THE UNITED STATES SECURITIES AND EXCHANGE COMMISSION

MEETING OF THE
SECURITIES AND EXCHANGE COMMISSION
FIXED INCOME MARKET STRUCTURE ADVISORY COMMITTEE

Via WebEx Video Teleconference

Monday, June 1, 2020

9:30 a.m.

U.S. Securities and Exchange Commission

100 F Street, NE

Washington, D.C.

PARTICIPANTS:

FIMSAC Members:
Michael Heaney, Committee Chairman
Dan Allen
Giedre Ball
Horace Carter
Gilbert Garcia
Tom Gira
Larry Harris
Mark Kim
Ananth Madhavan
Lynn Martin
Amy McGarrity
Richard McVey
Lee Olesky
Suzanne Shank
Larry Tabb
Sonali Theisen
Kumar Venkataraman
Elisse Walter
Brad Winges
Mihir Worah

PARTICIPANTS(CONT.):

SEC:

Chairman Jay Clayton
Commissioner Hester Peirce
Commissioner Elad Roisman
Commissioner Allison Lee
Elizabeth Baird
Amy Edwards
Tim Husson
Jessica Kane
S.P. Kothari
Rebecca Olsen
Brett Redfearn
John Roeser
Dave Shillman
Sarah ten Siethoff

C O N T E N T S

P R O C E E D I N G S

MR. HEANEY: Thank you all for joining us today for the SEC's Fixed Income Market Structure Advisory Committee meeting. I can confirm that we have a quorum and will call the meeting to order.

For the record, in addition to me, the following FIMSAC members are in attendance: Dan Allen, Giedre Ball, Horace Carter, Gilbert Garcia, Tom Gira, Larry Harris, Mark Kim, Scott Krohn, Ananth Madhavan, Lynn Martin, Amy McGarrity, Richard McVey, Lee Olesky, Suzanne Shank, Larry Tabb, Sonali Theisen, Kumar Venkataraman, Elisse Walter, Rachel Wilson, Brad Winges, and Mihir Worah.

Before we begin moving through our agenda, I want to remind all participants in today's meeting to be mindful of when your line is muted and unmuted. Please make sure to mute your line when you're not speaking and remember to unmute your line when you're called upon to speak.

I will begin by welcoming the Chairman and the Commissioners to today's FIMSAC meeting and ask Chairman Clayton for his opening remarks.

CHAIRMAN CLAYTON: Thank you, Michael. And good morning, everyone. I want to thank you for joining us virtually today and I am glad we are able to meet.

I would like to welcome Mark Kim of the MSRB as our newest member of the committee. And I want to thank former MSRB designated representative John Bagley for his meaningful contributions to this committee.

I want to begin today by noting my appreciation for the work of the committee and the commitment of its members. Your excellent service, thoughtful deliberation and recommendations have placed the Commission in a better place to meet the current market challenges.

With this exceptional service and current market conditions in mind, and after consultation with my fellow commissioners, Committee Chairman Michael Haney, Trading and Markets Director Brett Redfearn and other members of the Commission Staff, I am making a request today. I request that the FIMSAC be extended to March 1, 2021, with a specific mandate -- let me note that this is a narrow mandate -- to first bring the current work of the subcommittees, including the matters discussed today, to satisfactory completion. And second, to continue to assist the Commission with our ongoing efforts to monitor and, as necessarily appropriate, respond to the effects of the COVID-19 pandemic on our fixed income markets.

Now let me be clear with each member of the committee. I recognize that you have many personal and professional obligations and that those competing considerations have been amplified by recent events. I would also recognize that you have already given us more

than we've asked and more than could reasonably be expected, particularly from volunteer service. So if you choose not to extend your service into early 2021, I completely, completely understand. I also want you to know that I am not looking for an answer today. I would like you to take your time and work with Michael and each other to make individual and collective decisions that make sense for each of you and then come back to us.

So with that, let me turn a bit to today's agenda. We have five panels and presentations, including recommendations from the Technology and Electronic Trading Subcommittee, the Credit Rating Subcommittee, and the Municipal Securities Transparency Subcommittee. Today's discussion includes the topic of bond pricing services and I am eager to hear how these services are used, including by bond funds, and how these services have performed in various market segments during our recent bout of market volatility. I am also looking forward to new insight and commentary on, one, transparency in the corporate bond block trade market; and, two, the committee's recommendation on internal fund crosses. I understand that you will also consider a multi-pronged recommendation on credit rating. For various reasons, including the emergence of new areas of focus as a result of the general and sector-specific effects of COVID-19, it is important that we consider potential policy

approaches in this area with rigor and pragmatism.

I note here that globally, there is a renewed regulatory interest in the influence of rating agencies on market structure and market function in times of volatility and broad economic stress. For example, along with the Financial Stability Board and the International Organization of Securities Commissioners, the Commission's recently established market monitoring group is analyzing the potential risks and downstream effects of investment strategies and mandates that mechanically react to credit ratings, directly or through index tracking. I hope that your views and recommendations will complement our work and the work of the FSB and IOSCO in this area.

To be clear, issues in this area are not easy. Recent events have again demonstrated the importance of ratings to investors and issuers. For example, there are few diversified investors who have the resources to perform a rigorous, sector-by-sector, much less an issuer-by-issuer analysis of the corporate credit markets in a month's time. Yet many investors and other market participants, including market and potential regulators, have benefitted from this type of work performed by our credit rating agencies.

Recent events also have amplified longstanding questions around, one, alignment of interest; two, ratings-based balance sheet structuring by issuers; and, three,

investor overreliance on particular ratings. Note that the last two items are related. If investors over-reward certain types of ratings, issuers are incentivized to pursue capital structures that capture those rewards. My view is we must strive to advance the statutory goals of fostering accountability, transparency and competition, and mitigating potential conflicts of interest without diminishing the market-wide benefits of and also recognizing the inherent risks and limitations of unchecked reliance on the ratings services currently provided.

Finally, I understand that you will consider a recommendation on municipal securities pretrade transparency. As the recommendation states, this is not a new issue and I believe my views on transparency by issuers, investment advisers and retail brokers are well known. Last month, I issued a statement with Director Rebecca Olsen of the Office of Municipal Securities on the importance of current disclosure in our municipal markets, particularly in light of the effects and uncertainties created by COVID-19. The municipal securities market is dominated by retail investors, and over the years we have intensified calls for municipal issuers to provide investors with more timely information and also generally raised awareness about the importance of investor access to current financial information. I look forward to hearing about specific ideas you have to improve transparency in this space.

I close by thanking you all again for joining us today. It's a tough day, but I'm glad you're here and we want to hear from you. And I look forward in time, and take your time, for my request that you continue to provide us with your valuable insights into early 2021.

Michael, thank you. And I'm available for questions as needed.

MR. HEANEY: Thank you, Chairman Clayton.

I will now turn it to Commissioner Peirce.

COMMISSIONER PEIRCE (as prepared due to audio interruption): Thank you, Michael. I echo the Chairman's appreciation for the committee's excellent work and request that you all continue to serve for several more months. The market events of the last several months have heightened the Commission's need for your insights about the fixed income markets. We have seen unique stress in the fixed income markets and unprecedented interventions by the Federal Reserve, including large purchases of exchange-traded funds that invest in corporate bonds. My hope is that we can learn from what we saw in those markets during the COVID-19 crisis to identify regulatory changes that will help the fixed income markets function better during both normal times and times of crisis.

I read with interest your subcommittees'

preliminary recommendations and look forward to the discussions about them this morning. Your recommendation with respect to NRSROs includes a disclaimer that "even with the implementation of these recommendations, issues remain." The regulatory history of NRSROs has been haunted by that disclaimer. Getting bondholders to periodically ratify NRSROs is an interesting idea, if perhaps difficult to operationalize. The larger the field of competitors offering credit rating services, the greater the impact such a vote could have. To achieve more competition in this area, we have to balance the benefits any new regulatory requirements offer with the burdens they place on NRSROs, particularly small ones. The recommendation with respect to cross-trades under Investment Company Act Rule 17a-7 offers some very practical suggestions for ensuring that fund advisers can undertake transactions that benefit both funds involved without fear that an enforcement action will follow. Finally, the recommendation on municipal securities is a timely reminder of the work we still have to do with respect to transparency in this market -- a market that experienced so much stress in recent months.

I look forward to the discussion on these recommendations and the other panel discussions. Thank you.

MR. HEANEY: Thank you, Commissioner Peirce. I would now like to turn to Commissioner Roisman for comments.

COMMISSIONER ROISMAN: Good morning, and thank you, Michael, and thank you to all the FIMSAC members for contributing your time today.

These last few months have presented new challenges and demands, and I appreciate your continued commitment to sharing your experience and expertise with us. I would also like to join Michael and Chairman Clayton in welcoming Mark Kim to the committee and thanking John Bagley for his service.

As is typical with FIMSAC, you have a full agenda ahead of you. Over the course of the day, the committee will address many important topics that have been the subject of your consideration for some time. Moreover, the issues you will be discussing today have become all the more timely in light of recent market conditions brought on by the effects of the current pandemic.

I would like to offer a few thoughts that I hope you will keep in mind as you move through today's agenda. I have previously shared with you my keen interest in pursuing opportunities to improve transparency in our fixed income markets. I am glad that many of today's discussions will touch upon important issues relating to both pretrade and post-trade transparency. Transparency is a vital tool in assuring that our markets are fair, competitive and resilient.

This morning, your discussions will focus on the role of important sources of pricing information in the fixed income markets. In the course of these discussions, I hope you will consider the effects of new drivers of price formation, such as ETFs and portfolio trading. I have heard from market participants that during the March volatility, fixed income ETFs and portfolio trading, as well as credit derivatives, played key roles in facilitating price discovery and risk transfer. Nevertheless, I believe it is worth considering their potential effects on price formation in individual bonds.

For example, some questions to consider may be what effect does portfolio trading have on the value of the price information disseminated through TRACE? And how would the wider display of firm indicative bids and offers for individual bonds influence the determination of evaluated prices that may be used to derive fixed income ETF net asset values and portfolio trade prices?

Moving to the afternoon panels, you will return to two previously discussed topics, post-trade transparency for large size corporate bond trades and pretrade transparency for municipal securities. Both are important issues that have been debated for a long time and I think should be top of mind for the Commission to address, hopefully in the near future.

In thinking about the optimal regimes for pre- and post-trade transparency, we must be mindful that our corporate bond and municipal securities markets are not static. They are constantly evolving, albeit at paces that may be different relative to markets for other asset classes. For example, over the last 10 years, these markets have not only grown substantially in size but also feature new and diverse participants, new trading venues and new trading protocols.

I am interested in your perspectives on how we can pursue policies related to transparency that facilitate this continued evolution of the corporate and municipal bond securities markets through market-based innovations. Thank you all again for devoting your time to serve on this committee. I look forward to today's discussions and continuing to benefit from your thoughtful engagement.

MR. HEANEY: Thank you, Commissioner Roisman.

I will now turn to Commissioner Lee for her opening comments.

COMMISSIONER LEE: Thank you, Michael. And thanks to all the committee members and panelists for your time today. You have a full and ambitious agenda, so I am going to keep my remarks brief.

As you all know, fixed income markets play a central role in our financial markets. And the economic

turmoil from the COVID-19 crisis that we've seen in fixed income has only served to highlight the importance of your work. So I appreciate as well your consideration of an extension of your work through March 2021, and I echo the remarks of the Chair regarding your service to date. Also at some point, I hope to hear from you regarding any lessons learned from this crisis that may bear on the work that.

But for today, I appreciate the committee's attention regarding proposed changes to the dissemination of block trade information for corporate bonds. Transparency helps level the playing field in our market, decreasing information barriers, encouraging innovative business models and fostering competition. And transparency requirements should be calibrated to reduce negative impacts on the ability to conduct large trades in illiquid securities. But any proposal to limit transparency should be closely scrutinized to ensure that it's addressing an objectively demonstrated problem, and that the impact on competition has been carefully considered.

I also want to commend you for taking on the challenging and complex issue of conflicts of interest in credit ratings. This is an issue that policymakers both in Congress and the SEC have struggled with for years. So I very much look forward to hearing about the discussion and potential recommendation today on this topic. And in

particular, I hope we will hear from committee members as to whether the proposal goes far enough in terms of helping to align the interests of credit rating agencies with those of investors.

So again, sincere thanks to all for lending us your time and your expertise in supporting our mission. Thank you.

MR. HEANEY: Thank you, Commissioner Lee.

Next, I will turn it over to Brett Redfearn, director of the Division of Trading and Markets, and the committee's designated federal officer, for opening comments. Brett.

MR. REDFEARN: Thank you, Michael. I would also like to welcome everyone to today's FIMSAC meeting.

Let me first briefly introduce my SEC colleagues who are with us in the Webex meeting today. Joining us from the Division of Trading and Markets, we have Elizabeth Baird, Lizzie Baird, one of our deputy directors; and Dave Shillman and John Roeser, associate directors in the Office of Market Supervisions. We also have Rebecca Olsen, director of the Office of Municipal Securities; Jessica Kane, director of the Office of Credit Ratings; Tim Husson and Sarah ten Siethoff, associate directors from the Division of Investment Management, and from DERA, the Division of Economic and Risk Analysis, we have S.P.

Kothari, SEC chief economist, and Amy Edwards, an assistant director.

Before we get started, I need to remind everyone that the views expressed during this meeting by SEC Staff are those of the speaker and do not necessarily reflect those of the Commission, any commissioners or any other members of the Staff.

This is the second meeting of 2020 and the tenth meeting of FIMSAC. I would like to begin by thanking all of our FIMSAC members for their continued efforts on this committee, especially in the face of these most challenging circumstances. This committee, like all of us, has had to attend first and foremost to the health and safety priorities of our families and loved ones, while also managing work and workload from remote locations. And this committee has managed to go above and beyond, volunteering their time to our fixed income markets while navigating this unprecedented market volatility and their respective jobs.

After the extraordinary events we have experienced over the past several months, I would be remiss if I did not include a few observations from my perspective as the director of Trading and Markets and the FIMSAC's designed federal officer. Clearly, the impact of COVID-19 pandemic on the functioning of the U.S. fixed income markets has been historically significant in terms of market liquidity and trading activity. While the official sector response has been swift and unprecedented, including implementing several financing and asset purchasing facilities to support the functioning of markets for several fixed income asset classes, it is still too early to measure their full effects on market operation and our broader economy.

While our fixed income market structure has been tested in terms of price discovery, liquidity, trading volumes, clearing and settlement, thus far it seems we've largely risen to the challenge. Some key metrics show that our fixed income markets have significantly recovered from the peak stress conditions of March. For example, volatility indices, repo rates, bond ETF discounts to NAVs, bid-ask spreads, yield spreads. Nonetheless, we are still not yet back to pre-pandemic levels.

There cannot be a more important time for an advisory committee such as FIMSAC to provide the Commission with thoughtful, informed recommendations. You play a key role by helping the SEC better understand the strengths and weaknesses of our existing fixed income market structure. And now more than ever, these risks require our focus and our attention.

As stated earlier, Chairman Clayton has requested that FIMSAC be extended to March 2021. And my expectation is that we will have an opportunity to both bring the

current work of the committee to completion by that time and also this will provide us with an opportunity to further assess and respond to the effects of COVID-19 on our fixed income markets.

Today's agenda reflects your consideration of several items that have been key areas of focus for the committee and subcommittees for some time, which Michael will expand on shortly, and I am incredibly pleased at the progress that continues to be made.

Before wrapping up, I also want to reiterate the importance of the public's engagement. I want to thank today's outside panelists in particular for their involvement.

We also continue to encourage interested parties to submit comments on the work of the committee, including via the FIMSAC webpage on the SEC's website, which has proven a useful tool for the FIMSAC to gain additional insight into many of the issues it has considered.

I look forward to today's discussions and I would also like to just note quickly that certain remarks, including Commissioner Peirce's, will be posted publicly on the SEC website if the audio wasn't completely clear.

And with that, I will turn it back over to Michael. Michael.

MR. HEANEY: Thank you, Brett.

Before we get started, I just want to go slightly off script and also express my gratitude to the entire FIMSAC team. What we're enduring this health crisis and the related demands and changes in both our professional and personal lives, in and of itself, is a significant challenge. However, this group has not let up or lapsed for even a week. The hard work and dedication of the FIMSAC endeavors is truly amazing. Despite everyday obstacles we have been faced with, the majority of this committee continued to discuss, debate and work through important issues facing the fixed income markets, all with the goal of creating actionable ideas and recommendations to improve market structure, liquidity, transparency for both investors and issuers and related parties.

Thank you again for all that you're doing. It's truly significant achievements in normal times. I call it somewhat herculean given the situation we have all found ourselves.

Moving on to today's agenda, we have a full day. Two panel discussions this morning, two member discussions this afternoon, and two preliminary recommendations to consider.

This morning, the ETF and Bond Fund Subcommittee will host a panel to discuss the role of bond pricing services in our fixed income markets. This session will be

moderated by Kumar Venkataraman, and we're placed to have expert panelists joining us for this discussion.

The second panel of the morning will focus on a preliminary recommendation from the Technology and Electronic Trading Subcommittee regarding internal fund crosses. This panel will be moderated by Chairman Rick McVey. This topic was also discussed at the February meeting and, since then, the subcommittee has crafted a preliminary recommendation for consideration by the committee.

After a brief lunch break, we will start the afternoon session with a preliminary recommendation from the Credit Rating Subcommittee concerning issuer pay conflicts of interest in the payment model for credit ratings. The chair of the subcommittee, Amy McGarrity, will present the subcommittee's recommendation. Again, this is not a new topic for FIMSAC.

The committee has hosted several panels on this topic over the past few FIMSAC meetings and the subcommittee has focused on this issue over the course of many of their meetings. We have also had the benefit of public comment, submitted through the FIMSAC comment file, on this this critical topic. All of this work has led to our consideration of today's preliminary recommendation.

We will close the day with a panel discussion on transparency and the market for block trades. Gilbert Garcia, chair of the Corporate Bond Transparency Subcommittee, will moderate the discussion among members of that subcommittee.

Finally, to manage today's discussion on this virtual platform, I want to emphasize our protocol for the day. As was crafted by the SEC team and sent out, you will see that this protocol will do everything it can to help avoid speaking over each other and keep some order to the meeting.

Each panel and agenda item today will include both a Q&A segment and a viewpoint segment, providing members with an opportunity to both ask questions and express views. If anyone would like to ask a question during a Q&A segment, please email me the question and if you would like to address the question to a particular panelist, please note that in the email. I will then pose your question to the appropriate person.

If you would like an opportunity to speak during the viewpoint segment concerning an agenda topic, please send me an email expressing an interest to speak and we will call on you similar to the way we do in the room itself.

Finally, I would like to remind everyone, please, to put your lines on mute until you are called upon, and then re-mute once you're done.

With that, let's dive right into our first panel.

Let me introduce Kumar Venkataraman, who will be moderating the panel. This is an interesting topic that was raised several months ago and one that, as you've heard from the commissioners, has keen interest by all.

Kumar, I will turn it over to you.

ROLE OF BOND PRICING SERVICES

MR. VENKATARAMAN: Thank you, Michael.

Good morning, Chairman Clayton, SEC Commissioners, SEC Staff, FIMSAC colleagues and panelists. Welcome to the very first FIMSAC panel presented via the Generation Z format for conferences and meetings. I would like to thank Michael and the SEC Staff for all their efforts in designing the format and best practices for the panel.

I am Kumar Venkataraman and I'll serve as the moderator of this panel on bond pricing services. As a brief introduction, I am a professor of finance at SMU's Cox School of Business, and I study the market structure of fixed income markets. I am also a member of the FIMSAC.

Bond pricing services play a very important role in fixed income markets. The vast majority of bonds do not trade regularly. Only about 20 percent of the corporate bonds trade on any given day. And about 40 percent of corporate bonds trade less than five days in a calendar year. In the case of municipal and structured bonds, the

transaction frequency is even lower than those observed for corporate bonds.

At the same time, these bonds are held in institutional portfolios and there is a growing demand from market participants for information on bond values for a variety of applications. Evaluated pricing services, broadly defined as rule-based pricing models that rely on TRACE, trade reports, indicative dealer quotes, firm bid-offers from executable markets and that use matrix pricing approach, merging data on benchmark yields, liquidity conditions, et cetera, have emerged to meet this growing need for high-quality pricing data.

A few notable examples of applications that use evaluated pricing are end-of-the-day marks of institutional portfolios used by, among others, mutual funds and custodians to calculate NAVs that interact with retail investors entering mutual funds. Continuous intraday evals used for index price calculations, which serve as benchmarks for ETFs and mutual funds, a topic that we covered on FIMSAC in November 2019 during our panel on index construction. Transactions cost analysis, best execution and performance attribution analysis, both of which rely on a benchmark price. And this application again ties to FIMSAC's recommendation today on internal fund crosses.

Given the importance of pricing services, the

objective broadly follows the train of thought that Chairman Clayton expressed just a few minutes ago. Our objective is to understand how pricing services determine their evaluated prices, how market participants use these pricing services, how have pricing models performed during the COVID-19 high-volatility period in March and April of 2020, and finally discuss ideas or policy changes, including disclosures on quality and integrity of data sources that could improve evaluated pricing services.

Today, we have an excellent panel of experts to talk about these issues. And I am very grateful to the panelists for accepting my invitation.

Panelists, I request that, as I pose my questions, please first take a moment to introduce yourself.

My first question is for Mark Heckert, chief product officer of ICE Data Services.

Mark, can you tell us how your firm data mines evaluated prices? And related to this question, how does the evaluation process differ across fixed income asset classes such as treasuries, credit, munis, structured products, et cetera? And how do you manage the evaluation process during periods of elevated stress?

MR. HECKERT: Great. Thank you, Kumar.

So once again, my name is Mark Heckert. I am the chief product officer for ICE Data Services. I have been around the valuation process through my work for approximately 20 years. So through the great financial crisis through today, we have certainly seen a lot in financial markets.

In terms of what a pricing service does and how does it do it, we provide valuations on approximately 2.8 million securities. That includes 1.4 million in the asset-backed and mortgage-backed sectors, one million approximately in municipal bond -- U.S. municipal bond sector, another 400,000 across government agencies and global corporates. That's a very wide data set, as you can tell. So how do we do that?

