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U.S. COMMODITY FUTURES TRADING COMMISSION
Three Lafayette Centre
1155 21st Street, NW, Washington, DC 20581
www.cftc.gov

June 9, 2020

RE: 20-00122-FOIA

This is in response to your request dated May 24, 2020 under the Freedom of Information Act seeking access to: [A copy of the meeting minutes from the 13th and 14th meetings of the Market Risk Advisory Committee. A copy of the meeting minutes from the most recent three meetings of the Global Markets Advisory Committee. A copy of the meeting minutes from the most recent meeting of the Technology Advisory Committee. A copy of the meeting minutes from the most recent meeting of the Agricultural Advisory Committee.].

In an email to me on May 26, 2020, you indicated that either the meeting minutes or the transcript of these meetings would be sufficient.

In accordance with the FOIA and agency policy, we have searched our records, as of May 26, 2020, the date we received your request in our FOIA office.

We have located 658 pages of responsive records. You are granted full access to the responsive records, which are attached. Please be advised that while one responsive record is labeled as the meeting minutes for the 12th Market Risk Advisory Committee meeting, the document is mislabeled – that meeting was actually the 13th meeting.

If you have any questions about the way we handled your request, or about our FOIA regulations or procedures, please contact me at 202-418-5912, or Jonathan Van Doren, our FOIA Public Liaison, at 202-418-5505.

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, Room 2510, 8601 Adelphi Road, College Park, Maryland 20740-6001, email at ogis@nara.gov; telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

If you are not satisfied with this response to your request, you may appeal by writing to Freedom of Information Act Appeal, Office of the General Counsel, Commodity Futures Trading

Commission, Three Lafayette Centre, 8th Floor, 1155 21st Street, N.W., Washington, D.C. 20581, within 90 days of the date of this letter. Please enclose a copy of your original request and a copy of this response.

Sincerely,

Rosemary Bajorek
Attorney-Advisor

COMMODITY FUTURES TRADING COMMISSION (CFTC)
MARKET RISK ADVISORY COMMITTEE MEETING

Wednesday, December 11, 2019
9:39 a.m.-1:08 p.m.

Location:
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, NW
Washington, DC 20581

PARTICIPANTS

CFTC COMMISSIONERS:

Chairman Heath Tarbert

Commissioner Rostin Behnam

Commissioner Brian D. Quintenz

Commissioner Dawn DeBerry Stump

MRAC PARTICIPANTS:

B. Salman Banaei, IHS Markit

Ann Battle, ISDA

Stephen Berger, Citadel

Richard Berner

Lee Betsill, CME Group

Isaac Chang, AQR Capital Management, LLC

Biswarup Chatterjee, Citigroup

Alicia Crighton, Futures Industry Association

Matthias Graulich, Eurex Clearing AG

Richard Haynes, Office of the Chief Economist

Frank Hayden, Calpine Corporation

Lindsay Hopkins, Minneapolis Grain Exchange

Annette Hunter, Federal Home Loan Bank of Atlanta

PARTICIPANTS

(Continued)

Vincent B. Johnson, BP Integrated Supply and Trading

Demetri Karousos, Nodal Exchange, LLC

Derek Kleinbauer, Bloomberg SEF, LLC

Laura Kimpel, The Depository Trust & Clearing Corporation

Sebastiaan Koeling, Futures Industry Association - Principal Traders Group

Alicia Lewis, Designated Federal Officer

Bob Litterman, Kepos Capital

Robert Mangrelli, Chatham Financial

Kevin McClear, Intercontinental Exchange, Inc.

Dennis McLaughlin, LCH Group

Craig Messinger, Virtu Financial

Dale Michaels, The Options Clearing Corporation

Agha Mirza, CME Group

John Murphy, Commodity Markets Council

Dr. Sam Priyadarshi, Vanguard

PARTICIPANTS

(Continued)

Jonathan Raiff, Nomura Global Financial Products, Inc.

Marnie Rosenberg, JP Morgan

James Shanahan, CoBank ACB

Lisa Shemie, Cboe Global Markets

Dr. Betty Simkins, Oklahoma State University

Tyson Slocum, Public Citizen

Dr. Marcus Stanley, Americans for Financial Reform

Robert Steigerwald, Federal Reserve Bank of Chicago

Janine Tramontana, Federal Reserve Bank of New York

Kristen Walters, BlackRock

Suzy White, HSBC

Rana Yared, Goldman Sachs

Thomas Wipf, Morgan Stanley

Scott Zucker, Tradeweb

AGENDA

AGENDA

(Continued)

AGENDA

(Continued)

AGENDA

(Continued)

AGENDA

(Continued)

P R O C E E D I N G S

(9:39 a.m.)

