 will change the landscape much, as there has already been an increased focus on transparency. He said Rule 606 will lead to additional standardization around routing transparency. **Patel** said Rule 606 will help the buy side with their internal processes for justifying routing practices. He suggested that Rule 606 will help to keep brokers honest, but cautioned about its impact.

Wald asked what the brokers expect to see going forward. He suggested that there may be a reconsideration of Regulation NMS and the OPR. He asked if the U.S. regulators have the right agenda. **Fischer** said the OPR should be reevaluated, though the changes that Canada made may not be the right solution for the U.S. She stated that she would like to see more focus on closing mechanisms, stating that the SEC and the industry should seek greater consistency. **Patel** said there is still competition in the marketplace. He stated that the segmentation of liquidity is extremely important, stating that he would like to see more evolution in this area. **Volz** said firms have limited resources, suggesting that new regulations can take resources away from innovations which can help clients. **Miller** said there is now sensitivity at the SEC to the cost of regulation, which is a positive development. He stated that there are pain points in the market, but overall they are in a good spot.

Wald said the SEC and FINRA have been more collaborative with industry in the last few years. He asked what would be on the panelists' regulatory wish lists. **Volz** said there are a lot of price pressures on brokers, stating that many providers are not adjusting. He stated that he would like to see technology and market data providers adjusting to changes in the market. **Miller** said he does not have market structure tinkering on his wish list. He stated that he is interested in how to

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encourage more companies to go public. **Fischer** said they should consider an end to continuous trading and moving to an auction.

<u>Speaker: Steph Davis, Climb2Fly</u>
Panelists:
Tim Mahoney, CEO, BIDS Trading
Kate Faraday, Managing Director, Portfolio Manager Equities, PineBridge Investments
Eva Walsh, Executive Director, JP Morgan Asset Management

A representative of the STA Women in Finance Committee spoke on the benefits of diversity to financial performance. She said members of the Women in Finance Committee were meeting with the staff of some members of the House Financial Services Committee's Subcommittee on Diversity and Inclusion. She noted that Steph Davis was the first woman to free climb the Salathe Wall on El Capitan and the second woman to free climb El Capitan in less than 24 hours. She said Davis is the most accomplished female free soloist in the world and one of the most accomplished base jumpers. She noted that Davis has written two memoirs and operates a blog at stephdavis.co.

Steph Davis (Climb2Fly) spoke and presented a video regarding her experiences as a professional climber. She noted that prior to discovering rock climbing she had been training to be a concert pianist. She pointed to the rapid growth of the outdoor sports economy over the past 20 years, but noted that there were not the same financial opportunities in this industry when she entered it in 1995 as there are today. She suggested that her economic fears were greater than her fears about climbing mountains. She described her experience in becoming the first woman to reach all 7 peaks in the Fitz Roy range of Patagonia. She stated that she succeeded by studying her environment and strategizing how to overcome it. **Davis** stated that after becoming the first woman to free climb the Salathe Wall she wanted to try something completely different, which led her to pursue skydiving and base jumping. She said she received pushback from her sponsors and the climbing community when she decided to pursue base jumping, suggesting that people are afraid of change. She stated that she found a way to combine climbing and base jumping by climbing to the tops of mountains and then jumping off them. She urged people to not just do what is expected them and to pursue their own path.

Kate Faraday (PineBridge Investments) asked how Davis chose to pursue climbing as a career. **Davis** said it was a difficult choice. She stated that she was pleased by the evolution in the outdoor industry, which allowed her to pursue her passion as a career.

Eva Walsh (JP Morgan Asset Management) asked if Lynn Hill, the first woman to free climb El Capital in under 24 hours, was a mentor to Davis. **Davis** said she was not, but she served as an example and inspiration to her. **Walsh** stated that women in finance find it difficult to find female mentors.

Tim Mahoney (BIDS Trading) asked Davis about the movie Free Solo. He said both Free Solo and Davis' book describe the mental challenges that go into climbing. He asked how Davis deals with stress and stays focused. **Davis** emphasized the importance of mindset and overcoming fear and stress.

Walsh asked about the interesting people Davis has met in her experiences climbing. **Davis** said she has met a lot of people across very different cultures, including in Pakistan and Kyrgyzstan.

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Faraday asked if Davis ever considered leaving climbing and pursuing a more traditional path. **Davis** stated that she has been climbing since she was 18 and could not imagine doing something else. She stated that she has been able to build a career and pursue entrepreneurial endeavors out of climbing.