The important point is what Kumar raised, is there is a low percentage of any given bond that is trading on any day. So the whole process is about understanding the issue, knowing the bond's terms and conditions so you can understand the cash flow structure. When you understand the cash flow structure, you can then look at what pricing calculators do you have to allow you to enable you to calculate that cash flow structure? What market data do you capture to inform that process? And what is your pricing methodology that puts that together?

Our pricing methodology is a two-way approach. As Kumar mentioned, we have a rules-based process we use to help us select the market data to help us correlate bonds to

one another. And then we have a team of analysts, evaluators, who operate that process. The team we hire is a combination of seasoned veterans that are typically former portfolio managers, former traders, former structurers, as well as teams that we've grown in house. So we have younger data science types that we bring in that have a fresher set of knowledge that enable us to look at the data sets. And then we have those with market experience that are applying their expertise to the process. And through that, we can analyze the data, continue to test ourselves and improve the rules and improve the methodology that we're using.

This differs dramatically across asset class to asset class, as Kumar reference. Whereas corporate bonds have a relatively high percentage of bonds that trade, at least high by other asset class standards, municipal bonds may not trade -- any given municipal bond may not trade for extensive periods of time. Securitized instruments are the same or very similar as well. And then there is the trick that in different jurisdictions, whereas the U.S. has a relatively robust post-trade transparency regime, there is much less so. MiFID II, for example, delays the bulk of data that one is seeing until 30 days post the transaction. Thirty days past the transaction is certainly not quickly enough to price a bond at that moment, although it's useful for calibration. Other regimes may have even lesser

transparency than that for trading.

So we have to develop a robust network of how we collect data. We interact with certainly public -- publicly available trades is a gold standard of data. We interact with trading platforms in order to consume the exhaust that they might produce as part of their trading, bid-offer data, for example, published on trading platforms. Dealers may choose to send us the data. The way they would do so is by sending us the same information they would send to their buy side clients, the trading counterparties. They would include us or c.c. us on the dealer runs, so to speak, and that's a great source of information pretrade. And the buy side itself, we're very active in working with our buy side customers for them to provide us information. And they very frequently provide us trade data, especially in those darker segments of the marketplace that have lesser amount of trade transparency to them.

So between all of those data types, we have to do the job of correlation. So, for example, in the mortgage-backed market, one has to look at the nature of the borrower. One has to look at, if it's a collateralized mortgage obligation as opposed to a straight passthrough, what tranche is the bond. One has to understand how similar tranches are behaving. One has to understand what's happening to prepayments in the mortgage world. And one has

to have a robust prepayment model, especially in markets like this, and deal with how do prepayments sometimes change quickly.

And in the municipal bond marketplace, it's a different animal. You have to understand, for example, is it a general obligation bond, or is this a bond that has a revenue stream that backs that. What's happening to that revenue stream?

In the corporate market, it's a different animal once again. Whether it's a high-yield bond or a high-grade bond is an important consideration. With a high-grade bond or an investment-grade bond, you may have a number of bonds that are from the same issuer. And it becomes more readily available to look at some of those liquid bonds on the issuer and help interpolate to the less liquid bonds. By contrast, a high-yield issuer might have only one or two bonds outstanding and that high-yield debt might be more idiosyncratic, so one really wants to find direct observable data for that, for that marketplace.

In addition to all of that direct bond data, we look at broad market data as well. We try to understand -- for example, our analysts do look at the ETF marketplace to understand how that's moving and to see if some of that movement should be applied to the underlying bonds.

But the whole idea, as you can see, is how do we take this sparse data -- first of all, gather as much data as possible. But even so, take this sparse data and extrapolate to those 2.7 million bonds that we evaluate every day.

Kumar, on your last point about evaluating during times of stress, we're very pleased that some of the investments we made prior to this issue, really on the back of the great financial crisis. So for example, out of those 2.8 million bonds, we have the vast majority of them that are pricing in what we call our continuous evaluated pricing. This means we're pricing them in a ticking fashion all business day long. What's great about doing that, rather than having some end-of-day crunch to try to piece together what happened, you're actually valuing the bond throughout the day, and that enables you to make a lot of important decisions about what different data points mean.

So, for example, in a market like we saw in March, there's a phenomenon of distressed transactions. You have to try to ascertain is a transaction that occurred orderly or not. And if -- and make a determination as to whether that represents a fair value or not.

Our job is trying to represent it's our good faith opinion as to where a bond would trade in an orderly market with willing participants. So we have to suss out during times of crisis what's orderly and what's not. And that's

one of our key points.

During fast-moving markets, we are very pleased we have some technology in place to help us look at that earlier in the day, and it's an important piece. But we're extremely happy we have the expertise of our analysts as well to think about how do I understand what type of transactions are occurring and how -- understand how to extrapolate that or not extrapolate that. And then how do I work with my stakeholders, my buy side customers, my sell side customers, the other firms that I work with, to get their interpretation of the markets as well? Being connected to stakeholders is important any time, but especially now.

MR. VENKATARAMAN: Thank you, Mark.

Following up on that, how did the evaluated process perform during March and April of this year? And related to this, how does a pricing service assess the performance of its models? Are evaluated prices meant to match trades at some point? Or should they be more representative of fair value or something else?

MR. HECKERT: Sure, sure. The COVID crisis and its impact on fixed income markets was especially pronounced in this area. The great financial crisis, as troubling as it was, was somewhat slower moving. It took place over months that we saw the gradual degradation of mortgage bond

performance and then the participants that were involved with those mortgage bonds, and then the impact spread from there.

With the COVID-19 crisis, we first of all, which was observable to most, we've had dramatic volatility, we had very quick-moving markets. But exacerbating the challenge was the widening of bid-offer spreads. High-yield bid-offer spreads moved up or moved out five times what they were before the crisis. We saw the same phenomena happen in all of fixed income markets, bid-offer spreads widened dramatically.

What does that mean? That means there's greater uncertainty. And that greater uncertainty was demonstrated, for example, in the trade data.

We saw tremendous diversity of trades, trades that were trading percentage points in yield apart from one another for very similar credits on the same day. When that's happen, that's just in mid-March, the market did not have a strong consensus on where valuation was.

So if bid-offer spreads are points wide, if trades are trading percentage points of yield apart for very similar credits, that strongly suggests a breakdown in consensus.

What does a valuation firm do, is we're providing in a way a point estimate during that process. If a bid-

offer spread is 10 points wide and we're providing an evaluation, we still have to give a single bid and a single offer in our evaluation process. So what do we do about that? How do we help our customers through it? We provide them information, for example, on what we believe the liquidity of a given bond to be.

We also give them information on the dispersion of trades we see around a point estimate. Now, this metadata can help our clients interpret the information they receive. Furthermore, what we made sure to do during the crisis is we made sure our business-as-usual communication practice with our customers worked.

One of the most important feedback loops is what we call the challenge process. So buy side firms, sell side firms, what have you, will submit an inquiry saying we saw some market data that we think is in contradiction to your evaluation. ICE, what do you think about that? And it's our job to respond to them with our understanding.

While our challenges, for example, for investment-grade corporate bonds in the first couple weeks of March were 10 times higher than they were in the February period, we were still able to answer 90 percent of those within a 24-hour time window. We wanted to make sure that we were seeing all this response our customers were giving us. So that was a very important measure for us, and can we still have the right feedback with our customers?

We also were engaged very closely with our customers understanding what they see in the markets on a macro level. For example, on a Saturday afternoon in March, I was on the phone with the chief investment officer from an asset manager and my team was on and we were sharing what we thought was going on in commercial mortgage-backed securities. Commercial mortgage-backed securities, as you might imagine, were especially challenged during this time period.

You might have seen trades previously in the nineties or eighties for paper; now we are seeing trades at six. And we were trying to understand those trades at six, are those fire sales, liquidity events? So we would go to multiple participants to understand what did they think about the posture of a seller. And in many cases, those were -- they were liquidity-driven sales. And we could find other data, other sales that would certainly not support that 90 level, but we could provide valuations that weren't at six.

Our process is all about back testing. So we look at how we -- for example, how do our bid-offer spreads compare to trade implied bid-offer spreads. We look at how do our absolute levels compare to trade levels. This is the kind of analysis that we look at.

But back to the point of a breakdown in consensus, if you look at the U.S. corporate bond universe, in a more typical market, putting valuations aside, if you think about it, it's generally a slow-moving market. Trades can predict trades.

If you look at a bond that trades consecutively, 90 percent of the time it will be within a half a percent of the last trade. And that was the case in February, for example. If you go to mid-March, that number of being within half a percent from trade to trade in the same bond dropped to 35 percent. So that breakdown in consensus is the challenge.

What I encourage my team to do is strong communication, strong analysis, strong data review, and applying that knowledge quickly. For example, bid-offer spreads, we adjusted bid-offer spreads more quickly than we ever have in the history of our valuation process because we needed to do so to maintain the degree of robustness that we wanted to for our valuations.

MR. VENKATARAMAN: Thank you, Mark. That is very helpful in understanding how you manage a difficult process during stress conditions.

I'll now turn to our next panelist, Ananth Madhavan, global head of research, ETFs and index investments at Blackrock. Ananth is a member of the FIMSAC

and he also chairs the ETF and Bond Funds Subcommittee, which is hosting this panel.

Ananth, in the fall of 2019, your subcommittee submitted a report about pricing and liquidity of bond ETFs and mutual funds in stressed markets, and the impact of these funds on underlying bonds (audio dropout) volatility (audio dropout). Can you share the report's key points (audio dropout.)

MR. MADHAVAN: Yes. Thank you, Kumar. The subcommittee's report highlighted several facts about ETFs and bond ETFs in particular, including that they had been tested in times of stress such as the great financial crisis in 2009, and the taper tantrum of summer 2013. Obviously, you know, a decade ago, there were many fewer bond ETFs than there are today. So we cautioned that some of the empirical evidence was limited. But we did note that bond ETFs trade on organized exchanges with pre- and post-trade transparency, and that in those times of market stress, they had acted as vehicles of price discovery, often indicating where the markets were truly trading in these stressful times.

So what did we see in the unprecedented volatility of March? What we saw was trading very much consistent with those observations. ETFs traded well, with bid-offer spreads that were, while elevated, still relatively low and,

in most cases, tighter than the spreads in the underlying bonds. Further, the ETFs act as stress relievers in the sense that they allowed for buyers and sellers to alter their exposures, basically netting off their ownership of the funds quickly and efficiently.

And then, consistent with the observations of the stressed markets report, we saw that ETFs did act as vehicles of price discovery. So in the critical week of March 23 to March 27, for example, our high-yield bond ETF traded over 168,000 times a day, while the fund's largest five holdings traded an average of only 25 times a day. We also saw this in treasuries and, in civil bonds and investment-grade bonds.

MR. VENKATARAMAN: Thanks, Ananth. The next question is how does Blackrock use integrated pricing data and (audio dropout) during March and April of 2020 (audio dropout) from pricing services. We also saw significant (audio dropout) reversal in both ETF and NAV prices (audio dropout). So can you help us understand why so many ETFs traded at a discount to their underlying portfolio values? And if the (audio dropout) pricing discrepancies (audio dropout)?

MR. MADHAVAN: Yes, thanks. So I think a first point -- let me take this in reverse order and let me talk a little bit about the premiums and discounts that we saw in

March and then talk a little bit about how Blackrock uses evaluated pricing data.

So as noted in our stressed markets reports, in times of increased volatility, ETF prices can deviate from the fund's net asset value. And it's important to understand that the net asset value is calculated once a day using actual trades of bonds that actively traded that day, on market quotations and fair value estimates for bonds that are traded infrequently. The other thing is that the end-of-day NAV is typically available to market participants only after the close.

So that points to the need for producing and disseminating intraday estimates of intrinsic value so investors better understand their true premiums and discounts when trading. You know, beyond the evaluated pricing services that we just heard about, Blackrock has built, you know, an intrinsic value model. It's very transparent. We've published a methodology. We calculate an intraday NAV based on each bond's yield curve and a credit spread adjustment, and we aggregate out for 1,000-odd bonds in a bond ETF and cash and create an intraday NAV.

And in the context of your question, what we've found in March and April was that obviously when the ETF is a vehicle of price discovery, the ETF is moving much faster than the underlying NAVs. The ETF is where the market

really is. As I said, a high-yield ETF, we had 168,000 transactions a day. Okay? So it is moving very quickly, it is reflective of where buyers and sellers are actually exchanging value and agreeing in a very transparent market on the bond fund's value.

What we saw then is there are premiums and discounts to the stated NAV. But that often reflects the fact that NAV is slow to adjust, may reflect some staleness, may not fully capture the market conditions even that we have seen in the volatility.

So if the ETF is acting as a vehicle of price discovery, the ETF is necessarily going to be where the market is. And there are going to be premiums and discounts to the stated NAV. In reality, the premiums and discounts to the computed intraday intrinsic values are actually much smaller, which is suggestive that the market is actually quite efficient.

So getting back to your initial question of how does Blackrock use these evaluated pricing data, we use it to give guidance to clients. So clients are interested in where the bond funds really are trading and want to sort of make sure they understand that large deviations from NAV, either premiums or discounts, may not be actual. So we use it for -- for giving guidance to clients. We also use it for internal market surveillance purposes, just to make sure

that we are understanding where the ecosystem is and, you know, where there may be stress points. So it's both internal and external.

MR. VENKATARAMAN: Thank you, Ananth.

Our next panelist is Derek Hafer, managing director and head of U.S. investment-grade and credit trading at Citi.

Derek, based on Mark's remarks that pricing services rely on data generated by -- or the trade reports that are largely submitted by dealers as well as dealer run data, can you tell us how dealers generated pricing data?

MR. HAFER: Of course. Good morning, Kumar, members of the committee and the SEC. Thank you again for inviting me to join the panel today.

As a sell-side market maker, there are a variety of uses for third party pricing services, similar to those which Mark and Ananth have touched on. First and foremost, from a financial controls perspective, we use third party pricing to run comparative analytics versus our own internal marks on a monthly basis. So as a trader, to caveat this and to get a better understanding, my assumption is that these third party data points are first generated with tier one data, such as the actual TRACE prints data that Mark mentioned, and then filled in with rel val matrices. So we understand there is some potential room for order in all

these sources.

This process, referred to internally at our end simply as price verification, allows desk and business heads to compare their system bond and derivative position pricing against external sources to evaluate the extent as to how their risk is marked, whether conservatively or aggressively, and then true those up in the month-end process. We generate a variance, which is the differential in market value terms on a position level between our in-house mark and an aggregation of the third party vendors. And what we frequently find is that, on a CUSIP by CUSIP basis, for example, is that across the various third party price sources, there can be enough discrepancy that on a less observable line item, we often have to kick out the large outliers in order to best generate a reasonable comparison. As volatility increases, and this isn't really a surprise, the dispersion in the different third party marks on the same instrument goes up, forcing more of a manual evaluation process on our side.

The other key use of third party price on the sell side is more in its realtime application, which Ananth touched on. It is one of the elements that we include as we evaluate our won intraday pricing, so in the runs and quotes that we disseminate to the marketplace, versus those of the pricing services. The nuance here is twofold. First, as opposed to the monthly price verification process, this has evaluated all of the line items, so it is everything that we send a price out on, rather than just the lines that we have positions in. And, second, we're looking at it more on a ticking basis, again as Ananth mentioned, rather than as a static snapshot. However, what that actually does is lend to a new set of problems, because as most CUSIPs do not trade with observable frequency on a given trading day. What this does, however, for us is serve as a bit of a sanity check on the prices that we're sending to the market, as we have a team of, say, 15 senior traders pricing north of 10,000 corporate CUSIPs in realtime.

Incrementally, when I think about it on an index level, it allows me to evaluate some semblance of that intraday NAV or intrinsic value of an ETF like LTD, for example, where I can see both that third party NAV comparatively against my own internal system levels.

MR. VENKATARAMAN: Thanks, Derek. So, based on what you say, it appears that there is an information feedback loop here from dealer prices on runs through pricing services. And then it comes back to the dealers to evaluate the prices. And given this feedback loop, the quality of data that's provided by dealers can have a big impact on the quality of evaluated prices.

So can you tell us about what are the market

conditions that impact the quality of a dealer quote, for example? How did bid-ask spreads and quoting activity change during March and April of this year? And do your prices line up with evaluated price?

MR. HAFER: Of course. So the volatility and price velocity that we've experienced in the market over the past few months has been something that I think as we've all seen and read matched that of the financial crisis. Mark touched on that. As a result of the extreme dislocation, we observed a period where price discovery was paramount. And as the market attempted to quantify new risk factors, valuations and transaction costs among a multitude of other factors on a subsector, and ultimately at a bond and issuer level.

So driven by this increase in volatility, bid-offer spreads expanded dramatically as the market attempted to reprice clearing levels. Average bid-offer within investment grade expanded three to four times. Mark mentioned that high yield expanded to five X on the executable markets portion, so while the overall number of executable markets actually set via runs declined dramatically.

What you tend to observe in periods like this is that there's a prolonged price discovery phase, where the dissemination of dealers' runs and quotes tend to be on a

smaller number of on-the-run issuers and bonds at a lower frequency while dealers attempt to determine where the benchmark risk clears. So as these observable data points are fewer and further between, it's increasingly difficult to build the matrices of where the universe of off-the-run bonds should be priced and quoted, as there tends to be such a large premium attached to both the liquidity profile and the bond prices as a percentage are.

To support this with some data, in U.S. investment grade, when we look at observations over the last three years on prints over 500,000, so these seasoned CUSIPs or CUSIPs that are over a year old since issuance went from trading at roughly 60 percent of total TRACE count to as low as 35 percent of total daily trades counted in mid-April 2020. In times of volatility like this, what I find is that you'll potentially see a once or twice daily set of full off-the-run prices sent out that happen to correlate to that precise moment in time. But then you can become significantly disjointed throughout a trading session as the benchmark funds move fairly violently.

I think this is a very important point to really understand. From the perspective of a sell-side dealer, particularly during these periods of volatility, we always ask that customers refresh two-sided or one-sided price when engaging, as there is a very real chance that the last run

sent out, whether it was an hour old or six hours old, has a very real possibility to be a stale price based on the velocity of the on-the-run benchmark.

MR. VENKATARAMAN: Thanks, Derek.

Our next panelist is Chris White, CEO, BondCliQ, a platform that consolidates (audio dropout) and shares being consolidated (audio dropout).

Chris, can you explain why dealers can care about (audio dropout) supply liquidity and, further, what patterns in liquidations you've observed on your platform during the COVID-19 stress period?

MR. WHITE: Certainly, Kumar. And I'll take these questions one by one. But first, I wanted to thank the committee for inviting me back. I believe I participated in the 2017 or '18 FIMSAC meeting on price transparency. And I want to get right into the topic. I think the comments from Commissioner Elad Roisman at the beginning of the panel or at the beginning of the session, talking about the need for better clarity on the price formation process for individual bonds is really at the heart of the matter.

I would say that the reason why dealers should care about getting access to pretrade data is based on exactly what Derek just said in his excellent responses to your question. I just wrote down some of the things that he mentioned, probably didn't write them down fast enough. But

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he mentioned how dealers don't have enough observable data points, especially in times of stress, to be able to provide liquidity. That's exactly what we are looking to address with our system. We're the only centralized pricing system that allows dealers to see the observable markets of other dealers, with some restrictions and protocols in place, of course. This provides the extra data points that allow dealers to hopefully provide more consistent institutional liquidity.

But today, in 2020, we're at the end of or still in the process of a 12-year cycle in which the outstanding size of the market has been growing rapidly. We've all seen also that, in 2020, we've already surpassed the outstanding issuance for all of 2019. So this growing market is something that we've been experiencing for quite some time. So there's a larger market for dealers to cover from a market making standpoint. That's why they need greater pretrade data, access to pretrade data.

We also are aware that the composition of what bonds are coming to market has permanently changed the structure of the corporate bond market. Today, about 44 percent of the market is comprised of BBB-rated debt, which we all know is the riskiest investment-grade debt in the market. So now there is a riskier market for dealers to cover.

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We are also quite aware as an industry over the past 12 years that, due to regulatory mandates, market maker balance sheets have been restricted, so dealers are not able to hold the amount of inventory for the amount of time that they have been previously accustomed to.

And then finally, and I think that this is something that we've heard in some previous FIMSAC discussions, buy side institutions have become a lot more sophisticated at aggregating information from multiple dealers in the marketplace. And this has been happening for the past six or seven years. So market makers are really on the wrong side of a growing information asymmetry gap when it comes to pretrade data.

Never in history has the U.S. corporate bond market been bigger or riskier. So dealers care about pretrade institutional corporate bond data today because access to this information is vital to their ability to consistently provide secondary liquidity while accelerating balance sheet velocity and reducing trading errors.

MR. VENKATARAMAN: Thank you, Chris. So you have explained how centralized pricing data helps leaders. Can you explain how centralized pricing data can include evaluated prices in other areas of the market? And are there any changes you would advocate, to include data quality for pricing bonds?

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MR. WHITE: Sure. And I do just want to point out to everyone listening that we did provide summary slides that are up on the SEC website. Thank you for posting them.

But first, let's get into the liquidity aspect. Because I think that the lack of organized pricing data in the corporate bond market has been negatively impacting liquidity. And this is exacerbated in times of stress. So in theory, access to pretrade market information for market makers allows them to supply more liquidity because pricing information allows dealers to calculate the true risks for supplying liquidity, which improves their ability to stand up to markets. Without pretrade information, dealers are being asked to make risk decisions with limited information, so they are reluctant to trade bonds that are not highly active.

Again, I'll reference what, you know, Derek had mentioned. When customers are engaging him and his traders, he's asking them to refresh their market or to reveal what market they are referencing because it's possible that that market is no longer relevant for the time they're trying to do the trade. Again, this is directly the result of not having access to organized pretrade data. If dealers had access to that data, they would know where the relevant market is almost at all times.

Also in terms of the liquidity provision,

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organized pretrade information allows dealers to know the context of the market. This improves their ability to make accurate markets that reflect their true intentions. Without pretrade information, dealers are unable to effectively adjust their prices to reduce balance sheet positions consistently. In other words, if a dealer is long a large position of corporate bonds, they're often missing the data points that would allow them to consistently maintain a competitive offer that could attract order flow from a willing buyer. If you have something to sell you want to know where the market is so you can consistently have an offer that might attract an order from a customer. That's how balance sheet turnover starts to accelerate in a market that is much larger with a lot less balance sheet.