MS. LEWIS: Good morning. As the MRAC Designated Federal Officer, it is my pleasure to call this meeting to order.

Before we begin this morning's discussion, I would like to turn to the members of the Commission and the MRAC Chair for opening remarks. We will start with Commissioner Rostin Behnam, the MRAC Sponsor; followed by Chairman Tarbert; then Commissioner Quintenz; followed by Commissioner Stump; and finally, Nadia Zakir, the MRAC Chair. Unfortunately, Commissioner Berkovitz could not join us today. He sends his regrets.

Now we will have remarks from Commissioner Behnam.

COMMISSIONER BEHNAM: Good morning. Thanks, Alicia. There is a disabled train on the Northeast Corridor, so a couple people are late, and we're waiting for a few others. But we're going to keep things moving along. It's a pretty packed agenda, and I figured let's just get through it. It's a busy time of year, so we're going to have a long morning, but we'll break hopefully at around 1:15, and then we'll be done for the day.

So good morning again and welcome to the MRAC meeting here. I want to thank Chairman Tarbert and Commissioners Quintenz and Stump for being here today as well. I also want to thank and acknowledge the MRAC members and the invited speakers who are going to participate today.

I would like to extend a special thanks to Nadia Zakir, the MRAC Chair, for her commitment and leadership; and, as always, Alicia Lewis, the Committee's DFO, for her tireless and well-executed work. There are obviously many, many individuals here at the CFTC who make these committees work and run smoothly, but none deserve more recognition than Alicia. So thank you.

This morning we are going to receive updates from the MRAC's three newest subcommittees: the Climate-Related Market Risk Subcommittee, Market Structure, and CCP Risk and Governance. The Commission recently approved each of these three subcommittees. And I appreciate my fellow Commissioners and their support and thank each of the subcommittee members for their willingness to serve and contribute to these important market issues.

Although less than a month since Commission approval, I know each of the Chairs will have an important update for the MRAC from each of their respective committees.

With that, I will take a moment to thank each of the new Chairs -- Bob Litterman, Stephen Berger, Lisa Shemie, Lee Betsill, and Alicia Crighton -- for their leadership.

Following the morning panels, the MRAC will receive a status report from the Interest Rate Benchmark Reform Subcommittee covering its three workstreams: from the Initial Margin Working Group, led by Bis Chatterjee; the Clearing Working Group, led by Marnie Rosenberg; and the Disclosure Working Group, led by Ann Battle. Tom Wipf, Chairman of this critically important subcommittee and Chairman of the Alternative Reference Rate Committee of the Board of Governors of the Federal Reserve System, will lead that discussion.

I am proud of the accomplishments and progress made by the MRAC and this subcommittee and its contributions to the larger efforts by our domestic and international counterparts, as we collectively work to successfully transition away from the London Interbank Offered Rate.

As an important first deliverable, in September, the MRAC approved "plain English" disclosures for new derivatives referencing LIBOR and other IBORs. This standard set of disclosures, prepared by the Interest Rate Benchmark Reform Subcommittee, is intended as a helpful example of "plain English" disclosures that market participants could use, as they deem appropriate, with all clients and counterparties with whom they continue to transact derivatives referencing LIBOR and other IBORS.

The disclosures inform clients and counterparties about the implications of using such products, and provide additional transparency to the market. That said, the "plain English" disclosures are not meant to and should not undermine efforts to complete transition in an orderly and timely manner. More generally, the disclosures provide a tool as we collectively work towards the end of 2021, when the Financial Conduct Authority will no longer sustain LIBOR.

After the Interest Rate Benchmark Reform update, we will hear discussion of the CFTC's Office of the Chief -- from the Office of the Chief Economist and the subcommittee's findings on the uncleared margin impact on transitioning certain legacy IBOR-linked derivatives to risk-free rates.

Specifically, Richard Haynes, a CFTC Supervisory Research Analyst, will discuss an OCE-published CFTC research paper, "Legacy Swaps under the CFTC's Uncleared Margin and Clearing Rules." The paper provides important data about the landscape for legacy swaps, which are swaps executed prior to the implementation of the CFTC's Title VII margin and clearing mandate. I believe the paper's conclusions cement the important role the CFTC and other regulators should play in providing critical market data and regulatory relief for participants, where needed and when appropriate, as we collectively stride towards benchmark transition.

On that note, I believe the Chairman has an announcement to make in the near future that will validate the important role the CFTC and other regulators play in the benchmark transition effort. And I thank him for working with me on these important issues.