Mahoney asked about Davis, Faraday, and Walsh's experience in male dominated industries. He asked what lessons they would give to their younger selves. **Faraday** said she has learned to overcome self-doubt. **Walsh** said she wished she had been more confident at a younger age. She encouraged women to reach beyond the roles they are put into. **Davis** agreed with Walsh on the importance of confidence. She stated that being self-critical has helped her in her career. She suggested that in teaching climbing courses she has found that women tend to understate their skill level, while men tend to overstate it. She urged women to be self-critical, but not to let it prevent them from stepping up and pursuing opportunities.

<u>Fireside: ETFs & Fixed Income</u>
Moderator:
Amy Hong, Global Head, Market Structure Strategy, Securities Division, Goldman Sachs

Panelists:
Chris Concannon, President and Chief Operating Officer, MarketAxess
Jim Ross, Executive Vice President, State Street Global Advisors

Amy Hong (Goldman Sachs) said fixed income exchange traded funds (ETFs) have been a major topic of discussion recently. She asked about Concannon's experience since moving into the fixed income market. **Chris Concannon (MarketAxess)** said it has been a great experience. He stated that the fixed income market is evolving quickly. He said there has been a lot of market evolution in equities as a result of ETFs, suggesting that this is also occurring in fixed income. He noted that fixed income is much larger than the equities market, but there is no place to post a quote. He suggested that fixed income is one of the darkest markets on the planet, which he initially found baffling.

Hong said the emergence of fixed income ETFs is a recent development. She noted that fixed income ETFs make up only 20 percent of the ETF market, but they are growing rapidly. **Jim Ross (State Street Global Advisors)** said the first investors in fixed income ETFs were retail investors and not institutional investors. He stated that fixed income ETFs have grown rapidly over the past five years. He suggested that there is not a mismatch in liquidity, commending market makers for making markets and compressing spreads. He said there is now greater confidence that there will be liquidity during times of stress.

Hong said growth of the market is iterative. She asked how market structure in the fixed income markets has evolved to be more encouraging of ETFs. **Concannon** said fixed income ETFs are narrowing spreads in the underlying markets and are bringing liquidity into the market. **Hong** suggested that having a robust ETF market has facilitated price discovery during times of stress. **Ross** agreed that ETFs are being used for price discovery, suggesting that this is a benefit to the market. **Concannon** said the market is still in the early days of fixed income ETF innovation, suggesting that more indices will be coming. He suggested that new investment vehicles will be brought into ETFs. **Hong** asked what types of indices the market will gravitate towards.

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Concannon said there will be sector and factor indices. **Ross** suggested that it will go even further, suggesting that environmental, social, and governance (ESG) ETFs will come to fixed income. He noted that fixed income ETFs are still only 2 percent of the fixed income market, so there is tremendous opportunity for growth.

Hong asked how fixed income investors are using fixed income ETFs. **Ross** said it varies by investor, suggesting that some are using it as a "liquidity sleeve." He pointed to the use of fixed income ETFs by a pension plan which wanted access to the high yield fixed income market, but did not have approval to get into it. He stated that they can be used as a transition vehicle.

Hong asked what other developments will help to liquefy the fixed income market. **Concannon** said the fixed income market is less automated than the equities market. He stated that algorithms with analytics will eventually move into fixed income. He suggested that evolution is coming to fixed income. **Ross** said technology will play a major role.

Hong asked about the ongoing debate on whether there is a liquidity mismatch between the daily redemptions of ETFs and the less liquid underlying assets. She asked how concerned the market should be about liquidity. **Ross** argued that there is not a liquidity mismatch. He stated that ETFs allow fixed income to benefit from the equity structure. He argued that ETFs are reducing spreads in the fixed income market by increasing trading. He suggested that there are structural benefits to ETFs. **Concannon** stated that fixed income ETFs are tiny compared to the overall size of the market, suggesting that they are too small to cause disruptions of the underlying market. **Ross** suggested that bonds will want to be in ETFs, because it will get them more flow.