And then finally, access to pretrade data allows dealers to interpolate markets for less actively traded bonds because quote data can be used when transactions are infrequent or nonexistent in a given bond. We've heard that several times from the previous panelists. We've heard, you know, people talk about how the ETFs are providing price discovery and how there are other ways that they are interpolating what the price of a bond is. Well, if the pretrade data was organized in the first place, it would make it a lot easier to figure out where a bond should trade and dealers could start focusing on providing liquidity in a larger universe of CUSIPs in the marketplace because they would have more observable data points to do so.

If the corporate bond market making community could be given appropriate access to institutional pretrade data, their ability to provide deeper liquidity in a larger scope of bonds at a reasonable transaction cost would gradually improve over time. There is no doubt in my mind about that.

But to your last question or at least a portion of your last question, Kumar, you asked how does this impact evaluated pricing. The direct impact on evaluated pricing is as follows. The evaluated pricing services are obviously incredibly sophisticated and are being relied on by multiple buy side institutions, as well as sell side institutions, as Derek mentioned, to handle very important vital functions like valuation.

We see ourselves as being able to provide higher quality source data to the evaluated pricing services, not as a competitive product. If the evaluated pricing services had, you know, curated pretrade information that was organized and objective and improved in quality, then their ability to not only accurately calculate where bonds should be valued that are actively traded, that would improve. But also bonds that are not very actively traded, because there's more robust source data that could help them.

You know, as you heard Mark mention, in March, during the prolonged period of stress and volatility, they had 10 times the number of questions that they usually get around the soundness or the accuracy of their evaluated pricing in corporate bonds. This is not because their service broke down; it's because the underlying source data that they rely on for calculating the prices or the evaluated prices broke down.

We think that we can help with what's been mentioned. I love this. Somebody said a breakdown in consensus. BondCliQ is designed to actually reduce the breakdowns in consensus to actually create better, market-driven consensus pricing. We think from a structural standpoint, if you're asking about recommendations going forward, the centralized pricing approach is what we recommend to improving the overall quality of data. Dealers must see markets in order to improve the accuracy of their markets and the reliability of their markets. Without more data points from the dealers as we've heard already on this panel, I think it would be very challenging to continue to support a market that is growing in size and risk with limited balance sheet, if we don't improve data access for dealers.

MR. VENKATARAMAN: Thank you, Chris.

Our next speaker is Terry Hendershott, professor

of finance at U.C. Berkeley, who has written important articles on equity and fixed income markets.

So, Terry, Chris has made a case for centralized pricing in bond markets. What evidence do we have on benefits of pretrade transparency? Will centralized pricing have -- are these benefits for dealers? And will the dealers improve the outcome for buy side and also (audio dropout) evaluated prices, as argued by Chris? And if everyone benefits from centralized pricing, then why don't we see it?

MR. HENDERSHOTT: So (audio dropout) the committee and the Commission for asking me to participate. As an academic, I will provide some guidance, but I will also ask some questions that would be valuable to have answered.

So in general, it's easy to think that transparency is good. When I wrote my first academic paper on transparency, I was reviewing academic literature and I was somewhat surprised that the evidence on transparency's benefit is mixed. There are papers showing more pretrade transparency in increases the bid-ask spread. I think Ananth may even have such a paper. And others showing that more pretrade transparency reduced the bid-ask spread. So I would say that the consensus on transparency's impact is not so clear and could well depend upon the setting.

So here are some questions that I would think

would be important to answer in the context we're talking about today. So large institutions already get broad access to quotes. So how would they benefit from centralized pricing if they're already seeing quotes?

And so as Chris was raising, well, if dealers can see others' quotes, will they compete more intensely? For example, will reduction in their uncertainty help them compete more intensely and provide better liquidity? Or alternatively, could dealers seeing each other's prices cause them to compete less intensely?

You know, in a prior market for equities that was quotation based where it was transparent, there were allegations about the dealers' anticompetitive behavior on Nasdaq in the 1990s. While there's not necessarily any reason to believe that that would happen here, it's an important thing to consider as a possibility.

So moving on from the larger institutions, smaller institutions and individuals have less information. And so it's easier to see how they could directly benefit from seeing more quotes. But part of the question is, well, why don't they have greater access to quotes today. If dealers were required to quote to everyone, would they provide the same quotes that they do today?

In general, if producing an accurate quote requires effort, especially in less liquid securities, which we've heard from the other panelists, so if the dealers aren't rewarded for producing quotes and possibly others can free ride on the information in their quotes, if their quotes are more transparent, will they still put as much effort into them and quote the same prices if there's more transparency?

MR. VENKATARAMAN: Thanks, Terry. You raise many interesting questions that we can debate in our Q&A session. I have one more question for you.

Pricing services rely on many sources of data. Mark talked about it and Derek talked about it. Tier one data, bid-offer from the markets, tier three data, indicated runs and so on.

Will additional disclosures on quality and integrity of data be useful? For example, what if pricing services provide an evaluated price and a confidence interval around the price? There are some applications where data quality should matter and are there other applications where disclosures are less useful?

MR. HENDERSHOTT: So market data is used for different reasons by different customers. So it's certainly possible that some institutions would prefer not to trade when prices are sufficiently uncertain. However, you know, if institutions are unwilling to trade in stressful market conditions, this may be bad for their investors who need

access to funds.

In equity markets, we often halt trading to allow uncertainty to resolve. However, because bonds trade less frequently than stocks, bond market trading halts might need to be much longer than 15 minutes, and this could be costly.

Rather than stopping trading, another possibility is for institutions to charge their customers a fee, and this is related, it could be either be explicit or through a bid-ask spread, for transacting when prices are uncertain. This allows some customers to still be served but could protect other customers from being taken advantage of.

And so the one thing you could think about in terms of taking advantage of, as Ananth was highlighting, if NAVs and traded prices in ETFs diverge, and it could well be the case that the same thing is the true values for mutual funds and NAVs are diverging. If some customers are aware of this and others aren't, you could get something like the late trading phenomenon we saw in mutual funds, which is where people who know prices are inaccurate systematically could choose to execute against NAV when they know it's mispriced.

So in terms of market data providers, more generally, we need to think through what their incentives are relative to their customers. So would the customers find confidence intervals around evaluated prices valuable?

And we heard earlier from ICE that some customers are asking for that and it is being provided to them. So I guess there's a question of is this sort of information already being provided to customers or should it be provided more widely?

You know, if it's costly or not that useful, then it would make sense not to provide it. Or if some customers wouldn't use it, they wouldn't have a need for it.

So in terms of an example of where trading at a more uncertain price might not be as problematic is if a fund company is doing an internal cross where they're in some sense on both sides of the trade, they're looking for a fair price to trade at and uncertainty may be less important. It's really the situations where trading is occurring between parties with very different incentives or information that additional disclosure would be important.

MR. VENKATARAMAN: Thank you, Terry. And I want to thank all the panelists. This concludes the initial panel discussion. I will now turn the meeting over to Michael, the chair of FIMSAC, who will moderate the Q&A segment. Michael, back to you.

MR. HEANEY: Thank you, Kumar.

Chris, I know you had a follow-up comment. I'm willing to just go to you first before we go to the questions. And I know you wanted to respond.

MR. WHITE: Oh, thanks so much. And, Terry, I think your question on what are the incentives for dealers is actually at the heart of how we get to a marketplace that has better quality pricing data. As we all know, primary dealers -- or dealers are the primary providers of corporate bond data. And in order for them to provide this information consistently and competitively, I think a couple of things need to be made, you know, available to the dealers.

One, there has to be some protection of the proprietary information. So we have a protocol in which the dealers only show markets to other dealers when there's already a consensus of pricing and a lot of dealers participating. So if a dealer is the only one quoting a bond, that is not visible to other dealers. So to your point on why would they put their information out there, got to have the right protocol to protect them.

Two, we think a very, very critical aspect of dealers making better prices is if order flow starts to be directly linked to the quality of your pricing. Dealers are all focused on being able to attract buy side institutions to engage them so they can turn over their inventory. That's pretty much the name of the game in all market making. And so if there was a better connection between the quality of my price and the competitiveness of my price and my ability to actually encourage customers to engage me, you would see dealers consistently making markets and accurately making markets because it allows them to turn over their book.

And then finally, I do think just like any business, the dealers must have some sort of economic incentive for their pricing information. We all know that dealer pricing data is very valuable. It is literally the part of every single pretrade pricing product that's out there, has some contribution from the dealers. But to my knowledge, except for our initiative, nobody has a compensation model that allows the dealers to be paid for the information that they produce. And I think that this is critically important because if we look at other markets outside of the corporate bond space, we see the dealers consistently providing pricing information and then consistently having to pay exorbitant prices just to access the data that they helped the market create.

We think there needs to be better balance here. And if you can bring that structure to the market, as we've done, you're going to be able to attract dealers who see what's happening, where the market, because of size and risk, requires broker access to pretrade, but the appropriate application of transparency is critical to getting it right in the corporate bond space.

Thanks, Terry. And thank you, David -- oh, Michael, sorry.

MR. HEANEY: I would just go back and see if anyone wanted to respond to that before I go to FIMSAC questions. If there's anything else to add.

Okay. The first question is from Gilbert Garcia. The question is -- and it's for the panel as a whole.

Do the models differentiate between odd lots and round lots? What is that threshold, if so?

MR. HECKERT: I guess I could start on this question. Yes, trade size is an important consideration for -- with the valuation process. Although that has changed dramatically over the years.

If one were to go back several years ago, there was a more clear delineation between odd lot and round lot. And actually, at some point, there were two different types of market participants interacting in those markets.

The way trading protocols have advanced, though, increasingly, institutional players are trading in smaller sizes. So a lower and lower trade threshold can provide meaningful information for the valuation process when trying to assess where an institutional participant could trade. So whereas we talk about in the corporate bond market numbers like a million-dollar trade or above was valuable for the valuation process when at an institutional

participant, we can look at trades down to 500K, down to 250,000 in investment grade, for example.

And in municipal bond markets, there was always a requirement to look at smaller trades. For example, there are bond issues which have less than a million outstanding, so you will never see a 1 million trade in those issues. So you have to look in proportion to the overall issuance of that bond to best understand.

So there is good variation across market segments. But I think the key trend we've seen in both the corporate and municipal areas is a driving down in trade size over the years.

MR. HEANEY: Thank you very much. Any other thoughts on that question or I'll move to the next?

MR. WHITE: Michael, a quick thought here. I think it's important to note that while 85 percent of the tickets in the corporate bond market are less than 1 million in size when we look at transaction data, it only accounts for roughly between 15 to 20 percent of the trading volume in the marketplace. This puts a real premium on the pricing data for the institutional market, where there are very few trades relative to the odd lot market. But it obviously generates the majority of the volume on a daily basis.

So where we think there needs to be further examination is how are odd lot prices being used to

determine the valuations for block positions? Because when you're using a lot of odd lot data to make a determination as to where to trade a block, you may be providing a false sense of where the market is for someone who really wants to understand where it would need to liquidate. And I don't think mechanically it's possible to liquidate at some of the levels -- a block at some of the levels that are being indicated by odd lot markets. So it really takes a clear distinction on what data set you're using if you're going to be evaluating a block position in terms of its true value in the marketplace.

MR. HEANEY: Thank you, Chris.

I'm going to turn to a question from Larry Harris and he has asked it of Terry.

Displaying quotes when there is no reward to doing so very likely reduces the quantity and quality of the quotes. Do you expect that a rule against trading through firm quotes would improve dealer quotes? What is the role of pretrade price transparency on price competition amongst dealers and other traders?

MR. HENDERSHOTT: Well, there is a lot in that question, I guess, as I might expect from Larry.

I mean, it's true. So the question about having firm quotes is an interesting one because, I mean, in -- in these bonds that trade so infrequently, having firm quotes all the time could well imagine that people would have to place them fairly wide because they may be getting stale all the time.

Now, Larry's point about trade through rules is a good one, that people who are willing to provide firm quotes continuously, having trades occur at worse prices than what they're providing doesn't -- it's not clear how that's helping anyone in the market. But there's a question of how do you actually determine whether or not a quote is firm and how would we think about, you know, both disseminating firm quotes and enforcing that they're not traded through? And I know Larry has done some work on this. But trying to set up the robust mechanism for monitoring and policing may be a fair amount of work but may be worth considering.

MR. HEANEY: Thank you, Terry.

Other questions? I have not received any others. In which case, I will go to the viewpoint portion of this and I will turn it over to Sonali.

MS. THEISEN: Great. Thanks very much, Michael, and Ananth and Kumar for hosting today's panel. And thank you so much to the panelists. I think it's really important to continue to raise awareness about the evolving and increasingly meaningful role that bond pricing services are playing in our markets.

I would just add, you know, to some of the

comments that Derek had made. You know, we had examined a date in mid-April for a key high yield index. And we found that just shy of 10 percent of those bonds for contacts, just shy of 10 percent of those bonds, the very next print in the morning of over a million size was more than five points away from the prior close of major pricing service. And that average difference at the time for the portfolio was less than a point, .91 points. And the value of the difference was 1.81 points. Right?

So this really illustrates that it really masked differences in sectors such as energy and real estate, where the absolute difference was four-plus points. But on a bond-by-bond level, as Derek mentioned, despite, you know, the best efforts, the reality is that the pricing services in times of volatility or stress, you know, on a bond-by-bond level cannot be accurate when pricing large, large swaths of CUSIPs.

I also think that, you know, we've observed things like the most liquid cash equivalent ETFs moving to -- away from cash settle during the volatility to physical settle. And still now sort of having the option to physical settle. Which again tells us that despite, you know, the industry's best efforts, that in times of volatility, in times of stress, we should certainly expect that on a CUSIP-by-CUSIP level, there may be meaningful differences the less liquid

an instrument is or the most volatile.

And I would just like to emphasize that I think, you know, away from this discussion, I really hope -- I think this is a topic that we've brought up quite a number of times in the past, that given the market's increasing dependence on these services, we should really explore what is the right regulatory framework to provide support to ensuring that the quotes are well understood by the market. And, you know, I think there was some discussion today around, you know, when are they meaningful, when are they reliable and at what level. But, you know, I'm not so fussed on, you know, at this point I think we should do analysis, whether it's IOSCO compliance, whether it's investment adviser registration, or it's something entirely new. I do feel strongly that it's important for us to ensure that there's robust and consistent best practices and oversight with the pricing services. And then also the appropriate amount of investor education as to how dependable those prices should be in different contexts and in different environments.

And so I spent a lot of time just, you know, thinking about how we can proactively safeguard the markets from unnecessary risks. And I'm especially sensitive to this topic, you know, as a member of the Federal Reserve's Alternate Reference Rate Committee and all the work that's

being done around LIBOR. And I think that more than one pricing service that I've spoken with has been constructive on this idea that there should be some sort of consistent -- consistent framework, particularly given, just again going back to the many thousands -- I think, you know, there were some very good comments made early on -- versus the many thousands of instruments that are being priced. And just even identifying, you know, in these markets, this is the general framework. This is when we're using, you know, direct trades. This is, on average, the number of derived prices, et cetera. But there needs to be, I think, more illustration that's transparent to the market as to the nature and the reliability. And then overall, a consistent framework.

So I really encourage us within FIMSAC to take this matter up more meaningfully and proactively. I think this is, you know, foundational to our mandate to think ahead to the issues or topics that may come up and be an issue later in the marketplace.

And as I've said many times, you know, this dependence on third party pricing has led to a lot of innovation and really good things for the market. But it's also a relatively new phenomenon and we should create sort of the right foundation and the right house for how these things should be viewed before we have an issue. So thank you.

MR. HEANEY: Thank you, Sonali. Let me turn it back to Kumar, who would like to make a comment.

MR. VENKATARAMAN: Thanks, Michael. This is a question for Ananth or Terry, or anybody else on the panel. But perhaps Ananth is the one to start.

Let's consider a bond ETF and a mutual fund with both a similar or identical portfolio. Now suppose during the March and April of 2020, we observed that the ETF is trading at a discount to the NAV, perhaps indicating that the NAV price is reacting too slowly.

So this means that some investors who bought the mutual fund essentially overpaid while those investors selling the fund received more for their sale than they should have. And the situation becomes, equally problematic in -- markets when these pricing differences can be large.

So my question is will retail investors be better protected if mutual funds all purchases and redemptions under -- markets when the NAV price is a little unclear, the valuations are unclear? Or will the lack of daily fund liquidity impose a new higher cost on investment?

MR. MADHAVAN: Thanks, Kumar. It's a very good, deep question. I will just say that, in general, I'm certainly of a belief that we keep markets open and we allow investors to exit or enter positions, irrespective of the

type of wrapper that we're dealing with. So in the context of a mutual fund, obviously, if we were to suspend redemptions or subscriptions in times of market stress, that might actually create a situation akin to a bank run, where investors, fearing they may not be able to liquidate their positions, start, you know, moving cash out of their funds earlier, exacerbating liquidity. So my general feeling is that suspending redemptions or subscriptions is not the way to go.

I will say that, you know, in the thoughtful comments of many of the panelists on your session, the evaluated pricing is the way to go, where we continually improve the ability to price bond portfolios. And I think to Sonali's point, obviously at an individual CUSIP level, it is very difficult to price a bond that may not have traded in a week. But at the portfolio level, if you're talking about a fund that maybe as 1,200 constituents, it becomes much easier to aggregate that and to have an accurate pricing, even if the pricing methodology is relatively transparent and simple, as I think we've demonstrated in the past.

So I would say that the evaluated pricing schemes are the way to go, where we continually strive to improve the bond portfolio valuations and come up with better estimates of intrinsic value.

MR. HEANEY: Thank you.

Mark, did you have another comment, Mark Heckert, that you wanted to make?

MR. HECKERT: Sure, sure. In terms of talking about the consistency of approach when looking at pricing services, it is worth noting that ICE data, pricing and reference data, which is the entity that provides valuations, is a registered investment adviser. I'm not aware if the other pricing vendors have that status, but ICE Data does.

MR. HEANEY: Thank you. Let me turn to a question from S.P. Kothari, chief economist and director of the Division of Economics and Risk Analysis. He's asking it generally to the panel.

In periods of volatility, often we observe premiums or discounts of ETFs to NAVs. In falling markets, discounts seem more prevalent among ETFs with underlying illiquid and sometimes liquid bonds. For example, for the week through March 20, Blackrock's iShares iBoxx investment-grade corporate bond ETF LQD closed at a 5 percent discount to its NAV. Why do we observe such large discounts in falling markets? Why don't the bond pricing services get closer to zero discount? If uncertainty and illiquidity are the challenge, why is it that the bond pricing services do not over- as well as under-shoot? That is, why are prices

from bond pricing services biased?

So let me open that up to the panel.

MR. HECKERT: Sure. Perhaps I can start on that point.

If were to look at ETFs more broadly during the dislocation, all asset class ETFs had some level of premium and discount. Even large-cap U.S. ETFs observed premiums and discounts. On an absolute level, those were dramatically smaller than fixed income premium discounts, both relative to their prior performance. Before the crisis, even equity premium discounts gapped out tremendously.

But there is a good point there. The ETF and the underlying are two separate markets even for large-cap equities. They are certainly two separate markets for ETFs and U.S. corporate bonds, and certainly two different markets for ETFs and high-yield municipal bonds, which is where we saw some of the strongest evidence of premium or discount.

And I do want to help the group understand though, this wasn't one directional. We saw premiums and discounts in fixed income ETFs. And there was -- there were two different markets operating at two different speeds. But there wasn't a clear directional bias in one direction or another during this -- during this situation.

MR. HEANEY: Any other viewpoints?

MR. HENDERSHOTT: Well, I thought some of the work that Ananth had done before, and he probably hasn't replicated it for recent vents, but in general, it seemed that NAVs lagged transaction prices. Which is not surprising, given that people who are actually quoting traded prices need to make sure they're accurate.

So it does seem that the pricing services in particular in falling markets have historically been not able to keep up as well as the markets that are really trading. So I would be interested to know why Ananth's prior work -- if ICE doesn't think that's still correct, why is that? And S.P. really raised the question of showing systematically for at least one important ETF there was consistent under-shooting.

MR. MADHAVAN: Well, let me just jump in there, Terry. So, you know, we are in the process of updating some of the research that I think you were alluding to from a few years back, which showed that NAVs tend to track -- you know, in other words, past NAV returns predict future NAV returns, meaning that there is clearly some staleness. That's not true of ETF price returns. So, in other words, the ETF is, to Mark's comment, a separate market. You know, it acts like an efficient market. The NAV is very much more like an appraisal-based evaluation and tends to move more

slowly and adjust.

And again, to the previous comments, we did see both premiums and discounts. We tended to see premiums when the market was moving up and discounts when the market was moving down.

I think, you know, this is something again where my feeling is, we can probably improve the NAV pricing, you know, with more efforts. So Gilbert suggested trade size as an indicator. I mean, there are many other things that we could use to come in with more efficient pricing for bond funds.

MR. HEANEY: Thank you.

I wanted to just take the opportunity to turn to Chairman Clayton or any of the commissioners if they had any comments or questions for the panel before we close out.

Brett or any of the other SEC Staff?

Okay, thank you, Kumar, for moderating the panel. I also want to thank the panelists for joining us today. Very insightful. Certainly a great way for us to kick off the FIMSAC meeting today. But thank you very much for your time.

We are going to take a short break. Will the FIMSAC members please stay on, remain on Webex, keep your lines muted, and we will reconvene at 11:30 for our next panel. Thank you very much.

(Recess.)

MR. HEANEY: All right, I would like to call the meeting back to order, if I can. And just prior to going to the second panel, let me just make a couple of corrections.

For the minutes, I had noted that Scott Krohn and Rachel Wilson had joined the meeting. They have not participated in the meeting, so I would like to make that correction.

In addition, the final agenda item does not end on the block trading discussion, but we do have a recommendation regarding pretrade transparency in the municipal securities market and subcommittee chairperson Lynn Martin will be running that recommendation to close out the meeting.

So those are the two corrections.

RECOMMENDATION REGARDING INTERNAL FUND CROSSES

MR. HEANEY: And at this point, I would like to turn it over to Rick McVey, chairman of the Electronic Trading and Technology Subcommittee, for our second panel. We will be considering a recommendation.

And I will turn it to Rick to start the panel and then move to the recommendation. Rick.

MR. McVEY: Good morning. And thank you, Michael.

The Technology and E-Trading Subcommittee is

pleased to put forward this recommendation regarding modernizing Rule 17a-7 under the 1940 Act. I will start with a brief overview of the recommendation and then introduce our panel for the Q&A discussion. I would like to thank all members of the Technology and E-Trading Subcommittee for the many hours of work and discussion that went into this recommendation. We also heard from outside industry representatives from the investment management industry, legal advisers, data providers and dealers.

Following many meetings and extensive deliberations, the Technology and E-Trading Subcommittee unanimously approved this current recommendation to FIMSAC. We believe that modernizing fund manager rules for crossing could unlock new liquidity in fixed income markets and reduce transaction costs for retail and other investors in fixed income funds.

Let me provide some brief background on the current rules before turning to our panel. The subcommittee was concerned with certain aspects of Rule 17a-7 of the '40 Act that governs the ability of investment advisers to sell a fixed income security from the account of one of the adviser's clients to the account of a different client, known as a cross trade. Advisers face significant challenges because the conditions of Rule 17a-7 make it difficult to cross fixed income securities.

Two of the biggest issues are that Rule 17a-7 only allows for customary transfer fees for cross trades and does not specifically allow for transaction fees with dealers or electronic trading venues. Rule 17a-7 requires that a fixed income security should be executed at the independent current market price, which is currently defined as the average of the highest current independent bid and lowest current independent offer determined on the basis of reasonable inquiry. The current rule has led advisers to attempt to get three indicative bids and three indicative offers from dealers before crossing a bond when they believe the cross is permissible.

The subcommittee's recommendation addresses each of the above issues. First, we recommend that the SEC make it clear that custodial fees and the fees of electronic trading platforms or dealers are permissible in connection with effecting cross trades involving funds.

Second, the subcommittee recommends that the SEC allow other methods of ensuring that a fair price is obtained for cross trades involving fixed income securities, other than by seeking multiple indicative bids and offers.

In addition, the recommendation sets out two ways to establish the fair value of the cross trading. First, using independent pricing sources, such as regulatory trade tapes, aggregated dealer runs, independent pricing services

or trading venue data services, provided that the adviser is not relieved of its fiduciary duty to achieve best execution for both clients on account of using a third party source; or alternatively, an electronic trading platform that has functionality to achieve fair pricing of cross trades, including a competitive RFQ process whereby an adviser can initiate a market-wide bid or offer wanted in competition on behalf of one fund and anonymously respond to the request in competition on behalf of the second fund with which the adviser wants to cross the bond.

The recommendation then suggests multiple safeguards and oversight mechanisms that the subcommittee believes should be in place if advisers are allowed to establish fair value in these ways, including regulatory trade reporting for all internal cross trades where it exists, such as FINRA TRACE or MSRB EMMA; limiting the use of independent pricing sources to establish fair pricing for internal crossing to level one and level two assets; regular investment management fund board review and oversight and policies and procedures for the selection and use of independent pricing sources and trading platforms.

Now, let me turn to our panel for the meeting today. And I would like to start by thanking all of them for their participation in our meeting.

First, we have Nora Jordan, partner and head of

the investment management group at Davis Polk and Wardwell. Lance Dial is managing director and counsel from Wellington Management. Ed Chidsey is partner and head of information services at IHS Markit. And Brian Brennan is head of fixed income and derivatives for KeyBanc Capital Markets.

Let me start with Nora. And if you wouldn't mind, Nora, could you please provide a brief overview of the current SEC rules for investment manager internal cross trades and the obstacles they impose on the industry?

Nora, are you there? You might be still muted.

MS. JORDAN: Sorry about that. Yes, before we talk about registered investment companies, which is our focus today, I thought it would be worth talking about what happens when an adviser wants to cross institutional clients, they want to cross a hedge fund with a separate account or an institutional client. And when that happens, there's a body of law that says basically four things have to happen. One, the adviser has to make sure that it's consistent with its fiduciary duty to do the trade. Two, they have to make sure there's best execution. Three, they have to make sure that the adviser is not getting any kind of fee in connection with the cross. They can get their management fee but nothing extra for doing the cross. And four, if they are an affiliate, then they have to get consent from the client. And we're not going to talk about

that today. We're not talking about any kind of trades involving affiliates of the adviser.

And there are a variety of ways that institutional clients comply with these requirements, how they get best execution. And two of the ways are ways Rick talked about. One, they get an independent pricing service to help them with the price. Or, two, they go to an electronic trading network that allows for some kind of safeguards to make sure the price is safe.

Now, the problem is that all works for institutional requirements. All those requirements have to be met with respect to registered investment companies. The Advisers Act still applies. So they have to get best execution, it has to be consistent with fiduciary duty and the like. But now there's a whole new body of law, the '40 Act, the Investment Company Act of 1940, which applies to trades involving registered investment companies.

As a starting point, the Investment Company Act has this provision 17a, which says you're not allowed to cross trades with registered investment companies. Now, the SEC put forth Rule 17a-7, in an attempt to be helpful on this, and it has been somewhat helpful, that does allow cross trades when you have a registered investment company. But it has certain requirements that don't work very well for fixed income securities. They work pretty well for equity.

The problem when you have a fixed income security is that Rule 17a-7 has two requirements in particular that are a problem. One, it says that no brokerage commission can be paid, no other remuneration can be paid, except for "customary transfer fees." There's no wording on what that means. So if it's not a fee being charged by a transfer agent, it's a little unclear whether you can charge it. So that means that if the adviser calls the custodian and says I'd like you to move security one from client A to client B, that custodian is going to charge something. That's not clear that's allowed. So most people won't do that trade because it's not clear it's allowed.

Second, you can't go to an electronic trading network because they're not going to do a cross trade for free either. Even though it's seemingly quite small as compared to a brokerage fee, it's not clear it's allowed.

So those two requirements create an issue in terms of the customary transfer fee. But the second kind of big issue under 17a-7 is one that Rick mentioned, in that the rule says that the adviser has to use the average of the highest current independent bid and lowest current independent offer, and they have to determine those based on reasonable inquiry.

And there is some wording on what reasonable

inquiry means. About 30 years ago in the context of municipal securities, there was a no-action letter, where the SEC said, well, I think reasonable inquiry means you need to get three independent pricing services to give you a price, or you need to get three independent bids, or you can do a combination, but you've got to have three. And that was in the context, again, of municipal securities. About maybe three years after that, the SEC actually issued a new no-action letter that said, okay, if it's an independent pricing service, you only need one independent pricing service. So that was all great.

The problem is, it's all in the context of municipal securities. And so what we're left with when we're trying to have a registered investment company cross a fixed income security, it's almost impossible to do because of these interpretations, and it's a highly regulated area and advisers are not willing to jump to conclusions about what these interpretations are. So we need some guidance from the SEC on how we can do these cross trades when registered investment companies are involved.

MR. McVEY: Great. Thank you, Nora.

And Lance, maybe I can turn to you to discuss how you and your colleagues at Wellington think about the actual costs as well as opportunity costs incurred by your fund investors due to the inability to conduct internal cross

trades today.

MR. DIAL: Sure, happy to go into that. Just a quick sound check and just make sure I can be heard before I go into a brilliant monologue that gets lost forever.

MR. McVEY: It sounds loud and clear.

MR. DIAL: Perfect. So first off, I'll just agree with the general sentiment that the revisions proposed here to 17a-7 we believe will increase liquidity and reduce transaction costs for our clients.

Even though we're dealing with the 1940 Act specifically, we at Wellington, as many other investment advisers, will apply common cross trading procedures for all of our clients. So we at this point hold all our clients' accounts to the 17a-7 standards. So loosening these will allow us to apply the cross trading standards to invoke our investment company accounts and our institutional accounts. And so that's why this is especially important.

As far as actually implementing this and thinking about the costs, first off, I will say that we can do cross trades, as Nora mentioned, but it is very difficult for all the reasons that were discussed.

For example, broker quotes can be hard to come by. Sometimes we'll have lack of time to get the broker quotes that we need when executing the order. Other times, the brokers will not have their own time to commit to doing what

they would view as a pricing exercise. We currently use them to trade securities and give us price indications on securities that we are looking to transact with them, and we've actually had them come back and say, hey, do you want us to spend time on this, this pricing exercise over here, or actually on working the order that you're trying to do on this other side? So there's a limited amount of time they can use for these purposes.

Other times, we see one-sided markets where there's lots of bids, lots of offers. And then other times, there's just a general reticence to commit balance sheet on a basis where they don't know where it's going to end up.

And finally, we also see volume issues. Sometimes, it's a cross trade where we have a liquidation of a client account and we're trying to cross over 100 CUSIPs at once. And that is just untenable to try and get three broker quotes on each side for all 100 CUSIPs.

So this overlay of having us go to get the broker quotes really does impede our ability to use crosses. And there's three sorts of costs that I think our clients incur. There's the cost in spreads, there's a market impact cost, and then there's a cost in opportunity cost.

With respect to spreads, when you cross, you cross the securities at a mid-price, as opposed to a bid and an offer. And based on analysis we did back in February before the world changed, we estimated that that cost savings amongst our clients would have represented over the prior year anywhere, depending on the assumptions you make, between $1.4- to $3.2 million in bid-ask spreads that our clients would not have to pay.

The market events in March exacerbated that, as we saw spreads blow out to about three times the normal volumes, volumes up 55 percent, and we saw many times when we were in the market on both sides as clients were moving and repositioning their portfolios in response to the market events. There, our conservative estimate from our trading desk is that the -- the cost savings could have been more than $10-, more than $15 million in trading spreads that we could have recaptured for clients, were we able to cross in an efficient manner.

Another source of costs that we experience now is market impact. We are a large asset manager and we tend to move in large blocks. And large blocks tend to move markets. If we have ready buyers and sellers in the size within Wellington, we can capture those trades at an appropriate price without being subject to that market loss. So you have an ability there.

Finally, there's opportunity costs. There's two types of opportunity costs that we deal with. One is the timing of liquidity. If we're able to cross when we have

ready buyers and sellers within our firm, we have immediate access to that liquidity and that means we can quickly capture the alpha that our portfolio managers are intending to use. Also, there's the larger opportunity cost in the sense that sometimes when we sell a security that we're trying to buy on the other end, we lose that to the market, and we don't get it back. And that's a cost because our analysts spend a great deal of time researching all of the names that our clients are invested in and they have specifically picked certain issuers, tenors or other specific securities to match the risk profile we're trying to achieve. And when we lose a name and are unable to replace it, we have to do that research again and we end up giving our clients what we believe to be a suboptimal portfolio, as we give them a silver medal, if you will.

So those are the costs that we have. And as far as the fees, that is also a challenge. We have been able to use broker-assisted crosses to help our clients cross and meet each other in the market. Because it is an operational challenge to settle the trades when you are dealing with multiple clients with different custodians. And so it's only a matter of time until that becomes a service that we have to pay for. And so getting that second element of the customary transfer fee to include a nominal charge from brokers or crossing networks is very important to the future

of the crossing platforms.

So with that, I'll pause, and we'll continue on.

MR. McVEY: Thanks, Lance.

Ed, the next question for you is following on on the prior panel discussion on advancements in pricing services. And the subcommittee spent an extensive amount of time with ensuring safeguards for both clients in a cross trade and the dependence on data services that are now available that were not there when the guidance of three dealer indicative quotes came into effect.

I was hoping you could describe in your own thoughts how the pricing services at IHS Markit have come along in the last seven to 10 years for independent pricing and what inputs are available to you to determine those prices.

MR. CHIDSEY: Sure. Thanks, Rick.

So we've definitely come a long way. I think as you look at the volume of data available to us and other pricing providers it has rapidly expanded over the past decade. And when you look at that, combined with the technology that's now available, it enables a wide range of high-quality prices be delivered on an intraday basis.

This combination of data, technology and people allow us to deliver prices today on more than two and a half million bonds multiple times throughout the day. And that

covers the corporate and sovereign universe, the municipal universe and the securitized bond universe as well.

In terms of data inputs, we use trade prices, obviously, where available, through sources like TRACE and EMMA. Trade prices obviously are a critical input but, without getting into the details, the prices do need to be vetted through robust logic to include, exclude and, in some cases, demerit trades based on a variety of factors.

So for us, you know, augmenting these trade prices with the broad access that we have to bond quotes, sourced directly from both sell side and buy side firms and hundreds of firms across the globe, is a critical input to us. So, as an example, on a daily basis, we parse approximately 1.4 million quote messages in realtime. That obviously varies day to day and month to month. But on average, you know, 1.4 to 1.5 messages. There's redundancy in that number, so this really equates to roughly 260,000 messages or unique messages and includes 4.8 million unique prices on a daily basis. This is across asset classes, but the vast majority of those 4.8 million relate to corporate and sovereign bonds, where we see about 3.9 million unique prices. And that covers, you know, roughly 50,000 bonds each day, or unique bonds.

So what we then do is we stream prices on this universe throughout the day. And then we use this data to build curves and evaluate a much broader universe. You know, corporate and sovereigns alone, that's about 200,000 bonds. So some of these have far fewer than three dealer quotes, some have many more. But ultimately, our objective is that the price for any bond that we put out represents its fair market value at that point in time.

And one final point to note is on transparency. And I think this builds on some of the comments and discussions that occurred earlier. I think Sonali from Bank of America talking about sort of disclosures related to inputs on methodologies. We don't simply provide a price; we provide a tremendous amount of transparency behind the price. It highlights what data sources were used, what pricing methodologies were used for each and every bond. So there's a lot of information that customers can use. And it gives them a high degree of confidence in the quality of prices that we provide.

MR. McVEY: Great, thank you.

And Brian, from the dealer's perspective, how do you think about investor cross trades, both in their current form, as well as potential new models like the ones described in the recommendation?

MR. BRENNAN: Thanks, Rick. Thanks for having me on today's panel.

You know, cross trades are a part of the business

that the dealer, you know, provides for an accommodation certainly to all asset managers. When they're, you know, doing a cross trade, they're, you know, changing principal ownership of the security. That's very important for a number of reasons. But at the end of the day, you know, these asset managers, you know, feel that that security has value for, you know, whatever reason for some of their other funds. Like Lance was saying, you know, maybe it's the credit or the individual company or the rating or the structural aspects of the certain security.

So the asset manager will, you know, attempt to try to cross these trades in today's market through the dealer community. And the dealer community takes these trades very seriously. You know, for us at KeyBanc Capital Markets, you know, we have a checklist that we need to establish, number one, that there is principal ownership change. You know, this is done through the use of subaccounts. That the actual transaction price, the price selected, is set by the trader, not by a salesperson or not by the asset manager but the trader himself. And that trader needs to stand up for that price and be willing to transact at that level. And third that the trade gets posted, and it gets posted to, you know, the regulatory reporting vehicles, TRACE and EMMA. So those are important to the dealer community.

But at times, I think Lance talked about it a little bit, that the asset manager is not just crossing one security. You know, that asset manager is looking to cross a number of securities, a list of securities. And this takes a lot of time away from the trading desk. Not all trading desks are built the same. Some trading desks may have a certain person that tries to execute these trades. But at smaller regional desks such as KeyBanc, you know, this can take time, and time away from other, you know, more lucrative, more -- of processing, you know, the normal flow and trading activity that we see, and can constrain the desk a little bit.

So, you know, we've always viewed the crossing trade at KeyBanc Capital Markets, at our dealer, as an accommodation. We take it seriously.

But in regards to the advancements and the rule, certain -- the rule is somewhat antiquated in a way. There have been such positive market changes around some of the things that have led to better liquidity, more transparency, enhanced better price executions across all types of securities, whether it's investment-grade credit, high yield, structured products, munis. The amount of data in the fixed income markets today can lead to, you know, I think, better price execution. We've seen that. Everybody's talked about it.

Between the regulatory reporting systems, TRACE and EMMA, you know, Ed was describing what they go through at IHS Markit. It's exceptional, you know, what they do in regards to demonstrating price and accuracy. IDC, ICE, you know, BVAL, CP Plus from, you know, market access, Rick, JP Morgan has a pricing service. So there's a plethora. There's a number of pricing services.

Yet on top of that, you know, the regulatory report engine, the third party pricing service, data from e-trading platforms, you know, these services are good and they can provide certainly an in-the-ballpark kind of execution context.

So the pricing information is certainly, you know, at the fingertips of the asset managers, no question. The regulatory data and third party data is there. The depth of the market is a question I would bring into the discussion at some point for the regulators to decide. Because an odd lot certainly trades a little different than a round lot. Maybe more analysis around that is certainly kind of necessary.

And then the other mechanism you talked about, Rick, was, you know, an RFQ process through, you know, the e-trading platforms. An asset manager can simply submit a request for bid. And then he can also be the best bid. And that's another way to demonstrate.

The only thing I think, Rick, that comes to my mind and that is a concern is that, you know, the dealers report trades. The market values transparency and, you know, every trade matters. And, you know, when you change principal ownership of a trade, that is a trade, and it needs to be reported, and there need to be some guard rails around, you know, the asset managers if modifications to how the rule is implemented.

So those are kind of my take on this rule and moving forward to modifications on the rule.

MR. McVEY: Great. Thanks, Brian. And that last point was one that was seriously considered by the subcommittee and led to the recommendation that all internal cross trades do come with the requirement for regulatory trade reporting, so that they're visible not just by the regulators but by all market participants as a change in ownership for that asset.

And Nora, maybe I can turn back to you. You and your colleagues at Davis Polk cover many and advise many investment managers. I wonder if you could provide a summary of their viewpoints on rule modernization, and especially comment on some of the safeguards that we put into the recommendation to ensure a fair price for both clients involved in the trade.

MS. JORDAN: Sure. I think this will definitely

be welcomed by all advisers. I think, you know, in connection with this exercise, we've actually talked to a number of large advisers and they definitely support it. But over the years, cross trades is something I get calls about. And so I know it will be well received in concept if they're getting more relief.

I think the independent pricing service has already been approved for municipal securities and they're used to that. So I think that will definitely be welcomed for non-munis. The idea of using an electronic trading network I know will be popular, again because they can do that for nonregistered investment companies.

And for firms like Wellington, and there are other advisers like this, too, who take the most restrictive rules that apply and apply them across the board, it's going to give more flexibility for all their clients, not just for registered funds. And for the ones who do have different rules, it will put them on a level playing field.

On the safeguards or what we call conditions, I think most of them will be well received. I don't know about all of them. I mean, the fact that you have to go to the board, not an issue. That will be totally streamlined, they are very used to that. They have quarterly meetings with their boards. They always report affiliated transactions. Boards ask about them. If there are lots of

internal cross trades, boards will ask about them. But that's a process that the SEC frequently uses, and advisers use and will be comfortable with.

On only allowing level one and level two assets, probably they'd prefer to have flexibility, but I don't think they're going to have a problem with it. I don't see them crossing very illiquid securities without significant safeguards. They -- our clients worry very much about making sure they have a record that prices are fair to both sides. And if it's a level three security, they would have a hard time getting that record. And so I don't think they're going to have a problem with that either.

On the public disclosure of the price, I don't think so. I don't think they're going to have a problem with that. I think it will be important to see how that gets implemented. Of course, advisers are not subject to TRACE, they're not FINRA members. So if it was going to require an adviser to hook up to some kind of TRACE system that they're not already hooked up to, maybe a big adviser won't mind that but a small adviser, it might be an issue. I have a feeling that that's not what is going to happen. The SEC will look at this and figure, well, the broker can report to TRACE or some third party can report to TRACE, or there could be a mechanism to publicly report the trade some other way. And so in concept, I think even that issue the

adviser will not have a problem with; it will just be the detail of how it's implemented. So I think advisers will be in favor of this overall.

MR. McVEY: Great. Thanks, Nora.

And Lance, maybe you can follow on that from your perspective, to comment on the safeguards, and then are they practical solutions for an investment manager like Wellington to implement? And do you think that we're on the right track in terms of providing safeguards that work for the benefit of both clients involved in the trade?

MR. DIAL: Sure. In sum, I think we're entirely on track. If you go back to the concerns that led to 17a and the Investment Company Act and the reason cross trading is an issue, is because cross trading has built in conflicts of interest, especially where an adviser could direct one client to purchase from someone else and another client to buy at a price they determine. The conflicts of interest are just inherent; that should be prohibited. So one of the big conflicts is making up the price.

We resolved that here both in existing 17a-7 and in this recommendation by requiring that price to be independent. That's something that we -- we use independent pricing vendors today for many things, so that is a recommendation we can certainly take.

We are also providing some standards for oversight of pricing vendors and making sure that they are independent. You know, saying that advisers should back test those pricing vendors. It's not much different than what we've seen in the recent valuation proposal that these pricing vendors and the output that they give is good and a reasonable reflection of market prices.

Then we talk about, okay, is the cross trade itself, assuming you have a good price that is independent and eliminate that conflict, how do we know that the cross trade itself is good for both clients? Therein comes the best execution analysis that we're requiring. We're saying that the cross trade shouldn't just be blindly taking the vendor price but rather evaluated against all other options that a client should have and determine that that is the best execution for both the buying and the selling funds. So we address that conflict as well.

And then finally, you have the generic oversight issues. Is the trade itself appropriate for the client? Or is this element of investment adviser overreaching? That is a challenge. And, frankly, this is an area that's not that well developed within 17a-7 as it exists today. So how do we know that the buying fund is purchasing for reasons that are associated with its investment program and not just because the adviser is misusing that relationship to have the buying fund -- park that security with the buying fund

for a time.

And I think some of the recommendations here go directly to those concerns. We have heightened oversight and surveillance. We have suggestions that there will be reviews for unusual trades. And these reports will be included in the reports that go to fund boards. We're having documentation of the rationale for trades.

But also importantly, I think the idea of public reporting through TRACE or some similar mechanism gives an opportunity for some realtime surveillance, both just generally in the market and with the SEC as the primary regulator to see if anything is amiss there. And I think having that layer of transparency on these trades will lead itself to ensure that there isn't this investment adviser overreaching. And so I think we'll actually end up in a world where we're able to cross more at better prices and better protecting the interests of fund shareholders. So I do feel very strongly this recommendation meets the goals.

MR. McVEY: Great. Thank you, Lance.