Hong asked what MarketAxess is planning to further enhance price discovery in trading of underliers. **Concannon** said ETFs use MarketAxess to trade the underliers. He noted that they have 1,600 institutional clients across the planet. He noted that much of the volume on MarketAxess is fully disclosed. He suggested that the market is slower because it is auction-based, noting that they will be implementing a limit order book for more liquid assets. He said there will be a market data fee. **Hong** asked if this is what people mean when they say MarketAxess will be equitizing fixed income. **Concannon** said there will be a "patient walk" to a more electronic market. He suggested that less liquid bonds do not need to be on the order book. He said all of the protocols will be available for clients to choose from. He said the concept of working orders has not yet reached the fixed income market, suggesting that there will be evolution in this area. **Hong** agreed there should be many different ways for the market to transact different bonds, suggesting that they should be able to self-select. She said there is a slice of the market which is very liquid, but much of the market is not. She emphasized the need to have both an order book and requests for quote (RFQ).

Hong asked about the SEC's recently finalized ETF rule. She asked what is most notable for fixed income ETFs. **Ross** asserted that it is a good rule, though it took a long time. He said the rule eliminates exemptive relief, reduces barriers to entry, and levels the playing field. He stated that the rule allows more flexible basketing, which is a benefit for the fixed income ETF marketplace. He suggested that the rule will lead to compressed spreads for fixed income ETFs, which will benefit retail investors. He said the most important thing in the rule was leveling of the playing field for fixed income basketing.

An audience member asked about the SEC pilot program on transparency for block trades. **Concannon** said he is very supportive of transparency, but stressed the need to be careful about disruptive transparency. He said there were objections about the complexity of the pilot, even though the industry was supportive of more transparency. He noted that the Treasury market is still not reported to the Trade Reporting and Compliance Engine (TRACE), suggesting that the U.S. government runs the "largest dark pool on the planet."

An audience member asked if Ross has concerns about how retail investors use fixed income ETFs. **Ross** said he has concerns about retail investors using any product which they do not understand, but not specifically about fixed income ETFs. He urged investors to get financial advice so they can understand the product they are buying. **Hong** said clear and simple taxonomy is important for investor education.

Hong asked what would be the best thing to import from the equity market to the fixed income market. **Concannon** said the U.S. equity market has very tight spreads and is very efficient. He said importing this transparency to fixed income would save investors billions of dollars. He suggested that the mandatory order book would not be healthy for fixed income, but fixed income would benefit from electronification. **Ross** said he would like to see some more transparency, but not the same level as in the equity market. He stated that there are innovations in the equity markets which could improve efficiency in the fixed income market.

<u>Fireside: The Value of the Public Markets</u>
Moderator:
Jim Toes, President and CEO, STA

Panelists:
Steven Cakebread, Chief Financial Officer, Yext, Inc.
Stacey Cunningham, President, NYSE Group

STA President and CEO Jim Toes noted that the capital formation process has changed over time. He stated 2019 looks like it will be a record year for new issuance but recognized the mechanisms for capital formation are very different. He noted this is the first ever STA panel to feature an issuer and emphasized that issuers are showing more interest in how their companies trade. He described Stacey Cunningham as a "true advocate" for encouraging companies to go public. He asked about private versus public market valuations. He questioned why private companies do not compare their value to similar companies in the public market. **Steven Cakebread (Yext, Inc.)** highlighted the importance of aligning investor interests in the private market with those of investors in the public market. He acknowledged there is a different agenda between the public and private markets but advocated for using public companies as references. **Stacey Cunningham (NYSE Group)** said it is helpful to consider how markets have evolved and how public and private companies are now organized. She noted private companies are far larger than in previous eras and attributed this to increased access to private capital. She noted companies have traditionally gone public to raise more capital, gain creditability, attract new investors and companies, gain access to liquidity, and engage in mergers and acquisitions. She argued that the amount of private capital available has changed the calculation for engaging in the initial public offering (IPO) process. She mentioned dual class voting shares and governance issues as additional matters for companies considering whether to go public. She emphasized there is a social good to being a public company because more investors can share in the gains. She suggested that the decrease in IPOs is exacerbating wealth inequality.

Toes asked how much of the current dynamics are influenced by asset managers. He questioned whether issuers are waiting until they achieve the scale to interest asset managers. **Cakebread** replied that venture capitalists taking growth capital has been a disservice to the public markets. He advocated for companies to go public earlier in their life cycle in order to offer investments to a wide range of opportunities. **Cunningham** noted that public markets have superior price discovery and said private companies are more difficult to accurately value.