And Ed, let me turn it back to you and one of the topics that the subcommittee spent considerable time on is whether the pricing services are accurate enough down to the individual bond level, as opposed to portfolio trading levels or even NAV levels, end of day. And maybe you can describe your thoughts and experience around the accuracy of

these services and even reflect on the recent months when volatility has been elevated and what you've been able to do to ensure the accuracy at the individual bond level.

MR. CHIDSEY: Yeah, so I think I guess generally, you know, back to the earlier questions, when you look at the range of price inputs that we source combined with the technology we used to qualify the data, it allows us to flexibly calibrate parameters as and when needed, and I'll speak to that in a little bit, and then manage our waterfalls, it gives us high confidence in the overall process that we use and overall data that we have to price bonds.

And again, it's not just data and technology but the evaluator expertise that's embedded as well, and that comes into play, you know, importantly through times of volatility as well.

And as a final check, we continually back test our prices against available traded prices. So we run monthly trade studies where we compare our prices to both the last trade as well as the next trade. And this demonstrates that our prices track very closely to the traded market.

And then, in addition to NAV, you know, our prices are used throughout the ecosystem, whether it's NAV, rick, portfolio management processes. And continually tested, challenged, reviewed by hundreds of firms on an ongoing

basis, you know, throughout the day. So it gives us a high degree of confidence, you know, again, similar to other vendors, that what we've created, it's specifically designed to produce a price that reflects fair market value, as I said earlier, and really, you know, utilizing a wide range of inputs to be able to defend that.

As it relates to, you know, the recent volatility, you know, certainly those first couple of days of the crisis in particular were challenging, I think, for all of us on many levels. As a pricing vendor, we certainly saw volume and volatility that we hadn't seen in many years, if ever, so specifically from a fixed income perspective. But what we were able to do through, again, through the process that we had set up, the volume of data that we see, the parameters that we have, the guard rails we have in place, and the technology that we use, is to calibrate, you know, some of those parameters to ensure that we were reacting to what we were seeing.

So, you know, looking at things like how we bucket and cohort different bonds to price the broader universe, and recognizing that things are correlated on a much more general basis when things are moving together in that manner, so we are able to create cohorts that reflect that level of correlation, we're able to widen the sort of scope of the parameters and the gates that we put up in terms of prices coming into the process. Where, you know, on a typical day, if you saw a price that looks wildly off market, you may consider it an off-market price. But in times of volatility, things that otherwise seem to be off market are, in fact, on -- you know, within the market or at the market. And being able to calculate and change those parameters quickly so that we take in a wider array of data so that we can react to that, utilize it in our pricing processes, and then calibrate it throughout the day. And especially during those days of the crisis, the early days of the crisis, you know, modify our parameters.

And I think what we saw is there were definitely challenges in those first couple of days. But, you know, as the days went on, especially even toward the second half of that first week when things really went crazy, we were able to really bring our prices and our processes to a point where we felt a high degree of confidence in the prices and the quality of prices that we were putting out. And we were confident that they were reflecting, you know, the traded market and fair market value in general.

MR. McVEY: Great. Thank you. And I think on top of that, it was important to the subcommittee to ensure that the asset managers still took responsibility for the crossing price that they were utilizing for internal crosses. So the data that you have available is

dramatically different than it would have been 10 or 15 years ago. And that, combined with the investment manager responsibility around best ex we thought was the right safeguard around these trades.

MR. CHIDSEY: Absolutely.

MR. McVEY: Brian, maybe you can talk a little bit more about the dealer's perspective on trade reporting in particular and how important it is for you to be able to see risk transfer taking place in any way, including internal crosses, so that you can measure market turnover in the market overall, or specific issuers or securities, and also to know where risk transfer is taking place, even if it comes from internal crosses.

MR. BRENNAN: Thank you, Rick. First, I would just like to follow with what Ed was saying just about the pricing services and how much they have improved. Our focus products have been investment-grade credit, government agencies, municipals, as well as the more liquid structured products. And we rely on them heavily to demonstrate that end-of-the-month pricing and, you know, we're in line with where the market is. And we've seen vast improvements there in the pricing services, and we rely on them, especially at month end, to determine where we are. So I would say very good information there and very reliable.

In regards to post trade, that's the holy grail

for any dealer. Where things trade demonstrates kind of the momentum of the market and many other things that the trading desks need to be profitable. The competitiveness of the market has only been -- has advanced significantly. You have the bulge dealers and then you have the regional players such as myself and other -- many regional players that provide liquidity. Not only to the Wellingtons and PIMCOs and the Blackrocks and the State Streets, but other asset managers. And they might not have the same resources as Lance and some of the others. So the tape is very important.

And that's why when I said if the guard rails that are put in place for asset managers at the end of the day through the modification of this rule require them to go to the tape and post everything, I think most dealers would be in favor of some modification to the rule.

MR. McVEY: Great. Thanks, Brian.

And before we start the general Q&A, I would just like to offer an opportunity to any of the panelists to make any other points that you haven't been able to make or you think are relevant, or any other comments.

(No response.)

MR. McVEY: Okay, good.

Well, as we open up Q&A, I wanted to give Sonali Theisen a chance to share her perspective from the large

dealer community. Sonali was very actively involved in the discussion and she and her colleagues were extremely thoughtful about the suggestions that were being made and ultimately came to support the recommendation. So, Sonali, if you wouldn't mind, maybe you could kick off.

MS. THEISEN: Sure, I'd be happy to. Thank you, Rick, and thank you to all of the panelists. I think that was a really important discussion.

So, yes, as Rick mentioned, we deliberated this recommendation extensively and I think we got to a much better point with it as a result, which I'm pleased to see. You know, I think the topic itself is a very important one, of course, to our clients. And we want to ensure that there is a mechanism by which clients can cross trades effectively and efficiently.

So the discussion, I don't think, within the subcommittee was ever about whether, you know, this made sense sort of conceptually. It was more about what are the appropriate safeguards and deterrents to bad behavior, et cetera. I do think that we've gotten to, as I said, the right spot.

As I mentioned in the comments on the prior panel, you know, I don't believe that it's appropriate to solely rely on a third party pricing service at the bond level to cross bonds. You know, I gave some data in the last panel around, you know, on a bond-by-bond level, how there may be considerable differences, particularly in certain market conditions and in certain -- you know, as you go down the liquidity spectrum. But that said, I think that the current recommendation gets us to a place where again we've ensured that investors would need to sort of validate any third party pricing with other inputs. I think that's an important aspect to this. And likewise, you know, we would ensure that there are the right balances of not being overly reliant on one singe input and not -- and also with respect to not having level three assets, like bonds that are inherently less liquid would not be in the recommendation.

So I think those were important modifications that we made. So thank you, Rick, for the opportunity to work on this together and come to something that, you know, I think makes a lot more sense.

I think the last point that I would make from the dealer community is, you know, the role of quotes, et cetera, is one -- again, there was a panel on this before this -- the role of quotes in a quote-driven market, as opposed to firm liquidity orders is something that I think, you know, is always a tricky one to assess and evaluate. And I am pleased that we're asking again for the investors to have some assessment of how firm or how reliable quotes can be. Again, whether they're relied upon directly or

indirectly as a feed into pricing services, we do have to bear I n mind that for, you know, the corporate bond market, that again what we have outside of transactions are quotes with varying degrees of firmness.

But like I said, I do think the safeguards that we've included in the final draft of the recommendation get us much further along to sort of acknowledging these nuances and these challenges that the investors would need to consider. So thank you.

MR. HEANEY: Great, thanks, Sonali.

And Michael, with that, I will turn it back to you to moderate the open Q&A.

MR. HEANEY: Thank you, Rick. That was a great panel. I appreciate your moderating that and for all the participation of the panelists.

At this moment, I don't have people queued up for questions. I'll give it another minute or two. And I don't have people, any of the FIMSAC members, queued up for their viewpoints. So while giving them another minute, I will go to the SEC team and see if there are any questions or comments by either Chairman Clayton, the commissioners, Brett or any of the other SEC members.

MR. REDFEARN: Hey, Michael, this is Brett. I will try a quick one. I am just wondering if anybody can offer me your suggestions about, you know, who are the

parties out there who are likely to oppose this in some way? You know, it seems like there is a lot of support from the panelists and the folks here. But I mean, what other things should we be concerned about if you had to sort of take the other side of this? What are the issues we can expect to come across in looking more closely at this recommendation?

MS. JORDAN: This is Nora. I don't know who would oppose it, unless it is somebody who thinks there is just too much of a conflict of interest that an adviser wouldn't -- it would favor one fund over another. But I would be surprised if anybody opposed it.

MR. REDFEARN: We don't get too many where there's not at least somebody out there.

(Laughter.)

MS. JORDAN: Well, that's true. The consumer advocates who -- but there are a lot of benefits to consumers in this, in terms of lower prices.

MR. DIAL: This is Lance. I do think that there are a lot of benefits for shareholders. I think to the extent there is opposition, I don't know if you'd call it opposition as much as just ensuring that investors are protected. I think it's an area where people want to move carefully to make sure we don't open the door too far. Because there have been areas of abuse in cross trading historically. And so the committee, the subcommittee and

the panelists here and the people we worked with spent a lot of time to try and address those prior issues. And we think the balance of recommendations here with the controls go a long way to address those concerns and ensure that we don't see this recommendation create new misconduct.

MS. JORDAN: And I would add that the abuses that have happened in the past I believe are primarily in the area of a cross involving an adviser affiliate. So maybe the adviser has a lot of money in one fund and it crosses with another fund. And we're not -- this proposal doesn't go to that. It would have to be a non-control affiliate.

MR. REDFEARN: Thank you.

MR. HEANEY: Let me go to Larry Tabb, please.

MR. TABB: Wrong button. I think we had a really long discussion about this. I think the big issue that we had in discussing this was just ensuring that the less liquid bonds were priced effectively. I would agree with Nora and Lance that the issue has to do with preferential treatment of how the -- the pricing of the cross. And I think we've done a pretty good job at, you know, working to a solution that most people were comfortable with. So I'm fully behind this. I think it's good for investors.

People who may be not happy with this would be some of the dealers who get cut out of the transaction chain. But I think, net net, I think it's good for investors, it's good for the market as long as we can be confident that the price that we're matching at is fair to all.

MR. HEANEY: Thank you, Larry.

Rick, at this point, I've got no other questions nor comments lined up. And so for the greater FIMSAC -- Rick, is there anything else you'd like to say before I open it up for a motion?

MR. McVEY: No, all said here.

MR. HEANEY: Okay, so I would like to entertain a motion to vote on the recommendation. If I could open it up, please.

MS. THEISEN: So moved.

PARTICIPANTS: Second.

MR. HEANEY: I am going to go around and do it just as a roll call, which is obviously the most effective way. So it will be alphabetical. And you obviously just please vote for or vote against or abstain.

Dan Allen.

MR. ALLEN: I'm for.

MR. HEANEY: Thank you. Giedre Ball.

MS. BALL: I'm for.

MR. HEANEY: Horace Carter.

MR. CARTER: I'm for.

MR. HEANEY: Gilbert.

MR. GARCIA: For.

MR. HEANEY: Larry Harris.

MR. HARRIS: I'm for.

MR. HEANEY: Ananth.

MR. MADHAVAN: For.

MR. HEANEY: Thank you. Lynn.

MS. MARTIN: For.

MR. HEANEY: Amy.

MS. McGARRITY: For.

MR. HEANEY: Rick McVey.

MR. McVEY: For.

MR. HEANEY: Lee Olesky.

MR. OLESKY: For.

MR. HEANEY: Suzanne Shank.

MS. SHANK: For.

MR. HEANEY: Larry Tabb.

MR. TABB: I'm for.

MR. HEANEY: Sonali.

MS. THEISEN: For.

MR. HEANEY: Kumar.

MR. VENKATARAMAN: For.

MR. HEANEY: Elisse.

MS. WALTER: For.

MR. HEANEY: Brad.

MR. WINGES: For.

MR. HEANEY: Mihir.

MR. WORAH: Approve.

MR. HEANEY: Thank you, and I do as well, I approve.

So on a unanimous basis, and obviously we had just to get the majority, but on a unanimous basis, this recommendation has been approved by the committee.

Rick, thanks again for all your hard work and the hard work of the subcommittee to get us to this point.

So it is -- we're a little early, we're ending this session at just prior to 12:25.

I would ask if the FIMSAC members are fine to reconvene at 1:00 instead of 1:15? And it will give us a little bit of flexibility in the afternoon schedule, or perhaps to end slightly earlier.

So again, this has been a phenomenal morning, a productive session. We'll break for lunch. We'll come back at 1:00. And I would ask that all FIMSAC members please just stay connected onto the Webex but mute your audio during the lunch break. And we will see everybody back here at 1:00.

A big thanks to everybody on the panel again.

(Whereupon, at 12:23 p.m., a luncheon recess was taken.)

A F T E R N O O N S E S S I O N

MR. HEANEY: Okay, welcome back. It's 1:00 and I would like to call the meeting back to order.

I do just want to remind all participants, to manage the discussion in the most effective way, to continue to use the email to ask your questions or so I can call on you directly for comments and thoughts.

I think the morning session, despite how tricky this may be, the morning session went extremely well. So I'd like to thank all the FIMSAC members for their cooperation, and again for the people on the SEC for helping us along the way.

RECOMMENDATION CONCERNING ISSUER-PAY CONFLICT OF INTEREST IN CREDIT RATINGS

MR. HEANEY: So to kick off the afternoon session, we're going to consider the preliminary recommendation from the Credit Rating Subcommittee on issuer-pay conflicts of interest. I'll turn it over to Amy McGarrity, chair of the subcommittee, to provide an overview of the recommendation.

Amy.

MS. McGARRITY: Thank you, Michael.

Before I begin discussing the recent work of the Credit Rating Subcommittee, I want to thank Michael, the SEC Staff, the Credit Rating Subcommittee members, and FIMSAC members who elected to participate in our subcommittee discussions for their continued diligent and thoughtful work on this complex topic.

We also want to thank the interested parties who contributed to our research over the past months. We benefitted significantly from their expertise in a variety of areas and we appreciated their insights.

You may recall that at our last FIMSAC meeting, we hosted an expert panel discussing various views on the functioning of the ratings agency structure. We also distributed a discussion document which was posted on the FIMSAC's website. This working document was intended to drive discussion and continue exploration of alternate models and concepts to potentially improve the functioning of the ratings agency structure.

We received some market feedback on this working document. Written feedback can be found on the FIMSAC website, though I will attempt to broadly characterize it here.

Generally speaking, there was concern expressed surrounding commoditization of ratings and the impact to their relevance and usefulness to market participants; concerns surrounding the process and potential delays associated with assigning NRSROs to issuers, in addition to increased costs; and concerns surrounding linking assignments to ratings performance leading to overly conservative ratings. We appreciate the feedback and we

also realize there are individuals and organizations which may have intended to comment but have not yet had the opportunity, given the current pandemic. We encourage you to submit your feedback to the FIMSAC comment file at any time.

I would like to address another important piece of feedback, one which the subcommittee has explored at length. That is, what is the problem we are trying to solve? We learned through our work as a subcommittee and through some of the panels we hosted at the FIMSAC that there is at least a perception of conflicts of interest within the current credit ratings structure. We heard anecdotal evidence from market participants throughout our study which corroborates this perception.

Our research analysis, working documents and now our recommendation, which I will elaborate on momentarily, have focused on ways to mitigate that perception and to ultimately protect investors. This recommendation is the culmination of work of the subcommittee performed over the past months. It leverages ideas that surfaced throughout our research and it attempts to mitigate some of the perceived potential conflicts of interest associated with the current issuer pay model, without being overly prescriptive or recommending structural changes to the current NRSRO selection process.

The subcommittee overall encourages the SEC to consider whether enhanced disclosures by NRSROs and issuers could be beneficial, including the types of disclosure indicated in the recommendation before you. I would like to walk you through the main elements of our recommendation. They include increased NRSRO disclosure; enhanced issuer disclosure, including corporate and securitized sectors; as well as a mechanism for bondholders to vote on the issuer-selected NRSROs. The subcommittee believes these three elements work together to mitigate potential conflicts. Thus, we recommend all three in concert. I would like to walk through these three components in more detail.

The subcommittee believes additional disclosures will benefit users of credit ratings. More specifically, the SEC should require NRSROs to disclose more in-depth information about their models and how their models may differ by industry. In deriving a methodology or model, there may be qualitative inputs in the application of a model. These inputs should be disclosed by the NRSRO to improve transparency and understanding of the development of model-implied ratings.

NRSROs should disclose the credit ratings produced by their model-implied credit ratings and discuss the rationales for any material differences between their model-implied credit rating and their final issued rating. In

addition, if an NRSRO does not use a systematic approach which can be captured by a model-implied ratings disclosure, the NRSROs should disclose the information and qualitative inputs considered to derive their ultimate rating to provide context to investors. This information should be disclosed publicly as well as to the SEC.

The subcommittee recognizes that NRSROs sometimes have good reasons to deviate from pure quantitative scores. But it also believes that NRSROs should provide more in-depth disclosures of when and how NRSROs' modeling approach may change and why.

Since the recommendations surrounding increased NRSRO disclosure is not sector specific, we are recommending it be applied broadly across fixed income markets. However, our recommendation regarding enhanced issuer disclosure is specific to corporate credit and securitized products. We believe based on our research that these are the two areas of the market which will most benefit from enhanced disclosure surrounding NRSRO choice.

The subcommittee recognizes that many corporate credit issuers currently institute disclosure practices that may be considered best practices. Further enhancing disclosure of how issuers select credit rating agencies will be beneficial for investors. Such disclosure will provide greater insights into each issuer's process for choosing

NRSROs and will also encourage wider adoption of best practices. We encourage the SEC to partner with appropriate trade groups to develop a set of best practices for choosing NRSROs and, once established, to require corporate issuers to disclose if and why they deviated from those best practices in their annual reports.

The subcommittee recognizes that many securitized issuers currently institute voluntary NRSRO rotation and other best practices. Similar to the recommendation for corporate credit issuers, we believe enhancing disclosure on how securitized issuers select NRSROs will benefit investors. Establishment of a set of best practices and subsequent disclosures of deviations from them by issuers will improve transparency and potentially add insight into potential conflicts. Additionally, issuers should disclose any nondisclosed NRSROs that rated the deal to enable the deal to gauge potential ratings shopping.

The last component of our recommendation provides bondholders the ability to provide feedback to the issuer in the form of a vote on a ratification of the NRSRO. The subcommittee recommends that the SEC explore a ratification of issuer-selected NRSROs. Periodically, holders of publicly issued bonds should vote to ratify or simply confirm confidence in the NRSROs chosen by each issuer. The subcommittee believes the risk of censure that these votes

would place on credit rating agencies will encourage additional discipline to the quality of their work.

The subcommittee recognizes that even with the implementation of these recommendations, issues remain. We've discussed benchmarking considerations wherein some investors use benchmarks that require issues rated by specific NRSROs or investor guidelines that specifically reference NRSROs. We believe these requirements contribute to the persistence of NRSRO market concentration.

We also discussed that some investors owned bonds that strictly meet their guidelines, but which market participants know should be, for example, high-yield bonds. Thus these bonds trade with wider spreads than other investment-grade bonds and expose investors to the risks of high-yield bonds despite guidelines that may restrict such holdings.

Our studies have reinforced our view that this is a very complex, far-reaching topic with global ramifications. I believe our recommendation hits on Chairman Clayton's key tenets that he highlighted this morning of improving accountability, transparency and competition. The subcommittee recognizes that existing statutory, regulatory, or legal constructs may prevent the implementation of these recommendations, yet we urge the SEC to explore these recommendations further and work to

establish the needed legal or regulatory authority.

With that, I would like to turn it back to Michael for questions and comments.

MR. HEANEY: Thank you, Amy. That's a very helpful summary. And I would like to thank the subcommittee for the wide and large body of work that they have done to get to this point on the recommendation.

I have no questions logged in yet, but I do have a viewpoint, so I will go to that. And please continue to email me. But I will turn it to Larry Harris.

MR. HARRIS: Thank you, Michael. It turns out that Amy covered my point very well, so there is no need to hear from me.

MR. HEANEY: Okay. Thank you, Larry.

Others? Questions, comments?

Let me turn then to others, as I have. Anyone in the SEC team, Chairman Clayton, commissioners or Brett, any thoughts or questions?

It seems like people are well versed on what this recommendation is and how we've gotten here without any questions or comments.

MS. McGARRITY: It looks like Brett is trying other say something.

MR. HEANEY: Okay, Brett.

MR. REDFEARN: Hey, Michael. Yeah, it looks like

I have two mute buttons, so I only got one of them.

So just a quick question on the bondholder vote on ratification. I'm just wondering what the thoughts were on the somebody regarding, you know, certainly there are going to be different bondholders that have different investment theses or different ideas about where they would like it to be, similar to, you know, people maybe disagreeing with an analyst's recommendation on a security. And therefore, there could potentially be conflicts there.

Can you just elaborate a little bit on your thoughts as to how the bondholder ratification will be able to be -- how you got to the point that you thought it would really be sort of neutral enough to be helpful in the end?

MS. McGARRITY: Yeah, and for this I would like to actually call on our colleague, Larry Harris, to help me answer this question. But broadly speaking, just to kick it off, it's more like the auditor ratification process that you have on the equity side. So we felt it was somewhat similar to that.

But, Larry, I'll kick it over to you, since you were the one who brought this to the subcommittee.

MR. HARRIS: Thank you. Yeah, I think the auditor affirmation is a good starting point for this discussion. We know that it doesn't have a whole lot of teeth. But if there were ever an auditor who didn't get ratified, that would be a very serious problem, and that would -- that potential tends to, we suspect, tends to discipline auditors and also the issuers as well.

In the instant case, the notion is this, that by giving bondholders a formal way to express themselves, which will typically be after the fact, we create the potential for a focal point event that could potentially be embarrassing to credit rating agencies. And in so creating a system like this, we provide a bit of power to the buy side bondholders that is intended to balance the power that the issuers have in choosing the rating agencies.

So the purpose here is to simply create a mechanism where the buy side bondholders -- their needs are given greater consideration because the credit rating agencies may fear the potential censure. Now, the question is, when would we expect this to be exercised? And the answer is, probably very, very rarely and almost never if there aren't any problems with the credit rating agencies.

But if a set of bondholders set that the credit rating agency had done poorly on some issue and it probably came to bite them, then this would be their way of effectively casting a message. And the threat of casting that message is designed to ensure or help ensure that it will never need to be done.

MR. HEANEY: Brett, does that answer the question

for you?

MR. REDFEARN: Thanks.

MR. HEANEY: I would just like to -- you know, when Amy kicked off and said about each tenet of this recommendation being put in total, this was one of them. And I think it is a really good one. It gives some measure of discipline. And to Larry's point, maybe hopefully never enforced, but a good one to have, nonetheless.

So the subcommittee, Brett, really discussed and debated each one of these on its own, but much more so together than what kind of the package looked like for bondholders and for rating agencies.

Let me turn to Suzanne Shank, who I know has a question.

MS. SHANK: Yes, thanks. I just had a question about the process of how you would secure a bondholder vote on municipal issuances. Generally today, if we are trying to seek bondholder consent on a change in legal parameters for an issuer, they are deemed to sign off on those provisions by, you know, a majority of outstanding holders purchasing bonds with the new requirements. So there's a trigger point. And so you don't have the same situation on the municipal side where, you know, a bondholder is giving consent for or endorsement of auditors, for example. So what was the thinking around how to actually effect a

bondholder approval on, you know, this point for municipals?

MR. HARRIS: I can give it a go.

MS. McGARRITY: Go for it, Larry. We've talked about it, so go for it.

MR. HARRIS: First of all, I'd note that the parallel that you identified is an important distinction that we should think about. But it actually probably doesn't apply to the extent that you might have suggested.

So we're not talking about any change to a bond indenture agreement or anything like that. Not talking about anything to do with the cash flows of the bond or basically anything at all to do with the bond.

And so all it is is a mechanism essentially for organizing publicity in a formal way that might be viewed as -- hopefully would be viewed as fair, that would allow the bondholders to have their interests to weigh more heavily in the minds of the credit rating agencies than they otherwise would.

Now, as to the actual mechanics, this is something that people better informed than perhaps we would need to work out. In particular, how do you get a list of the bondholders, which bondholders should be allowed to vote. Presumably, the vote would be in proportion to their holdings. But these are issues that aren't all that difficult because, ultimately, we do know who the

beneficiary owners are of everything, although sometimes it takes a bit of research. But these are problems that have been dealt with on the equity side and in qualitative character they're no different.

MR. HEANEY: Thank you, Larry.

I will now wait a few moments just to make sure no other questions or comments come through, questions or people looking to express a viewpoint.

(Pause.)

MR. McVEY: Hey, Michael?

MR. HEANEY: Yes.

MR. McVEY: I am very much in favor of the recommendation. It seems to me that it's a logical path forward to minimize the risks of conflicts with either issuers or ratings agencies. And I think it's such a complicated topic, to think about turning a whole model upside down. But this to me is a very logical step forward with the safeguards that have been recommended.

So I applaud the subcommittee. I think it is a sensible step.

MR. HEANEY: Thank you, Rick.

MS. MARTIN: Michael, I would also like to opine. I am supportive of two of the three tenets of the proposal. I think Amy and the subcommittee have done a tremendous job.

But I do believe that the bondholder ratification may cause a series of unintended consequences on the issuers in particular and an undue burden on them. But certainly, he first two parts of the proposal, I am very supportive of.

MR. HEANEY: Thank you, Lynn.

I will say, and Lynn will have heard this, Amy will have heard this, I mean the subcommittee would have heard this as we went back forth in thinking about these as pieces and in total, and the strong opinion of the subcommittee, with all views still being taken into account, was to keep this as a whole package. And I am not just buffering this explanation out to the FIMSAC as a whole.

And so the recommendation that came -- that has been brought forward is with those three pieces as Amy outlined them. So I just want to clarify, in avoidance of any doubt, that the recommendation, should we move forward, which I will anticipate we will, to vote on, will be on all those pieces together.

And I will give it another minute or two to see if there are any other questions or comments by anyone on the FIMSAC or the SEC team.

MS. SHANK: Michael, just Suzanne, again. I agree with Lynn's, but I feel strongly in favor of the other two, so I can support the recommendation. Just asking that the mechanics around bondholder votes, you know, just be considered very carefully.

MR. HEANEY: Noted. Thank you, Suzanne.

MR. HARRIS: Michael, may I address Lynn's comment?

MR. HEANEY: Please, Larry. The floor is yours.

MR. HARRIS: So there is no question that by giving bondholders a vote and basically the potential to censure a credit rating agency, that that may reflect poorly on the issuer as well. And so it would be natural for issuers at first blush to oppose a proposal like this, because it would seem to take some of their power, and perhaps prerogative, which is essentially another fancy word for power.

But there is a flipside to this, which is that anything that we do to increase investor confidence in the -- the fixed income markets accrues to the benefit of all issuers and the benefit, of course, is that when investors are more confident in the market, they are more likely to hold bonds and that causes interest rates to be lower.

And so the immediate impact of I don't want to lose control here should be offset by considerations about what's good for the market, and ultimately what's good for all corporations taken together.

MR. HEANEY: If I can, I would like to turn to Elisse who I believe has a viewpoint.

MS. WALTER: Thank you, Michael. Just a quick

point that will not keep me from voting for the recommendation. But again, like Suzanne, I think it is something that we really need to look at or the SEC really needs to look at as we go forward.

I think existing bondholders have a bias to keeping the rating high so that they are holding a more valuable commodity. And I think it's important that we take that into account in how this is implemented. Thank you.

MR. HEANEY: Thank you, Elisse.

Other thoughts or comments?

(No response.)

MR. HEANEY: Okay, I am, you know, based on what I'm hearing, and what I believe is how the subcommittee feels and a number of members represent FIMSAC there, I think there is sufficient support to vote on the recommendation. So I will at this point entertain a motion to vote.

PARTICIPANTS: So moved.

MR. HEANEY: Thank you. Okay, so we will do it in the same format, alphabetically if I can. Starting with Dan. Dan, your vote? It's yes, no or --

MR. ALLEN: Yes, I'm supportive.

MR. HEANEY: Thank you.

Giedre.

MS. BALL: Approve.

MR. HEANEY: Sorry, I still can't hear.

MS. BALL: Can you hear me? Yes, yes.

MR. HEANEY: Yes, thank you. Sorry, I apologize.

Horace.

MR. CARTER: Yes.

MR. HEANEY: Gilbert.

MR. GARCIA: Yes.

MR. HEANEY: Larry.

MR. HARRIS: Yes.

MR. HEANEY: Ananth.

MR. MADHAVAN: Yes.

MR. HEANEY: Lynn.

MS. MARTIN: No, solely for the reason that I cited.

MR. HEANEY: Amy.

MS. McGARRITY: Yes.

MR. HEANEY: Rick.

MR. McVEY: Yes.

MR. HEANEY: Lee. Lee Olesky.

I will come back to him.

Suzanne Shank.

MS. SHANK: Yes.

MR. HEANEY: Larry Tabb.

MR. TABB: Yes.

MR. HEANEY: Sonali.

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MS. THEISEN: Yes.

MR. HEANEY: Kumar.

MR. VENKATARAMAN: Yes.

MR. HEANEY: Elisse.

MS. WALTER: Yes.

MR. HEANEY: Brad.

MR. WINGES: Yes.

MR. HEANEY: Mihir.

MR. WORAH: Yes.

MR. HEANEY: And I vote yes as well, affirmative as well. (Audio dropout) if I may to Lee.

(No response.)

MR. HEANEY: Okay, by a measure of 16 to one, the recommendation has been approved by FIMSAC.

Amy, thank you. A very, very big thank you for taking us through this and through all the hard work and the zigging and zagging necessary to get this recommendation here. And to the subcommittee as well. Because it was -- having listened to it, not an easy -- none of these are easy topics, none of these recommendations are simple. But this one certainly had, like I said, a lot of twists and turns and an incredible amount of teamwork and thought by the entire subcommittee.

So thank you all for all your hard work on this. The recommendation has been passed.

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We are remarkably well ahead of schedule. And I think just so we don't -- I want to make sure all the participants, and I know they're FIMSAC members for the next panel, are ready for it, why don't we just take, if I could, if we take a 15-minute break. I know we just had a lunch break. But a 15-minute break and we'll start again at 1:45. Gilbert, if that's okay with you?

MR. GARCIA: That's perfect.

MR. HEANEY: And transparency for block trades at 1:45. Good by you, Gilbert?

MR. GARCIA: Yes, it's perfect.

MR. HEANEY: Okay, super. Let's just take a 15-minute break. Thank you again.

(Recess.)

MR. HEANEY: Okay, if we can resume now, please?

DISCUSSION OF TRANSPARENCY IN THE MARKET FOR LARGE SIZE TRADES

MR. HEANEY: Next up, we will hear from the Corporate Bond Transparency Subcommittee on transparency in the market for block trades. Gilbert Garcia, chair of the subcommittee, will be leading the discussion.

Gilbert, I'll turn it over to you.

MR. GARCIA: Thank you, Michael. And thank you to Chairman Clayton and all the members of the SEC and Staff and all the members of FIMSAC.

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First and foremost, when Michael talked in the last panel about zigging and zagging and twists and turns, I think he was trying to lead into our panel discussion. So I appreciate that discussion.

And again, don't touch your dial. I am the chairman of this. It is no longer Mihir. So if you see me, it is correct. Mihir, of course, worked very, very hard for the first part of the existence of this subcommittee. And I took over that role here in March.

But we have had many significant and robust discussions in our subcommittee. And we came out of the gates pretty fast. But we've come full circle in many ways and in the end, we did not reach a consensus. But I think a lot of the hard work will be very useful to lay a very strong roadmap for the SEC and others in the future. And we'll talk more about that.

But let me give some background. Just to remind everybody, we started this journey on FIMSAC a little over two years ago on November 15, 2017. And at first, our subcommittee was the Transparency Subcommittee and we had our first meeting in February of 2018. And, of course, our task was to look at and consider the impacts of transparency, both pretrade and post-trade. And it was to look at both corporate bonds and municipal bonds. And then, of course, those two committees were then split. One was

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for corporates and the other was, of course, for munis.

And so our subcommittee met often. And again, there was robust discussion. And we ultimately came up with a recommendation and an idea to put together a protocol for block trades in corporate bonds and to look at their impact.

So on April 9, 2018, we developed the concept for a pilot study. And then FINRA went out for comments on April 12, 2019. And those comments lasted up until June 11 of 2019. And from this process, we received 31 comments. And the comments were pretty widespread. There were some on both sides of the issue. And I think overall, Tom Gira, of course, from FINRA, who will be our first panelist, will talk a little bit about those comments. He will give his perspective, he will try to summarize them and give some weight to some of the participants, because I think there were a lot of very good letters and so forth.

Our second panelist again will be Kumar Venkataraman, and he's going to speak about some of the challenges of the original proposal. And I think everyone felt some of the testing and so forth might have been pretty clunky. But at the end of the day, he is going to talk about some of the challenges of the original proposal.

And then Sonali Theisen, of course, will talk again about the merits and why we really came to this in the very beginning, which is the reason for a risk warehousing.

And she's going to talk a little bit about how other markets do it and how they do it successfully.

So at the end of the day, we've come full circle. We're going to present a lot of these findings. And again, we'll have any questions that Michael will then bring forward from the group. But I think that you'll see that a lot of work was done. It's not an easy topic. But I think we want to sort of keep all this information together, so the SEC won't have to reinvent the wheel in the future if and so if they do.

So with that, Michael, I am going to turn it over to you, just really to turn it over to Tom as our first panelist, to again review the various letters that came in and his view from FINRA's point of view.

So, Tom.

MR. GIRA: Thank you, Gilbert. Good afternoon. My name is Tom Gira. I am a proud member of FIMSAC and an executive vice president at FINRA, in charge of our Market Regulation and Transparency Departments.

I would agree with Gilbert. I think robust debate was a very good way to describe sort of our journey with this proposal. But I think it's an especially appropriate time to revisit the block pilot and the debate around liquidity in the corporate bond market.

While our earlier discussions did not reveal clear

agreement on the then-prevailing liquidity conditions or even how to measure them, there's no question we experienced a significant market event in March, which should serve as a critical point of reference and further study.

Before jumping in, I would like to start with a little background. TRACE is the system that provides consolidated information on bond trades to market participants, investors and the public. In general, corporate bond trades must be reported to TRACE as soon as practicable and no later than 15 minutes after the time of execution. TRACE then disseminates information about secondary market trades immediately, including price and trade size, up to dissemination caps that vary by bond category.

TRACE was launched by FINRA in 2002, following an SEC Staff study of the corporate bond market and a call for FINRA action to promote transparency by then-Chairman Levitt. Since 2002, FINRA has adopted a measured, phased approach to TRACE dissemination to try and best balance transparency and liquidity.

Importantly, throughout these phases, FINRA has tested and continues to rely on different mixes of dissemination protocols that best reflect the attributes of markets for particular fixed income instruments. For example, while all corporate bond trades have been subject

to immediate dissemination since 2004, FINRA uses dissemination caps that vary between investment grade and non-investment grade to provide some degree of protection to large block size trades that exceed the caps. For other debt instruments like securitized products, FINRA employs different dissemination caps. And for certain categories of securitized products, FINRA takes additional steps such as not disseminating information about the contra-party type and side of market or using aggregate periodic dissemination instead of immediate dissemination for larger size trades, again reflecting the balance between transparency and liquidity.

FINRA is committed to an ongoing view of its range of TRACE transparency protocols. FINRA provides specialized academic access to TRACE data to support independent study. And FINRA also performed and published its own analysis of corporate bond liquidity in 2015. This research generally has found liquidity conditions as measured by aggregate activity have improved or have not deteriorated with the introduction of additional TRACE transparency.

However, as was discussed at prior FIMSAC meetings, some market participants have expressed concern about difficulty executing block size trades in recent years. And some raise questions about metrics they feel are not fully addressed in the academic research, including

turnover and the concept of unexecuted trades.

With those questions in mind, after much robust debate and discussion, the majority of the FIMSAC approved a recommendation for a pilot to study whether a different mix of dissemination protocols, specifically larger trade size dissemination caps, coupled with a 48-hour dissemination delay for trades above those caps, would improve liquidity conditions for block size trades. Based on information included at the time of the recommendation, it would result in delayed dissemination for 1.2 percent of investment-grade trades, representing 32 percent of total par value traded, and 3.2 percent of non-investment-grade trades representing 40 percent of total par value traded.

The recommendation would also shorten the time for historic uncapped trade data to become public from six months to three months. The recommendation suggested that FINRA test these changes without a control group, although there was spirited debate among FIMSAC members on that point.

Following the FIMSAC's recommendation, FINRA worked to develop the details necessary for a pilot proposal, which FINRA published for comment in April 2019, as Gilbert mentioned. To inform our work, we studied the FIMSAC recommendation and associated public comments and we consulted closely with SEC Staff. Ultimately, our proposal

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incorporated the two core elements of the FIMSAC recommendation, increased dissemination caps and a 48-hour dissemination delay for block-size trades above the caps, with a few modifications.

The most significant changes we proposed were separate test groups for each aspect being studied, as well as the addition of a control group designed to support a meaningful analysis of the pilot's impact. Specifically, we felt it was important to try to separately discern the market impact of the higher caps from the impact of the 48-hour delay in dissemination because these two features of the pilot could potentially offset each other in whole or in part.

Consistent with our usual approach to policy proposals, we solicited comment on a number of specific questions, as well as overall thoughts on all aspects of the pilot. Among other things, we asked for additional input on data, on the need for the pilot, the potential impacts and its proposed design. To date, as Gilbert mentioned, we've received 31 comments from a range of market participants.

At the risk over over-simplifying a few top line themes, 25 commenters overall opposed the pilot, five supported it and one offered an alternative design without expressing a particular view on the proposal.

The commenters that opposed the pilot expressed

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concern that a dissemination delay would discriminate against all but the largest firms, result in information asymmetry, cause market distortions, increase systemic risk, negatively impact bond valuation services, harm the markets for derivative products, and create compliance challenges particularly around fair pricing and best execution. A number of these commenters also questioned the need for the pilot, because they felt there was not sufficient evidence of a liquidity problem because existing data should be studied further before such a dramatic change to market transparency.

On the other hand, the commenters that supported the pilot thought it was needed to improve block liquidity or provide the data necessary to inform future policy choices. Commenters also provided input on our proposed pilot, which some felt was too complex and offered alternatives FINRA might consider, like lower dissemination caps with no dissemination delay.

FINRA appreciates the thoughtful input reflected in the comment letters and FIMSAC's interest in this subject. It is critically important that our review of TRACE's design and impact remains ongoing, both with the academic studies that I mentioned earlier and the guidance from market participants prompted by FIMSAC. And it is especially important that we use recent market events to

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guide us and further inform this exercise.

While it does not seem that we have the commenters' support here that would usually carry us forward on an important policy initiative, FINRA will continue to study the corporate bond market to seek to have a rule set that properly balances transparency and liquidity. As the robust and necessary dialogue we have had at the FIMSAC level and at the subcommittee level has shown, the calibration process is not easy. And I think it needs to be guided by a philosophy of do no harm, a principle that Brett Redfearn, the director of the SEC's Division of Trading and Markets invoked at a prior FIMSAC meeting.

MR. GARCIA: Thank you, Tom.

Kumar, you're up, my friend.

MR. VENKATARAMAN: Gilbert, can you hear me? I know there was some --

MR. GARCIA: Yes. We can hear you perfectly. Thank you.

MR. VENKATARAMAN: Wonderful. Thank you.

Well, good afternoon, everyone. Thank you, Gilbert, Michael, and the SEC Staff. I appreciate the opportunity to provide FIMSAC with my comments on FINRA's block trade pilot proposal.

As a brief introduction, I am Kumar Venkataraman, professor of finance at SMU's Cox School of Business, and I

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study the market structure of fixed income markets. The views that I express today are informed by my research on market transparency, related academic studies, FINRA's pilot proposal, industry comment letters and discussions within the Transparency Subcommittee, of which I am a member.

As Gilbert and others have pointed out, members on our subcommittee do not share the same viewpoint on the pilot. But I appreciate our frank and collegial discussions on a difficult topic.

My prepared remarks will closely follow my presentation slides, available on FIMSAC's web page, titled Transparency Panel Presentation. If it is handy, please use the presentation slides to follow my remarks.

I will first summarize what we have learned from prior experiments when trade reporting was introduced in corporate, municipal and structured bond markets. There is a wealth of evidence that should inform our deliberations.

Next, I will consider possible explanations for decline in block trading volume in corporate bonds, which is the key problem that FIMSAC is trying to address.

Finally, I will discuss the intended benefits and the unintended effects of FINRA's proposal and summarize my views on the pilot.

My remarks borrow ideas from a comment letter that FIMSAC members Larry Harris, former SEC Commissioner Elisse

Walter and I submitted to FIMSAC in August of 2018.

On page 4 of my slide deck, I show the timeline of the initiation of trace reporting in the U.S. Registered corporate bonds were made transparent between 2002 and 2005. Structured bonds were made transparent between 2012 and 2015. And for Treasury bonds, trade data collection began in July 2017, but trades are still not publicly reported.

FINRA implemented the rollout of TRACE reporting in phases. That is, beginning July of 2002, FINRA asked bond dealers to report trades for all corporate bonds into the TRACE system. However, TRACE trade data was made available for only 500 bonds in July 2002. Trades of the next group of bonds were made public in 2003, the next group in 2004, then 2005. Similar staggered rollouts were implemented for structured bonds between 2012 and 2015.

FINRA's staggered rollout is a fantastic situation for researchers because treatment bonds at various stages can be benchmarked against control bonds that did not experience any change in transparency. Thus researchers can calculate market quality change before and after TRACE initiation for treatment bonds and compare the change to those for control bonds. This difference and different approach to some extent helps control for market-wide conditions that impact dealer behavior and trading costs.

So what are the key results of these studies? The

results are summarized on Slide 5.

Timely public trade reporting is associated with large reductions in customer trading costs for all trade sizes. Even institutional investors experience large reductions in trading costs. TRACE reporting also facilitated greater competition among dealers and, in particular, helped small dealers gain market share.

Similar benefits of transparency are observed for Rule 144A corporate bonds and TBA Agency bonds when transparency was introduced, markets which are dominated by institutions, and these results are reported on Slide 6. Again, lower trading costs for customers, even for trade sizes that exceed 10 million and, important for our discussion, no decline or evidence of decline in block trading volume or decline in capital commitment by dealers or change in dealers' propensity to facilitate block trades.

On Slides 7, 8 and 9, I have listed over a dozen related studies on corporate bonds, municipal bonds and structured bonds on the topic. Some of these studies have been conducted by SEC staff. I know Amy Edwards is on the call and she has a paper with former Commissioner Mike Piwowar and Larry Harris on the topic.

The key result is that the benefits of timely reporting of trades have been observed in many markets using different data sets, different empirical methods, different

time periods for both retail and institutional investors. Timely reporting of trades levels the playing field, making important information available to all market participants. Transparency in particular helps less sophisticated participants such as retail investors, smaller institutions and smaller dealers.

So Gilbert, at this point I'll pause and ask whether my audio continues to be clear?

MR. GARCIA: Yeah, it's perfect.

MR. VENKATARAMAN: Thank you.

Next, let us consider a metric that has been the focus of FIMSAC, the decline in block trading in corporate bonds between 2007 and 2019. On Slide 10, I consider three explanations for the decline.

The first explanation is that the decline is caused by TRACE trade initiation, which I quickly rule out. For just the corporate bonds, there was no change in post-trade transparency between 2007 and 2019. As I noted earlier, TRACE reporting was initiated for just corporate bonds between 2002 and 2005.

The second explanation is that post financial crisis reforms in banking-related regulations, such as the Volcker Rule and the Basel requirements made it harder and more expensive for bank-affiliated dealers to hold large inventories of corporate bonds, thus leading to a decline in

their capital commitment and block trade volume between 2006 and 2016, and also a move away by the traditional dealers towards a matching or a brokerage role rather than a market making role.

On Slides 11 and 12, I reference several empirical studies that point to this explanation, including studies conducted by the Federal Reserve economists.