Toes asked about the difference between a direct listing and IPO process. **Cunningham** said that if the primary driver for a company is not raising short term capital, the company is more likely to consider alternatives to an IPO. She noted that allocating capital to a subset of institutions is not reflective of the broader market and said this has served as a disincentive for companies to go public. She said there has been significant interest in the direct listing model. She explained that a direct listing gives a company the opportunity to file an S-1, have a public period to talk with investors, and get priced on the morning of opening. She clarified this does not prevent a company from engaging in a road show. She argued that a direct listing is a better way of having a company valued by the market as opposed to a road show. **Cakebread** clarified that direct listings would work for some companies and not as well for others, but he expressed support for giving companies an option. He said his firm has used direct listing for block trades. **Cunningham** noted there is no funding raised in direct listings. She said that IPOs entail a delay of six to 10 months before insiders shares are made available to the entire market, whereas direct listings have no lockup period.

Toes asked if the lockup period is intended to protect issuers or those investing for the first time. **Cunningham** said there is some value to issuers to protect them from an "avalanche" of selling. She recalled concerns about an avalanche of immediate sellers in the Spotify direct listing. She argued that now is the time to consider lockups more generally. **Cakebread** echoed Cunningham's comments about six months being too long for a lockup and said this period creates an artificial market. **Cunningham** expressed agreement.

Toes asked about dual share classes. He noted that historically it has been "one share, one vote" and said tinkering with this model has created uncertainty. **Cunningham** emphasized the need for balance on this issue, but said that investors should have the right to choose. She noted NYSE has received pressure to eliminate dual class shares in the U.S., but she expressed concern that this will be another reason for companies not to go public and private markets to grow. However, she argued that the market should be left to decide this governance structure issue. **Cakebread** expressed opposition to dual shares. He emphasized that investors who put in money and keep their shares deserve a vote. **Cunningham** argued that the issue would be less important if companies went public sooner.

Toes recalled the dot-com bubble in the public market in the late 1990s and asked about the potential for a similar bubble to burst as a result of discrepancies between public and private valuations. **Cakebread** explained that he is an advocate of going public sooner, and that private equity should not take all the growth before going public. He emphasized that there is clearly a private sector valuation problem. He said there is an opportunity for more IPOs for more mid-size companies. He acknowledged there are risks to building a public company model but said there are opportunities like Salesforce. He expressed concern about the ability of companies to adequately manage governance and maintain efficiency without public accountability. **Cunningham** noted the SEC has demonstrated support for the public markets and has been responsive by approving the direct listing process, allowing companies to test the waters. She added that confidential filing for all companies has been another way the SEC has tried to ease the process of going public. She stated there is a need to get more companies public sooner. She advocated for either addressing the incentives for going public or placing more investor protections in the private market. She particularly highlighted transparency in disclosures as an area that needs to be addressed in the private market. **Cakebread** argued that private companies have similar issues to public companies, pointing to the paperwork his company incurs from the Bureau of Alcohol, Tobacco, Firearms, and Explosives. He expressed skepticism that going public is substantially harder than running a private company.

Toes expressed agreement, noting all companies are regulated. **Cunningham** said another concern for companies looking to go public is losing visibility with the makeup of investors. She explained that companies are worried that their vision will be less salient amongst a broader group of investors.

Toes noted there has been Congressional legislation and SEC action on capital formation, but some may view some of the actions as helping private markets more than public markets, questioning whether Regulation A changes and potentially venture exchange legislation would have such an effect. **Cunningham** replied there has been work to enhance both markets but argued more flexibility has been given to pre-IPO companies. She stated that JOBS Act reforms such as confidential filings have been an incentive for testing the IPO process. However, she emphasized that existing public companies have substantial challenges in dealing with proxy advisors and shareholder proposals. She noted SEC Chairman Jay Clayton has pointed to shareholder issues as a barrier to companies going public. **Cakebread** praised the emerging growth company (EGC) status but said the transition to accelerated filer needs to be "fine-tuned."

Toes asked if foreign companies should be held to same standards as U.S. companies. **Cunningham** replied there are concerns about audit oversight of foreign companies as well. She pointed to the EQUITABLE Act, which would require foreign companies to delist from U.S. exchanges if their public accounting firms audit reports are withheld from Public Company Accounting Oversight Board (PCOB) auditors. She attributed this to the lack of oversight in markets like China. She expressed preference for including audit oversight and investor protections as opposed to de-listing companies. She argued that de-listing companies would be deleterious to the U.S. market. She noted they lobbying to solve the problem instead of sending companies away from the U.S., otherwise these companies will list somewhere else. **Cakebread** expressed opposition to harmonizing accounting standards, saying U.S. standards are well structured.