The third explanation for the decline in block trading is the modernization of corporate bond market. The growth in electronic trading, alongside emergence of new types of liquidity providers and new and better ways to search for and trade with counterparties. Much of this modernization has occurred between 2007 and 2019, which can explain the decline in average trade size. As has been observed in other markets, when electronic trading took off, explanation three is simply that the trading ecosystem for corporate bonds has changed between 2007 and 2019, which helps explain the decline in average trade size.

There may be other explanations as well. For example, because volatility has been low and interest rates have been low, there is less need for asset managers to make large positional changes in their portfolio. And, as a result, we observe fewer block trades.

So what does all of this evidence mean for FINRA's proposed pilot? One thing that is clear is that TRACE is not the cause of the decline in block volume between 2007 and 2019. So what can be a possible justification for proceeding with FINRA's proposed pilot? One argument that we have heard is that, while TRACE is not the cause of the problem, it's an easy potential fix to address it.

So if we implement the pilot, as I note on Slide 13, I expect that we might see an increase in the block trade volume and that large institutions who trade in blocks and large dealers who facilitate blocks will benefit from the pilot. And this is the pilot's intended benefit.

However, we need to consider two categories of unintended effects. The first is that trade reporting delay leads to an increase in information asymmetry. To understand this, let us consider the mechanism by which delayed trade reports help the dealer. Delayed trade reporting represents a reduction in transparency that provides information advantages to those trading in block sizes. Delayed reporting will make it easier for dealers to distribute a large block because the investors to whom the block -- the dealers will distribute the block, who we call the receiving investors, are at an information disadvantage over the next 48 hours. Since trading is a zero sum game when measuring trading profits, delayed reporting simply shifts the costs of liquidity from block participants to the receiving investors.

Who are these receiving investors? Examples of investor groups which I discuss on Slide 14 include retail investors. Note that 70 percent of the TRACE trade reports are for less than $100,000. Large institutions who trade patiently by splitting orders. And several large institutions point this out in their comment letters. See in particular the letter from Dimensional Fund Advisors. Smaller institutions and portfolio traders such as ETF market makers. Smaller traditional dealers. And nontraditional liquidity suppliers in electronic platforms.

These categories of receiving investors are the counterparties to the large block trade and are likely to experience higher trading costs.

Now, we have discussed an alternative proposal that we delay reporting for super blocks. I would say that the same logic would hold for super blocks, except that the benefits accrue to an even smaller set of super-large participants.

There is also a second unintended effect of trade reporting delay, a deterioration in the quality of data available in the market, as discussed on Slide 15. Note that the pilot proposal delays reporting of a significant volume of trades as mentioned by Tom, almost 30 percent of investment-grade volume and 40 percent of high-yield bond volume. Delayed reporting increases uncertainty about what

is going on in the market, particularly during periods of high volatility.

Delayed reporting leads to dissemination of potentially misleading information about market conditions. For example, a block sale from a large institution to a dealer is not reported on TRACE but smaller offsetting sales by the dealer are reported on TRACE.

Delayed reporting leads to fewer timely trade reports. Timely trade reports are key inputs for evaluated pricing models, as we have heard this morning.

Delayed reporting hinders technological innovations that rely on availability of timely, high-quality data.

So to summarize, the unintended effects of delayed trade reporting are the increases in information asymmetry and the deterioration in the quality of data available in the market.

I fully support FINRA's randomized control design, the inclusion of control bonds and the assignment to three treatment groups to properly identify the effects of two recommended changes, as I state on Slide 16. Inclusion of control bonds provides a baseline to measure treatment effects, even when market conditions abruptly change, as we saw in March and April of 2020, once the pilot is rolled out. The randomized control design is necessary because

there is genuine disagreement among both FIMSAC members and the institutional investors community on whether delayed reporting of trades helps or hurts markets.

Some have expressed concerns about fairness. That is, whether we are creating winners and losers based on which bonds get assigned to treatment versus control groups. In my opinion, these concerns about fairness are moot because we can't even seem to agree on who will win and who will lose.

On Slide 17, I pose the following question to FIMSAC members, whether reduction in block volume between 2007 and 2017 points to a liquidity problem. Looking at other metrics of the health of the market, we continue to see a remarkable growth in the corporate bond market, robust new issuance activity, high secondary market volume, no evidence of secular increases in transactions cost between 2007 and 2019.

I would also submit that bond markets are less fragile in 2019 than 2007. In 2007, liquidity was largely supplied by the traditional bank-affiliated dealers and large losses in the banks' lending book caused a significant liquidity problem in the fixed income market.

Between 2007 and 2019, new types of nonbank proprietary traders and algorithmic liquidity providers have emerged. And this broader participation in liquidity provision points to a less fragile market.

Technology and innovations have transformed the bond market, leading to a new ecosystem between 2007 and 2019. We've observed a growth in new instruments, such as ETFs, new venues, RFQ venues, ATS platforms, greater availability of pretrade and post-trade data.

And so my question is, in this new ecosystem, are old metrics such as block volume still relevant? Should we measure the health of the market in other ways?

I don't know the answer to this question. But it's something I believe needs to be part of our deliberation.

In summary, I completely agree that dealers who facilitate blocks need to be protected. Dealers play an important role in bond markets, regardless of whether the trade occurs by phone or on electronic venues. Under FINRA's current designation policy, we already have a system that recognizes and specifically helps protect dealers by capping trade-side disclosure, for example, at $5 million for investment-grade bonds, thus masking the true size of a much larger trade.

I also agree that block volume has declined between 2007 and 2019. Other factors can help explain these patterns.

In my opinion, there is not sufficient

justification for the proposed pilot. There is a large body of evidence that transparency benefits markets. There is no evidence that TRACE caused reduction in block volume. The unintended effects of the proposed pilot are large, and the proposed pilot is likely to hinder technological innovations that are transforming bond markets.

In the last five slides of my presentation, I have highlighted comment letters from five large institutions, Vanguard, T. Rowe Price, Dimensional Fund Advisors, AQR Capital and Citadel. These institutions do not support the proposed pilot because they believe it will harm investors and markets.

With this, I end my prepared remarks. Thanks very much, Michael, Gilbert and the SEC Staff for giving me this opportunity.

Gilbert, back to you.

MR. GARCIA: Kumar, thank you. Well done.

And Sonali, it's your turn. And, of course, Sonali also has a presentation that of course will be up on the SEC and so forth website. But, Sonali, it's all yours.

MS. THEISEN: Great. Thank you very much, Gilbert.

Can everyone hear me okay?

MR. GARCIA: We can.

MS. THEISEN: Okay, terrific. Thank you.

Thanks very much, Gilbert, and to the SEC for providing me the opportunity to provide comments today. And I very much enjoyed listening to Kumar and Tom's comments before mine as well.

I will start by saying that I fully recognize that this is a complex issue with many perspectives, as was demonstrated by the variety of responses that FINRA received, which Tom summarized. And I certainly respect all points of view that have come out of this process that we've been engaged with FIMSAC on for the better part of the last couple of years.

Though I was not on FIMSAC at the time, I did work on the initial analysis for the first proposal in my former shop. And I believe that, you know, if we were to look back, you know, given that this was -- and, I think, Gilbert, you mentioned this -- given that this was really one of the first matters that FIMSAC put forth a recommendation on, perhaps we didn't have necessarily the benefit of the now well-developed process that we go through when we deliberate and then, you know, put forward the time to bring forward the recommendation. And so I do think that FINRA was given a fairly difficult task to construct a pilot. And I can understand the many reactions that FINRA received, both on form and substance, to the pilot.

One thing that I would say that I believe in

reading through the comment letters is that, you know, one thing that I do think was fairly unanimous from market participants was that the randomized control would be far too complex and expensive and therefore unlikely to be implemented, and therefore very unlikely to create meaningful results that could be properly analyzed to assess the likelihood that the pilot was successful.

While I certainly theoretically completely understand the desire for a control group in pilots, I think it would be a very difficult one in any proposal going forward with TRACE to implement control groups. And any thought of pilots should rather be approached as, you know, taking the entire market for a certain amount of time and observing the consequences.

In terms of my remarks today instead of -- as Gilbert mentioned, instead of advocating for a particular outcome or modification to the recommendation that FIMSAC put forward and that FINRA had taken forward, I would like to perhaps approach the topic more top down and just discuss what might be the most appropriate way to consider a framework for revisions to TRACE. And then at the end of that time, you know, whatever the framework was, if that was adopted, then there could be thought given to what the actual thresholds might be, whether delays make sense, et cetera. And I certainly also can -- I understand the comments that were received back about longer delays, particularly after end of day, maybe very difficult for certain market participants.

And so I would say that, you know, this topic of what is the right size block and then what is the delay, the two things kind of go hand in hand. And so maybe I would like to rather discuss just the framework and what's changed in the market and what other asset classes have implemented in recent years to help guide the discussion as this topic, you know, perhaps moves forward in the future.

So as Gilbert mentioned, I did have some slides. If you look at Slides 2 and 3 of the deck that I have that the SEC has put on their website, these are largely just updates to the initial analysis that was presented around this, which continue to just kind of show that, you know, the concentration of volume has moved meaningfully over the last 10 years. Again, we have 2007 data that we had used in an initial presentation, and then we have through Q3 of 2019 which, given that uncapped sizes are on a six-month delay, that's kind of the furthest back -- the closest forward, rather, that we could compare.

So you can see, for example, you know, on Slide 2, that again concentration in the IG market has shifted meaningfully in terms of volumes from the 10 to 25 bucket to the kind of 1 to 5 million. And likewise, looking at Slide

3, you know, looking at cumulative volumes, that sort of 50 percent mark in the investment grade market has moved in that time frame from eight million to about five million, and in the high-yield market has moved from about four and a half million to three million.

And so, you know, Slides 4 and 5, I think again, these are all meant to just illustrate again a similar point that, whether looking at by volume or by ticket count -- and we'll talk about ticket count in a moment because that is, you know, one transparency framework that's been adopted elsewhere -- but even if you look at by ticket count, again, there's been a meaningful change in percentiles across both IG and high yield in terms of how many tickets are done, you know, at various thresholds.

And then lastly, you know, on volume percentile, on Slide 5, again, some of the conversations that we've had within the subcommittee when we were thinking about whether there was a way to consider amending the proposal, was whether we could recommend thresholds by volume. So, for example, if we were to use the ninetieth percentile of volume as the benchmark for IG, that would suggest something around, you know, 21 million as a block trade size. Or likewise, you know, if we were to use something closer to 75 or 80 percent in high yield, that would, you know, suggest something around six to seven million.

I come back to my earlier point, which is these percentiles are useful. One, they are very illustrative, again, of how much has changed in the last decade or more. But, two, you know, they, I think, give a flexible framework by which to think about the ways that the markets have changed and what really does constitute a block. And also why are blocks, you know, important for the market to be able to transact.

You know, Gilbert, you mentioned, you know, the words "risk warehousing" before. And that is really the purpose that true block transactions -- again, we can debate what the number threshold is. But true block transactions, that really has been the role of a dealer, is to be able to transform that risk quickly in a way that minimizes market impact. And so one way that, should FINRA or the SEC have appetite to think about a volume percentile or a ticket count framework, one way that the SEC and/or FINRA could think about both implementing and measuring is to, you know, start with a really high percentile and start to bring it down or vice versa. You know, try different percentile levels, and then observe the number of blocks and with those blocks, the market move. Like so once those blocks are tagged, the market move of that bond, you know, for the, you know, person transacting the block, the entity transacting the block, and also the trades that happen in the meanwhile.

Because what you would hope to see is that you don't have -- or you have less of this impact of, you know, the market is here, to get a block done it goes to here, and then, you know, you have to kind of come down. You would hope that you just have sort of, you know, smoother hills, if you will, not as steep on an individual bond basis.

And so, you know, that would be again as a framework our view and our thought. Again, to kind of poll the market and look for feedback as to rather than setting an absolute threshold, whether a percentile approach would make sense, and then, with that percentile approach, whether to use, you know, by ticket count or by volume. And again, you know, these two things go hand in hand, depending on where you set those numbers. Then maybe your delay doesn't need to be as long.

Obviously, the higher the block number, the longer the delay the market would desire to be able to digest that block. So perhaps if you peg one part of that question, you know, you don't want to delay, let's just say for example, past end-of-day reporting, then you can use that information to sort of inform what percentile you would pick. And you can again look back at data. All of this can be very data driven. You can kind of look for what is the right percentile to get out of about 50 percent of that kind of block risk, or 60 percent of block risk, you know, over time, historically.

So, you know, having said this about TRACE and the framework, I did want to kind of highlight other recent transparency regimes that have been implemented in the last decade in fixed income. I have been involved, you know, actively in both of these. One is MiFID II bond transparency. And the other is, you know, swaps transparency via Dodd-Frank.

So Slides 6 and 7, for those of you that have the presentation open, will highlight -- I am certainly not going to go through a full explanation of MiFID at the moment. It's quite complex. Nor am I advocating that, you know, we should be looking at a framework that looks exactly like MiFID II for bonds.

But what I will highlight is that MiFID requires, you know, percentile buckets at the ticket level for what's called LIS, large in scale. So for bonds, that's set at 90 percent. And those numbers recalibrate annually for what they are.

And likewise, what is large in scale and the information dissemination depends on two things. One, if the bond is liquid or not. And that liquid framework, that liquid list of bonds is updated quarterly. You know, there are several hundred bonds in there right now. Most of them happen to be, you know, sovereigns. But that list is

updated. So if the bond is liquid and it's above LIS, there is a deferral. Likewise, if the bond is illiquid, even if it's below LIS, there's a deferral. That deferral is in a bucketed format until the following Tuesday and then on an unmasked level up to four weeks later.

And again, if there is interest in sort of analyzing what has happened in the volatility in the last couple of months, it may be interesting to look at how the MiFID framework has impacted transactions and number of blocks that get done and price movement, et cetera, versus TRACE. So that would be my one point on MiFID which is, again, a bond regime that we have now in Europe.

The second point would be on Slide 7 around Dodd-Frank's swap transparency. And again, with Dodd-Frank, the thresholds were set on a notional basis. They were set at 50 percent of notional, and that moves up to 67 percent at some point. And that threshold again determines post-trade -- you know, instruments are capped at a certain size. It also implements a delay in reporting of those trades. And it also impacts the protocol by which the market can transact. So, you know, anything above those caps can be transacted on a bilateral basis, whereas smaller tickets are transacted in a more competitive format of RFQ to three or more.

And I would highlight again that during the

volatility in the last couple of months, you know, there were concerns voiced by market participants in the swap market that, you know, the caps were actually too high and were impairing liquidity in the swaps market. But nonetheless, at least there is a framework again that is flexible and that is going to be over time responsive to sort of market changes in dynamics.

And, you know, the last thing, I'm certainly not the expert on the equity side. But I would note that even within equities, it is my understanding that, you know, there are accommodations made for, you know, blocks from the standpoint of Reg M of secondary offerings. When there is an offering of large magnitude and there are special selling efforts, where there is -- you know, trades are not reported to a tape.

One thing I would like to kind of come back to that Kumar had mentioned about sort of, you know, his findings through the research that he and his colleagues have done, I certainly -- again, I have a lot of respect for all the work that Kumar and the academics have done in this space. But I would sort of make the argument that the tightening of bid-offer that we agree would have been observed in the analysis that Kumar presented is really due to two factors. One was just the lower bid-offer during the time period due to low volatility and tight absolute spreads

through 2019. And the second, I think, very importantly, is the increase in competition amongst retail venues, trading venues.

So unlike equities, you know, vendor fees are embedded in the price that is reported to TRACE in most -- in many instances. There's not one set way that this is done. But in many instances, the price that hits TRACE includes a vendor fee. And those vendor fees, given the decade of competition in e-trading, have come down significantly over the last decade.

So it's really impossible to separate this phenomenon out in any academic study to understand whether, you know, what looks like, you know, transactions happening closer are really because, you know, the market maker is charging less or because the actual fees being paid to third party vendors are actually lower.

The last thing that I would mention, as well, is I understand the comments around, you know, Volcker. From our perspective, we don't believe that this is necessarily directly related to Volcker. We also don't find that, you know, balance sheet constraints have been an issue, you know, when considering a trade. However, you know, again, this comes back to the general question of warehousing with the expectation of near-term demand. And that certainly does play a role. You know, if you can get out of risk easily, then you may be able to provide better pricing on blocks. So I don't think that it's a direct outcome of Volcker but rather the sort of the fact that there is really not an ability to sort of warehouse and transform the risk that plays a part.

I mean, other factors, I think Kumar maybe touched on some of these, that I generally agree are dynamics that are changing in the market, is the aggregation of assets to fewer asset managers who are of course themselves managing all different types of strategies and funds. But I think that has played a role. The rise of passive. The separation of the PM and trader function and, you know, tracking of slippage. I think, you know, all of these things have been changing market dynamics.

And, of course, algos in the past couple of years have been competing for business, not necessarily profitable business, I would say. And the other thing that I would highlight is that the algos were largely turned off during the recent volatility. So the question is, again, it comes back to if there is a natural need to trade a larger block and the person, the institution that needs to trade that block, if they are comfortable managing their execution risk and can break that into smaller pieces and get done efficiently, then that's a great outcome. And I would agree then that that would be, you know, the best evolution for

the market, and no intervention was necessary.

But the question does become, in my opinion, whether that large block in fact could have gotten done at a better price which would have not harmed anyone else in the market but just sort of, as I mentioned, smoothed those bumps, if you will, of getting the block done, rather than printing each individual smaller ticket, which might have actually added up and aggregated to larger costs.

I will stop there, Gilbert.

MR. GARCIA: Well, Sonali, well done.

Hopefully, everyone can see, there are strong arguments on all sides. And this is just a microcosm of the robust discussions that we've had really for some time.

And so at this stage, I'm going to turn it over to Michael.

Actually, before I do, let me just say thank you to Tom and Kumar and Sonali and all the other committee members that really all attended, all participated these last couple of years, frankly.

So, Michael, I am going to turn it over to you now.

MR. HEANEY: Thank you, Gilbert. And many thanks to Sonali, Kumar and Tom for sharing the perspectives on this topic.

Again, like many others that we grapple with

within FIMSAC, there's no easy answer. But it still remains a topic worth debating and worth trying to find ways to improve.

I haven't received questions. And I think, given that this is FIMSAC only, without a panel, we can go right to discussion points and viewpoints.

And I will go right to Larry Harris with the first crack.

MR. HARRIS: Thank you, Michael. I think Sonali and Kumar did a great job and also -- I'm sorry, I just blanked on the name, sorry -- Tom, thank you.

I just wanted to add two quick points that I think are very powerful that should be mentioned. Sonali mentioned the importance of taking a top down approach and I couldn't agree with her more.

The most basic issue here that we're talking about is information is power. This is something that we all know. This discussion is ultimately about who can exercise power over information and who will not have that power.

Everybody, of course, argues for the public good. And I assume that their arguments are sincerely offered. But the overriding issue remains that information is power. And we know that price is very important. It's very, very important.

Okay, that said, I am opposed to the pilot because

I don't believe it's necessary. We will simply learn that information is power, and that learning is going to be costly to those that don't have that information.

Okay, but having said that, I do want to comment on the pilot study, just a very quick comment.

Fixed income instruments are extraordinarily complex. We all know that. And the markets in which they trade are extraordinarily complex. That's why we're here.

The people who trade fixed income are among the smartest people in the markets and arguably in the world. The idea that they can't handle the complexity associated with a two-dimensional pilot study is simply not credible.

That said, I still don't think the pilot study should be done. Thanks.

MR. HEANEY: Larry Tabb.

MR. TABB: Thanks, Mike.

In terms of the pilot overall, I have two things. First, do we have any good insight in terms of how transparency in Europe has impacted -- certainly, there are not a whole lot of bonds that are associated with the transparency issue under MiFID. But have we studied it and looked at the impact of that? And can we learn anything from that? That said, there are more sovereigns, as Sonali said, and less corporates.

The second thing about the control group, if we do move forward, my vote is to go with a control group because, you know, things happened. Nobody expected, you know, coronavirus or, you know, and without a control group, it's hard. You can say, yeah, oh, the market moved this way. But, you know, now all of a sudden, we're dealing with a new world than we were dealing with three months ago. It's kind of hard to look at Control Group A versus, you know, Control Group B. And that's it for me. Thanks.

MR. HEANEY: Okay, great. Thank you, Larry.

I have no one else in the queue. I will give a few more minutes, but I will do what I did earlier and see if anyone from the SEC, Chairman Clayton or the commissioners, or Brett and the SEC team, if anyone has any comments or questions?

(No response.)

MR. HEANEY: And then back to FIMSAC, if there are any questions or comments by others within FIMSAC?

MR. McVEY: Michael, it's Rick. And just responding to Larry's question, I think one of the challenges that many of us had is the U.S. corporate bond market has been the beneficiary of greater transparency in many ways, and certainly in terms of the access to capital in the U.S. market relative to elsewhere, including Europe.

And Larry, if you look at the volume estimates or turnover estimates in euros, so the true corporate bond

market in Europe, it runs somewhere between eight and nine billion U.S., including both high grade and high yield. If you look at the market turnover per day in the U.S. markets measured by TRACE, you currently have been running over 40 billion per day.

The other factor at work in block trades, in my opinion, is there has been an enormous expansion in the number of unique issuers in the U.S. market over the last 10 years. So we have been the market of choice for issuers around the world. And a lot of those are infrequent issuers that -- where blocks don't trade anywhere near as frequently as they do in the benchmark deals.

So it's one of those things. I fully understand the points on all sides of the argument. But there are so many good things going on with the U.S. corporate bond market in terms of the access that issuers have to capital in our markets, the transparency that's available to increase participation, which is showing up everywhere in new market makers in our market, new investment managers, quantitative strategies in our markets, the growth in ETF shares and how they're complementing liquidity in our core markets, that this is one of those things, the pilot in my opinion that was proposed was so complex that it ran the risk of setting us back. And that was the nature of our comment.

I agree with Larry Harris. We could figure it out. But to have four different sets of data in realtime in TRACE ran the risk of setting us back at a time where our U.S. corporate bond market is the best in the world by a mile. And that's the risk that I was concerned about, is if we really start to create complexity in TRACE reporting, have some of the benefits that we've seen over the last 10 years in terms of issuers coming to our markets, new market makers wanting to participate, new asset managers, do we set that back? And that's the primary concern that I have.