Toes noted asset managers expressed concerns about information from Form 13F filings being made public within a matter of days. He asked how important that information is regarding the composition of shareholders. **Cakebread** replied that investors are customers as well and said more available information gives companies a better sense of who their investors are and what the investor pool looks like. He suggested that data will make this information available anyway so it should be available as soon as possible. He noted this information is confidential. **Cunningham** said NYSE sits in the middle on this issue and explained the other argument is that providing real time information on intellectual property (IP) is a problem. She said that giving issuers the information in a more confidential fashion could be a solution.

Toes asked if there are services that were previously offered by broker-dealers that are now offered by exchanges. **Cakebread** responded in the affirmative, noting services on exchanges like NYSE

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have grown exponentially. **Cunningham** noted corporate access is a new service which came as a response to MiFID. She noted exchanges will not replace institutional services but said they could augment the services.

<u>Panel: Private & Venture Markets</u>

Panelists:
Rich Korhammer, Managing Director, SenaHill
Marcus New, CEO, InvestX
Kevin Sampson, President, Equity Trading, TMX
Dan Zinn, General Counsel and Corporate Secretary, OTC Markets Group

Dan Zinn (OTC Markets Group) said this panel will discuss private and venture markets and cover the continuum that precedes the issues discussed on the previous panel. He added the panel would particularly focus on considerations that companies have during all parts of their life cycle. He asked what most companies consider in a capital raise, including misperceptions. **Rich Korhammer (SenaHill)** said capital markets are one of the most important mechanisms for funneling capital to deserving companies. He explained that having to raise two venture capital rounds taught him about the experience of finding initial investors. He said the key considerations for companies raising capital are diluting, valuation, and distractions. He identified three types of investors in the private market: (1) large venture capital firms; (2) strategic investors who believe in the vision of the company in which they are investing; and (3) consortiums, which are a combination of larger investors interested in promoting the company. He emphasized that capital raising is very distracting for senior executives and can divide time between raising capital and increasing revenues.

Marcus New (InvestX) said that private markets have changed substantially and said some misconceptions remain from previous eras, particularly the skepticism about private market liquidity. He acknowledged most of these perceptions have gone away and attributed this to regulatory change and the JOBS Act. He stated the increase in investment limit from 500 to 2,000 shareholders included in the JOBS Act allowed companies to withhold certain information while also building a larger investor base. He noted there are roughly 600,000 startups every year and said only a small percentage get venture capital investment and even fewer generate returns. He described concerns about liquidity in the private markets as unfounded. He emphasized that private companies do not face the reporting burdens of public companies. He said companies going public at present are three times the market size as compared to companies going public from previous eras.

Kevin Sampson (TMX) said many EGCs may not qualify for some of the private paths for raising capital. He expressed support for the variety of public and private capital raising vehicles to cater to companies of varying sizes. He noted early stage companies have different needs and could be looking for acquisition currency to attract talent through a leverage float, or to raise continuous rounds of capital. He emphasized that some of the calculation has to do with the market conditions of the time, including what sectors are valued highly in the moment.

Zinn stated OTC Markets views the public market as a broad spectrum, where they are part of the continuum between private and public markets. He said OTC Markets allows companies to find a home in a place that is not an exchange. He described it as a middle space between traditional public and private markets. He noted that OTC Markets allows companies to do a capital raise with shares that season into public shares. He asked if there are certain types of companies that succeed more in the public or private markets. **Korhammer** said companies that demonstrate growth and consistency as well as performance that meets projections have more choices because these are factors that all investors consider. He stated that a company may choose to stay private to avoid the burdens of the public market if the company has accurate valuation and capital.

Zinn asked if there are signals to reveal which companies can and cannot succeed with a private equity model. **Sampson** clarified that venture capital is not synonymous with private capital. He described venture capital as a vehicle for emerging growth companies, including pre-revenue companies. He said this includes companies looking to take the next step in developing products and are not merely companies looking to market their existing company. He noted that Canada has a public venture market and argued that with appropriate proportional regulation a similar market could support early stage entrepreneurs.

New said companies that have access to investors have no incentive to go public. He stated companies reach an inflection point at 10 years because the early stage venture capital funds expire and management needs to raise capital. He added that employee stock options expire at this point and employees become subject to new taxes. He suggested this is a natural point for companies to go public. He argued it is difficult for companies to compete in an employee stock ownership plan (ESOP) market because employees are unable to exercise stock options as a form of additional compensation. He identified transfer agreements as another issue that companies face when they choose to stay private. **Sampson** expressed confidence that most companies will choose to go public as they mature as the result of these problems. However, he acknowledged there are problems in the public market due to the deferral of this timeline. **Korhammer** said companies that set up an ESOP plan needs to consider whether they will engage in a second capital raising or reserve cash flow if they are revenue positive.

Zinn noted that Treasury Department ESOP rules treat an OTC public company like a private company, requiring such a company offering an ESOP to give the participant a put option right. He noted that the rules for private companies also require a private valuation of the shares. He noted that most private companies have an entirely different set of needs than the Unicorn companies which garner attention from policymakers. Zinn noted they view venture companies as those worth $2 million to $20 million, but he noted venture exchange legislation defines venture companies differently. **Sampson** said companies with a $2 million to $5 million market cap range need the right market structure to support their needs. He recommended tailoring regulations for the benefit of these types of companies.

Zinn asked how investors evaluate companies throughout their life cycle. **New** said there is a correlation between evaluating larger private companies and public companies. He said the unicorn private companies are a $2 trillion asset class and said his firm views these companies as peers with public companies. He said InvestX takes advantage of a structural issue in the private market ecosystem which results from a lack of price discovery. He compared this to block trading in the 1980s and said this creates friction. He explained InvestX attempts to facilitate liquidity in these markets. He said that odd lots can be bought at discounts, adding that odd lots in private markets are less than $20 million. **Korhammer** said that one of the most important things for a company is consistent growth rates. He emphasized that there will be discounts for size but these will disappear over time.

Zinn asked about investor feedback. **Sampson** noted most companies are small illiquid companies which causes significant price dislocation. He said management teams are sensitive to these prices.

He said the role of an exchange is to be a champion for these companies by connecting them with directors that have experience running public companies and profiling them through digital platforms.

Zinn asked about grouping companies by their tenure. He noted biotech companies take a long time to generate a return. He asked if private or public markets are a better path. **Sampson** emphasized that there is no single path because companies have different needs. He acknowledged that capital and liquidity are shared needs but said almost all other needs vary by company. He emphasized that the most important consideration is providing optionality to entrepreneurs so they can choose the best path to make them successful. **Korhammer** expressed agreement and said without options they may turn to a venture capital firm or small public market, which may not be the right option. **New** stressed there are functional changes happening in the capital formation ecosystem. He pointed to crowdfunding and direct listings as new approaches that give more opportunities to retail investors. He predicted these avenues, which circumvent traditional bankers, will continue to grow and create a hybrid system. He argued that companies in Silicon Valley have become more interested in circumventing investment bankers and the traditional IPO process. He reiterated that he expects capital formation to significantly change over the next five years.

Sampson asked about the future of U.S. regulations in the venture space. **Zinn** predicted that new rules like Regulation A and Regulation Crowdfunding will evolve and be used to allow companies to raise capital. He added there is significant conversation about creating venture exchanges on Capitol Hill, but explained that OTC Markets already largely fills this space. He noted they are seeing more focus on other issues, such as ESOPs, margin eligibility, and federal preemption from stringent state laws as additional areas of interest for the federal government.

An audience member asked what Korhammer would change if he had to restart Lava. **Korhammer** said Lava did not expend all of the capital from one of its third capital raising and said he would fine tune the capital from that raising. He added that fixed-income would have been a good space for Lava to engage. He concluded by saying that he is curious about what would have happened if Lava had not been bought by Citi.

An audience Member asked if Silicon Valley observes no benefit from investment banking or is merely frustrated by recent IPO processes. **New** clarified that investment banking will still exist. However, he predicted there will be fragmentation in which parts of companies will go public without an institutional backer. He added that technology will play a larger role in offerings.

<u>Announcement of "STA Job Reentry Program"</u>

STA President and CEO Jim Toes announced that STA is starting a new initiative called the "STA Job Reentry Program" or "STAR." He explained the intent of this program is to help people looking to reenter the industry. He said there will be a packet distributed with information on where people can get industry information and contacts when they are between jobs.