MR. HEANEY: Good points, Rick. Thank you.

Anyone else? I'm happy to do a little bit of a free for all, other than the email, if people have comments or questions.

MR. REDFEARN: Michael, I think I want to ask one question of Sonali. Which is, when we think about, you know, what's happened to blocks and we think about how the markets have evolved, including the evolution of, you know, more electronic trading tools and the use of algorithms and so on, obviously markets are going to evolve.

I guess the question is, in light of some of the data that was presented, is there any, you know, sort of contrarian data that you've seen that looked at either, you know, specifically sort of the impact cost being, in fact, lower for blocks such that, you know, we're missing

something in terms of a cost savings, having greater difficulty with being able to get blocks done? Or anything that shows that certain trades that people would want to get done just can't get done because of the nature of the structure right now? So anything that's evidentiary that points to a problem that needs to be solved?

MS. THEISEN: Sure. Thanks, Brett.

I think there were two parts to that question, and I'll try to separate. But I think the first question was is there sort of evidence that the blocks are actually getting done more efficiently in aggregate by breaking up the size tickets. In other words, the institution that would have traded a block is now getting more efficient at managing their own execution risk and breaking the tickets up into smaller tickets.

I think that would be an excellent study. I don't know the answer to that. We're limited with being able to analyze the data. On TRACE, we don't know who the counterparty is, right? So we're not able to identify that, you know, this 20 million block that we know maybe was going to go through the market went through as, you know, 10 $2 million tickets because there's not an identifier to who that was, right, on an anonymized basis. But I do think that that information is available, and I think would be, for the public sector perhaps something that would be really interesting to understand.

Because this all goes back to my, I think, just philosophical question that I think we all would like to know the answer to, which is, you know, our mandate, right, is to ensure that we create efficiencies and balance transparency and liquidity for, you know, not just institutional but Main Street. The question that we have is, you know, those large blocks, are they actually then, you know, going into indirect investment by, you know, by retail, by Main Street, et cetera, and would you have gotten a better print on a 20 million versus two. I think that that analysis can be done; we just don't have the access, have the access to that information.

And I'm going to -- I feel terrible but I forgot the second half of your question already.

MR. REDFEARN: No, that's okay. I think the second part had more to do with opportunity costs associated with not being able to get things done that people would otherwise do, right?

MS. THEISEN: Right, the trades that didn't happen. Right. So how often is it that, you know, the ticket didn't print?

One piece of data, obviously, inquiries that didn't happen, there's no systematic way -- there's certainly initiatives by market makers to try to track that

information, you know, in fits and starts. Unfortunately, there's no, I think, robust, systematic way of like the inquiries that didn't print, like we don't, I don't think, have good data yet in the marketplace.

But one data point that I do think is observable that I think Rick alluded to is turnover in the market. Right? So we think about not just volumes in the market, but volumes divided by, you know, outstanding. And the turnover numbers in our markets, you know, I think have been over the last decade, generally, have continued to decline as opposed to have, you know, meaningful upticks. I mean, you know, it's not a straight line, necessarily.

But that's where you would think that, you know, for all of the advances that we've made in connectivity and electronic execution and just making the process more efficient, you would assume that there would be a -- I think, you know, higher turnover in the market. So I think that is one piece that is observable and it would be interesting maybe to segment that the turnover by various ticket sizes because it might tell you again that, you know, although overall turnover has not gone up, it's gone up so much in the smaller ticket sizes and maybe that's, you know, where the liquidity of choice is today.

I do think that we can't really have this conversation without talking about and thinking about the

role that algorithms have started to play. We've been in, you know, I say this a lot -- I think we're still largely, while a lot of advances have been made, I think we're largely still in the toddler phase of algorithms for corporate bond markets. And by that I mean, you know, generally as an industry, we can come up with a mid and assess a bid-offer and skew for position. But we don't necessarily have, you know, algorithms that are as sophisticated as you might see in, you know, other asset classes that have had the benefit of, you know, longer development and have a different market structure.

But, you know, those smaller tickets, oftentimes, on the liquid instruments, let's just say under two million on bonds that are liquid, by and large now are getting done with the algos. And I don't think it's a surprise to anyone to say that the algos have been largely competing for that business, as we sort of all try to, you know, establish this as part of our business models.

So I think it would also be important to sort of take out, you know, and look at separately what we might think is algorithmic trading and understand whether that's a long-term sustainable environment, if those ticket sizes are going to go up, are the algos going to become more sophisticated and be able to take on bigger tickets and less liquid instruments? Or is that a, you know, a transition

phenomenon of sort of competing for business?

MR. REDFEARN: Thank you.

MR. HEANEY: Thanks, Sonali.

Anybody else?

MR. HARRIS: It's Larry.

MR. HEANEY: Sorry. Go on, Larry.

MR. HARRIS: A very quick observation. We do know the answer to Sonali's question about the effect of electronic trading and breaking up trades in the equity markets. Equity markets, of course, are different from the bond markets. But the processes are somewhat similar.

So it turns out that large trades are now broken up routinely by algorithms in the equity markets. And there are databases available that allow you to put those trades back together again to find out what the overall cost of trading was. And the cost of trading dropped following the introduction of electronic trading and algorithms. And I think the reason was because it's simply a more efficient way of trading.

So probably would happen in the bond markets. Can't absolutely promise you that it would, but I see no reason why it wouldn't.

MR. GIRA: I think the only comment I would make to that -- I think it's a great point, Larry -- is that certainly the pretrade transparency generally in equities, I think, you know, based upon even the discussions we've had today about pricing mechanisms, it's a little different in equities. I think that there's a different type of transparency, generally, that tends to exist, the way that the tape works in that. And also it tends to be a different liquidity profile.

And so I guess I've always wondered in the bond market, when you think about, you know, especially as you go to -- you know, even in equities, right? So we were even looking at thinly traded names because there's some question as to whether or not the market structure as it has evolved in a way that's worked extremely well for highly liquid names with a great deal of transparency, whether they work as well for the thinly traded names.

And I think in the bond markets, you do have enough names that are significantly less liquid without the same type of transparency, and therefore may be more challenged with some of those electronic trading tools. And so I think that was the area that might be differentiated.

MR. HARRIS: Something that certainly can be examined.

I would argue, though, that if we think that it was these other characteristics in market structure that led to the cost savings in the equity markets, that we ought to be considering them for the bond markets as well.

MR. GIRA: Mike, I have a point, as well. Just based on the discussion we've just had; this is probably going to be maybe a few years out. But I would just when the Commission approved CAT, they specifically mentioned that it should be expanded at some point to include fixed income instruments. So a lot of the issues where we're sort of saying we don't have the data points, again, who knows when CAT would be expanded to include fixed income. But we probably should be thinking about that at some point. You know, what are the types of things that could help, particularly on the order side, to be able to sort of connect and see exactly like you see on the equity side how orders are split up and they make their way through the market.

MR. HEANEY: Thank you, Tom.

MR. HARRIS: If nobody else wants to speak, I have a very quick response to Brett, another one.

So very well accepted empirical and theoretical results say that trading in slow assets for this, small trading, if you will, versus trading in the fast assets is essentially the same. With the only difference being, literally, time evolves faster for the fast assets than the slow assets.

So basically, in both cases, people are conducting search problems in which buyers are looking for sellers and

sellers are looking for buyers. And a fellow named Pete Kyle made this observation that maybe the only difference is that time moves faster for the bigger assets.

And so if you scale the trading by time, you see that the trading is essentially the same. And he has a bunch of very sophisticated ways of looking at that. But basically, the principles are pretty simple. I won't go into them but observe that there really isn't much reason to think that the search problems are any different, other than that time is moving at different rates.

MR. HEANEY: Okay, thank you all. I think at this point we probably should move forward.

I want to thank the FIMSAC panel. Clearly, a wide range of views. Rick, I appreciate your thoughts on this as well, as others, as they led to this pretty good discussion.

You know, I for one, I hope this is something that continues to get discussed. Maybe this wasn't the right solution, but I certainly think, to Sonali's point, things perhaps can be done slightly differently and/or better.

Gilbert, I appreciate you as well and your willingness to assume the chair of the subcommittee. And thank you for a very thoughtful discussion today.

So right before we move to Lynn and the last recommendation and portion of the agenda, the technology has worked pretty well today with one exception. And you could

hear, I was trying to get Lee Olesky and his vote on the credit rating. And, Lee, if you're on now -- I know you were on then and we couldn't hear you and the technology didn't afford you the opportunity for your vote. But I just wanted to make sure we could get that and have it in the record. And maybe the technology has failed twice.

Lee, are you still on? We'll try that at some point down the road.

Lynn, are you still on?

MS. MARTIN: I am, indeed.

RECOMMENDATION CONCERNING PRE-TRADE TRANSPARENCY
IN THE MUNICIPAL SECURITIES MARKET

MR. HEANEY: All right. So today's final topic, we will be considering a preliminary recommendation from the Municipal Securities Transparency Subcommittee, and I will turn it over to Lynn Martin who is chair of that subcommittee to provide the overview and the background for that recommendation.

MS. MARTIN: Thank you, Michael, for that introduction. I hope everyone on the FIMSAC, the SEC, commissioners and Staff are all in good health, both you and your families, and also safe, given the events of this past weekend.

As you heard from the comments by Chair Clayton and the SEC commissioners this morning, the topic of transparency continues to be an area of focus for us all. What has occurred to me in the two years since the Muni Transparency Subcommittee was formed is that the muni market is far unique from other markets, not just in terms of composition versus other fixed income markets, but also in the sheer breadth and complexity of the market.

As you heard on panels and in comments this morning, unlike many markets, most of the securities in this market do not trade regularly, which makes issues such as pretrade transparency to be quite challenging. That leads to a variety of challenges for the market participants, which again are unique to muni markets.

As a subcommittee, we have been talking about the transparency topic for quite a while now. We stand to make recommendations on various trading restrictions in the market in the hopes of improving transparency and liquidity, as well as more recently on the topic of improving the state of financial disclosure in the muni markets.

On the latter, we are heartened to see an improvement on the amount of financial disclosures during the most recent stress period, as reported by MSRB as well as Chairman Clayton and Rebecca Olsen's recent comments. Given the current volatility in the market, this increased disclosure has never been more timely.

Today's focus has shifted us more toward the topic

of pretrade transparency, which is quite a broad topic. This topic is one that continues to evolve, particularly in current times of volatility. There have been papers authored on this topic, including the Commission's 2012 report and, more recently, MSRB's reports.

Since the issuance of these reports over time, the markets have evolved, as the muni markets represent a living and breathing ecosystem subject to a variety of macroeconomic factors. As such, and as mentioned, unique challenges embedded within this vast market, there is still a lot of work to be done.

We are a collection of professionals who live in the day to day but are also sensitive to the unintended consequences that being too specific with a recommendation may have in the market. We take this very seriously, particularly in today's extremely volatile times. As such, what we have put forth today to the FIMSAC is a very high-level recommendation simply that the Commission should continue to look at the area of pretrade transparency as this ecosystem continues to evolve.

In doing so, we suggest that the Commission examine the breadth of information available to market participants, as well as how the retail investor can consume this information in an educated format. This information can include issues of creditworthiness, disclosure of

available securities, liquidity of those securities, and price, given that there are more than one million securities in the market. And those are just a few of those factors.

While improvements have been made since the Commission's 2012 report, we believe that this is an area that warrants continued examination. In doing so, we suggest that the entire ecosystem is considered, be it the role of the Commission, MSRB, ATSs and financial adviser networks all within the ecosystem.

At this point, I would like to turn it over to my fellow subcommittee member, Elisse Walter, for her perspective on the recommendation and on the work that we have considered on this topic.

Elisse, I believe you are still muted.

MS. WALTER: Quite correct, Lynn, as always.

This is an issue that deserves and certainly has gotten from the subcommittee serious attention. My role here has been traditionally to speak out for the little guy, for people I refer to as my Aunt Millie and Chair Clayton refers to as Mr. and Mrs. 401(k).

And it is a particularly important issue for retail investors because, as has been said in other contexts today, this is an issue of informational disparity.

It is the little guy who is a very important participant in this market, more so than in others, who does

not have and cannot obtain the information to give him or her a reasonable idea, particularly before executing a sale, as to what the appropriate price is. And that I find terribly problematic. I did in 2012 when we adopted the report.

We heard from investors who otherwise were very happy with their intermediaries and their investments but said that when they wanted to sell, they had no idea how to do it. And although things have evolved since then, they have not evolved enough.

I agree wholeheartedly with Lynn that we did not want to be too particular. And not only is this a market that is extremely important, but it is a market that is really the backbone of the infrastructure of our country. And we need to be careful how we move forward. But I'd like to reiterate that I think it's very important that the Commission take this issue and run with it and figure out what the right answer is.

Thank you, Lynn. Back to you.

MS. MARTIN: Thank you, Elisse.

So as you heard, there are a variety of reasons why we did not get too specific with this recommendation. Issues of education could be one way to address this challenge. But our recommendation is to the Commission to continue to examine this issue, particularly in light of the events over the last couple of months and the impact on the retail investor.

So with that, Michael, I am going to turn it back to you for the group discussion.

MR. HEANEY: Thank you, Lynn. And thank you, Elisse.

So no one queued up in the emails yet for either questions or viewpoints, so let's open it up if I can for any comments or questions.

MR. HARRIS: It's Larry.

I agree with the proposal and support it. I would add two additional perspectives.

With respect to the transparency of municipal finances, this is extraordinarily important. And not only just for the bond markets but, frankly, far more importantly for the municipalities themselves.

Somewhere, somebody has to provide discipline. And if the state governments and if other parts of the federal government can't provide it, to the extent that somehow the SEC can find some lever to get more transparency into those finances, that would be very, very helpful.

The second point is, with respect to price transparency, people are searching for prices. We're all very comfortable with the notion that competition is a pretty good thing that generates lower costs for everybody.

So I'd just note that it's hard to have competition on price when people don't know the prices. So price transparency is extremely important. And the transparency I'm now talking about is the pretrade price transparency.

We can't mandate it because we can't force people to do what they otherwise wouldn't want to do, and it wouldn't be appropriate to do so. But we can certainly give privileges to those people who provide transparency. And in giving such privileges, we can increase liquidity.

Our primary mandate from the beginning was to figure out how to make these markets more liquid. Competition could go a long way to doing that. We just have to make sure that people have an incentive to compete on price.

Thanks.

MR. HEANEY: Thank you, Larry.

I'll keep it open to FIMSAC but just include anybody from the SEC, the Chairman, commissioners, Brett and team, any comments or questions before we move to a vote on the recommendation.

Any other questions by FIMSAC?

MR. McVEY: Michael, just one more point. And, you know, I support all efforts to find sensible ways to expand transparency and expand participation and fairness in our markets. I just want to say I just think the reason

that both transparency committees have struggled with more specific recommendations is because of the point that Terry Hendershott mentioned earlier today.

And actually, for me, it takes us back to one of the recommendations that we made earlier, was approved by FIMSAC around the abuse of pretrade transparency through RFQs with pennying, where lots of market makers were trying to provide prices at a fair and level and playing field and compete for orders and the initiators of transactions were able to use that information to unfairly take trades away from legitimate market makers. And I was glad that we addressed that issue.

But I think what Terry was alluding to today, which is where I think many of us have gotten hung up on the specifics on pretrade transparency, is that when you get into these very illiquid markets, one, there are not that many market makers that are making markets and doing all the hard work across many sectors and issuers to have pretrade prices available to the market; and, two, in many cases, they're not truly live markets, they're indications of where they may be willing to trade.

And what I think we need to be careful of is that in this process, you do not want to create disincentives for the market makers that are working very hard to provide prices by forcing them to make all those prices available to

every one of their competitors in a way that makes them not want to do that. And this is the further down the liquidity spectrum we get, the bigger that problem is.

And this is -- I think both the corporate bond and the municipal bond transparency have kicked around pretrade many times without the ability to get to consensus. And it's not because the majority don't support transparency, it's because we don't want to lose the transparency and the liquidity for those that are trying to provide it in very illiquid markets. And I think that's where the challenge comes, in the specifics.

MS. MARTIN: I very much agree with what you said, Rick, and in this market in particular. A lot of the subcommittee kept coming back to the issue of price.

It's not just about price with this market, which is why we tried to also go broader for this market in particular around availability of securities, things like financial disclosures, other types of metrics. Because it feels like in this market, the issue isn't just a price type of issue, given the breadth of the issue or given the breadth of the market.

And we absolutely didn't want to create unintended consequences, as you were just alluding to.

MR. HEANEY: Thank you, Rick. Thank you, Lynn.

Any others?

MR. VENKATARAMAN: Michael, I have a quick observation, which falls upon some of the comments that we heard today in the first panel.

In particular, I think this is what Rick was referring to, Terry Hendershott made the point that will dealers provide the same quotes if they're not indicative and are firm? And Chris White raised the point that, to the extent that dealers are paid to provide information for the value that they produce, perhaps that could be a viable model.

I think those are all good ideas. We know that dealer quotations and runs play a very important role in the case of evaluated pricing, given that bonds do not trade very often.

So to the extent that recommendations or ideas that we have recognizes this price discovery role of the quotation data and comes up with ways in which they continue to have incentives to provide that information, I think we may have a way forward that may just work well. Thank you.

MR. HEANEY: Thank you, Kumar.

MR. REDFEARN: Michael, I just want to say one thing, which is that this seems like an important area and just chiming in here, a meaningful recommendation. I would say it is also one of the more open ended ones that we've received.

And so I would just remind the folks who are tuned in here that we do have a comment file on our FIMSAC website. It's on the bottom right-hand corner.

And if people -- you know, whoever those people out there who are thinking about this and have some really good, tangible ideas that are worth chewing on, I highly encourage you to go to that site and to submit comments and to give us more to think about here.

MR. HEANEY: Thank you, Brett.

Any others?

(No response.)

MR. HEANEY: Okay, at this point, I would like to entertain a motion to vote on the recommendation. Anyone care to move it?

PARTICIPANTS: So moved.

MR. HEANEY: Thank you.

Okay, similar to the earlier voting, I will -- same line, roll call alphabetically.

Dan Allen.

MR. ALLEN: For.

MR. HEANEY: Giedre.

MS. BALL: Yes.

MR. HEANEY: Thank you.

Horace Carter.

MR. CARTER: Yes.

MR. HEANEY: Gilbert Garcia.

MR. GARCIA: Yes.

MR. HEANEY: Larry Harris.

MR. HARRIS: Yes.

MR. HEANEY: Ananth Madhavan.

MR. MADHAVAN: Yes.

MR. HEANEY: Lynn Martin.

MS. MARTIN: Yes.

MR. HEANEY: Amy McGarrity.

MS. McGARRITY: Yes.

MR. HEANEY: Rick McVey.

MR. McVEY: Yes.

MR. HEANEY: Lee Olesky.

Lee, are you there?

(No response.)

MR. HEANEY: We'll come back to him again.

Suzanne Shank.

MS. SHANK: Yes.

MR. HEANEY: Larry Tabb. Larry?

MR. TABB: That's me, Larry Tabb. Yes.

MR. HEANEY: Thank you.

Sonali, are you still on?

(No response.)

MR. HEANEY: I know Sonali -- David, Sonali had expressed hers via email if she was going to be in transit,

and I have that as a yes vote.

MR. SHILLMAN: That's fine.

MR. HEANEY: Thank you, David.

Kumar.

Kumar? There you go.

MR. VENKATARAMAN: Yes.

MR. HEANEY: Thank you.

Elisse.

MS. WALTER: Yes.

MR. HEANEY: Thank you.

Brad Winges also has done the same, had to step out and, via email to the SEC team and myself, has voted yes, and is acknowledged here.

Mihir.

MR. WORAH: Yes.

MR. HEANEY: Thank you. Let me go back one more time. Lee Olesky, are you there?

(No response.)

MR. HEANEY: Okay, a unanimous vote of affirmative. The recommendation has been passed and approved by the committee.

Thank you, Lynn, for presenting the recommendation, moderating the discussion. And a big thanks to the subcommittee for all the work here in getting us to this point today.

ADJOURNMENT

MR. HEANEY: So that will take us through the end of the agenda.

Thank you everyone for participating in what has been another productive meeting, despite having to do it remotely.

I want to again thank the SEC group and its technology team for such a smooth process today. It certainly surpassed my expectations and maybe yours, too.

I am pleased that we've put forth actionable recommendations to the SEC. For those counting, there were 12 recommendations to the SEC prior to today.

With the three that were passed today, it has been a total of 15 recommendations put forth to the SEC since the inception of FIMSAC, so a job well done and a lot of teamwork and hard work and dedication by the FIMSAC members.

As always, if there are other topics that members believe that we should be considering beyond what we have already worked on, please, email myself, raise them with your subcommittee chairs, email Brett. And as the Chairman had asked and pointed out today, we may have additional time to work on some of those.

I would also like to thank those who have already responded to the Chairman's request to extend FIMSAC. And again, as you think about it, if it works or does not work

for you, please just respond via email.

The next FIMSAC meeting is scheduled for August 3. It remains to be seen whether that will be in person or held remotely like today. So stay tuned and we'll come back to you.

At this point, I will entertain a motion to adjourn.

PARTICIPANT: So moved.

MR. HEANEY: Thank you.

All in favor?

(Chorus of ayes.)

MR. HEANEY: Thank you all very much for your hard work. Be well and be safe.

(Whereupon, at 3:14 p.m., the meeting was adjourned.)

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PROOFREADER'S CERTIFICATE

In the Matter of: SEC FIXED INCOME MARKET STRUCTURE ADVISORY COMMITTEE MEETING

File No: OS-0601

Date: Monday, June 1, 2020

Location: Washington, D.C.

This is to certify that I, Christine Boyce (the undersigned), do hereby certify that the foregoing transcript is a complete, true and accurate transcription of all matters contained on the recorded proceedings of the meeting.

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(Proofreader's Name)

REPORTER'S CERTIFICATE

I, Kevin Carr, reporter, hereby certify that the foregoing transcript is a complete, true and accurate transcript of the matter indicated, held on __6/1/2020___________, at Washington, D.C., in the matter of:

SEC FIXED INCOME MARKET STRUCTURE ADVISORY COMMITTEE MEETING.

I further certify that this proceeding was recorded by me, and that the foregoing transcript has been prepared under my direction.

6-8-2020

Kevin Carr

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