<u>Panel: Buy-Side Innovation, Rules, Regulations and More</u>
Panelists:
Bill Stephenson, Founder, AIR Summit
Vlad Khandros, Managing Director and Global Head of Market Structure and Liquidity Strategy, UBS

Frank Loughlin, Global Co-Head of Equity Trading, AllianceBernstein
Sarah ten Siethoff, Associate Director, Division of Investment Management, Securities and Exchange Commission
Eden Simmer, Executive Vice President, PIMCO
Michael Thompson, Head Trader, William Blair & Company

Bill Stephenson (AIR Summit) explained that Air Summit holds a buy-side gathering to discuss innovation. He noted that each firm thinks about innovation differently and is at a different stage of innovating. He asked how the panelists think of innovation within their firms. **Michael Thompson (William Blair)** replied that from an innovation standpoint, the biggest thing for his firm is building its attribution system and bringing research projects in-house. He explained his firm has used artificial intelligence (AI) to write client letters and said traders have become more engaged in data science. He emphasized the importance of integrating data to create self-sufficiency and lower costs. **Frank Loughlin (AllianceBernstein)** said AllianceBernstein thinks about innovation in terms of the benefits to its clients and cost savings to the firm. He explained his firm uses technology to create better workflows and improve routing decisions for clients. He added that there are ways to broadly use data to improve efficiency and increase analysts' capacity and bandwidth for the benefit of clients. He said data can also improve execution decisions. **Eden Simmer (PIMCO)** said she views the equity trading desk as the "best kept secret" at PIMCO. She noted PIMCO recently hired over 200 technology employees over the past two years. She said the electronification of fixed-income markets is coming. She defined innovation as not just having innovative products but also identifying ways to change the existing framework. She noted PIMCO trades all over equity asset classes and emphasized the need to coordinate with exchanges.

Vlad Khandros (UBS) said UBS is innovating through its engagement with third-party vendors. He said this has helped with delivering orders wirelessly and handling market data to ensure good execution for clients. He explained that some clients care only about parent orders while others are interested in UBS' relationships with its vendors. **Sarah ten Siethoff (SEC)** said that the SEC has worked to make better use of the increasing the quantity of data it receives. She said there are a number of programmers on staff in order to inform regulatory decisions. She pointed to ETFs as an example of market innovation and said the SEC is focused on facilitating innovation in the market.

Stephenson cited a survey which found that 23 percent of buy-side firms are using AI, while 60 percent are not planning on incorporating AI. He noted many traders are worried that AI will be bad for their jobs. He asked if anyone on the panel has looked into AI. **Thompson** argued that new information that can be fed to a trader will facilitate better "on the fly decisions." He said that AI allows for less mining of data and more time spent on decisions. He expressed support for incorporating AI but acknowledged that his firm is not prepared to fully integrate the technology into its processes. **Loughlin** said AllianceBernstein has a data expert imbedded in its quant team. He added they use natural language processing (NLP) to automate decisions and run models, which he predicted would lead to better decision making. He addressed concerns about job loss by saying that the adoption of new technologies is inevitable and it is better to adapt to a changing construct. He expressed confidence that some portion of its daily trading requires human beings and will not be automated. He emphasized the importance of using automation to allow humans employees on more high value tasks. **Simmer** said that if someone is concerned about their job being automated away they are probably not doing enough in their jobs. She noted PIMPCO uses third party products for automation and it tries to look at how the world is evolving. She emphasized the

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importance of incorporating technologies within the investment framework to ensure it is used in a systematic fashion.

Simmer asked how global regulators are approaching innovation, especially as it relates to maintaining fair and orderly markets and preventing technology from being a problem. **ten Siethoff** replied the SEC works to ensure that companies have reasonable processes in place for AI and cybersecurity. She said the SEC understands that the world is not perfect but it expects good processes. She stated that most issues arise from bad processes and she offered assurance the Commission is not attempting to hold companies responsible for things beyond their control. **Thompson** asked if regulators are embracing the potential for new technologies to reduce human error. **ten Siethoff** said the SEC does not view the integration of new technologies as a "plus/minus" proposition. She gave the example of robo advisors and said there are benefits in terms of lower costs but potential problems related to investor understanding. **Stephenson** stressed that the ability to explain automation can reduce discomfort. He argued that portfolio managers are more concerned about AI than traders because they do not understand the processes as they relate to portfolio construction.

Khandros noted major retail broker-dealers announced zero dollar commissions over the past few days. He asked if this trend will move into the asset management space and whether investors will ultimately "get paid to directly trade." **Thompson** said that for a lot of companies, the trading revenue is small. He argued that "you get what you pay for." He said he is still willing to pay for sell-side engagement and expressed concern about asset management going to zero commissions. He said this would create OTC implied spreads. **Loughlin** expressed skepticism that institutions would pay retail investors. **Simmer** expressed concern about a "waterfall effect" resulting from investors demanding lower fees and the change in spreads. **Thompson** acknowledged the level of commercial pressure to lower fees but explained that if he can get better access to liquidity it is worth more than a penny. **Loughlin** stressed that the buy-side still relies on the expertise of its execution partners.

Khandros asked a regulatory perspective on the fee models. **ten Siethoff** said the SEC likes lower fees for retail investors but said the SEC acknowledges that "nothing is really free." She questioned whether investors understand what they are really paying for if they are not paying for trades, such as whether they are paying through higher spreads. She said low costs are great but it could make it more difficult for investors to compare costs between different firms. She stated it adds complexity to the analysis.

An audience member asked if the SEC is concerned about financial crimes related to AI. **ten Siethoff** replied the SEC is concerned about all financial crimes and pointed to cryptocurrency as a market that has been "rife" with financial crime.

Khandros recognized that UBS, in its work with global regulators, has written comment letters endorsing initiatives on order handling and transparency disclosure. However, he said UBS is worried that it disclosures are creating an information overload for clients. He asked how to balance transparency with simplification. **ten Siethoff** noted the SEC has been engaged in layered disclosure to make information more easily accessible to retail investors. She emphasized that retail investors are not going to read through hundred page prospectuses. She said investors are interested in shorter disclosures with succinct points on the risks, costs, and payments. She said the SEC will probably soon release more concepts on standards of conduct.

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Khandros asked about the right balance between data disclosure and order handling practices. **Loughlin** said that his clients expect him to handle the data. He explained his firm's approach is results based and said his job is not to critique routers or venues but instead routing outcomes. He stressed this is a straightforward analysis to share with clients.

Stephenson asked about the value of requests for information from clients. **Loughlin** replied the requests are of limited value for his firm. He said routing generally occurs as described and discrepancies are attributable to a bank being bad at routing. **Thompson** explained that his firm is taking a "phased in" approach to Rule 606 disclosures. He stated that the sell-side is providing information with more integrity and said that if results vary from expected performance it can facilitate a conversation about the causes. **Khandros** said he informs clients that requests for information may include follow up inquiries from regulators regarding the actionable use of the information. He said that, generally speaking, it is not clear what is done with the information gleaned from questionnaires. He added that it is time consuming for firms.

An audience member asked about the SEC's rule to allow most ETF providers to enter the market without applying for exemptive relief from the SEC. **ten Siethoff** explained the rule was mostly adopted as proposed. She stated most changes were technical in nature, including allowing T+1. She said that daily portfolio transparency would still not apply to certain classes of ETFs. She argued the rule would create a more efficient process for ETFs to launch.

An audience member asked about the Rule 606 disclosure process. **Thompson** expressed uncertainty as to how his firm would incorporate the requirements.

Stephenson expressed concern that a lot of firms do not have the infrastructure to manage or assess data to improve performance. **Khandros** said that all data should connect to performance. He emphasized that brokers who innovate and respond to regulation should be able to demonstrate strong performance and be "higher up on the broker list." He emphasized that a significant percentage of clients look at execution quality very closely. **Loughlin** identified the primary reason for taking in data as self-evaluation to deliver better outcomes for clients. He acknowledged that firms need resources and infrastructure to clean, organize and analyze data, but said that not every firm needs to have the ability to go in depth on each data point. He expressed confidence that general trends in the data can reveal general performance and client outcomes in order to facilitate conversations about remediation. **Simmer** stressed that PIMCO is trying to get the lowest potential costs, which can include trying to get a 100-day average daily volume (ADV) order in without the market predicting how it will trade.

Loughlin said running a global trading operation requires continuity to ensure that risks in certain markets do not impact coverage footprint. **Simmer** emphasized the need to provide viable instruments for getting through size and liquidity. She said this requires participation in the portfolio construction process. **Thompson** explained that his firm trains on trading in the U.S., Asia, and Europe. He said this allows traders to respond to a 24-hour global market and allows the book to be passed between markets if there is an interruption. He stressed that all traders need to be able to execute in all markets at any time.

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