The penultimate discussion will center on ISDA's fallback consultations, including pre-cessation triggers, and the parameters for benchmark fallback adjustments. These are critically important issues which have seen great progress in just the past few weeks alone. Among many other efforts since 2016, ISDA has spearheaded this critical work as part of the larger global benchmark transition effort, and the entire organization deserves recognition for excellent and timely work.

Many challenges remain that demand thoughtful consideration and eventual execution in order to globally harmonize transition away from LIBOR. Discussions raised several issues, including most generally how to avoid significant market disruption if the Financial Conduct Authority, as the primary regulator of LIBOR, finds it to be non-representative. Of note, the Financial Stability Board's Official Sector Steering Group has encouraged consideration of a pre-cessation trigger as a step towards greater market certainty. A second concern involves how non-EU jurisdictions, including the U.S., should respond if there is a determination under the European Benchmark Regulation that LIBOR, although still published, is non-representative of the underlying market.

Finally, we will hear current proposals from CME and LCH for transitioning price alignment interest and discounting for U.S. dollar OTC-cleared swaps to SOFR. I believe the MRAC's Interest Rate Benchmark Reform Subcommittee can play an important role in hosting critical discussions and potentially tabletop exercises to game out the possible "big bang" transition.

As we kick on the heels of 2020, much work remains to be done in two short years. The ARRC's

Paced Transition Plan assumes significant transition to SOFR in 2020. Operational readiness becomes crucial to ensure organizations have set a solid foundation internally to begin transition in earnest. I remain committed to supporting this entire effort, working with market participants and my official sector colleagues to ensure the MRAC continues to play an additive role in addressing challenges in a thoughtful, measured way to ensure market continuity and stability.

I look forward to today's discussion, and, as you would imagine, we want to get going as soon as possible to not waste time, but we will sort of be flexible if we need to. I know folks may arrive on an ongoing basis. We'll continue from this table and then we'll get going and do whatever we need to do to make sure that the day is successful.

So thanks again to everyone for being here. Thanks to my fellow Commissioners and the Chairman, and, of course, thanks to Nadia and Alicia. And I look forward to today's discussion.

MS. LEWIS: Thank you, Commissioner Behnam.

Chairman Tarbert?

CHAIRMAN TARBERT: Well, good morning, everyone. Thank you, Commissioner Behnam, for sponsoring the MRAC. And thank all of you for coming. And I understand today was a particularly difficult day for some of you making your commute. So thank you again for coming.

Alicia, as always, thank you for being the Designated Federal Officer and organizing this.

And, of course, Nadia, thank you for your time as Chair.

You know, I want to thank Commissioner Behnam in particular for his tireless work over the last year or two on LIBOR transition. Because of him and because of the MRAC, we've been able to have a very productive dialogue among industry and U.S. regulators.

It's critically important, I think, that the CFTC take a leadership role in helping the LIBOR-to-SOFR transition, particularly in our space, in the derivative space. And I just want to be very clear on this: LIBOR is going away. The UK FCA has made very clear that and has been unequivocal that after 2021, it's not going to be around. And so for anyone thinking LIBOR will continue into 2022, I just want to give you a warning, and it's simply this: failing to transition away from LIBOR is a source of risk to your individual firm, and I believe it's also a potential source of systemic risk to the global financial system. And so as a result of that, I think the CFTC is going to do everything we can, working with our fellow regulators here in the United States and abroad, to help provide that smooth transition.

The ARRC, of course, has requested a number of relief items from various regulators here in the United States and abroad, and the ARRC, of course, has requested a number of issues addressed in our swaps regulation. And I am pleased to announce -- essentially what -- what -- yeah, I am pleased to announce that we're going to move forward with that. So next week, we will be issuing no-action relief to address the concerns. And the concerns are essentially, Can you take these legacy LIBOR swaps and treat them the same way they were treated originally if we amend them to make the transition to SOFR? So that is our approach. It's very simple and it makes perfect sense. So that's coming out next week. I think we may be the first out of the gate on that.

And, again, I commend Commissioner Behnam, the rest of my colleagues here on the Commission, as well as all of you, in allowing us to move forward quickly to provide the market with the stability it needs.

The other thing that Commissioner Behnam mentioned which I think is really important is this issue of avoiding "zombie LIBOR." Right? That's another lurking threat we have, which is the idea that LIBOR may still be published for a limited period, but after that period, it no longer represents a representative benchmark. And so you have a situation where things are still priced against a seemingly alive rate whose integrity as a benchmark is completely dead. So we want to avoid any potential zombie LIBOR apocalypse, and we want to work with ISDA, with the exchanges, and with the other relevant parties to see what means we can do to address that situation.

So thank you all for being here. And I look forward to hearing your remarks. Thank you again.

MS. LEWIS: Thank you, Chairman Tarbert.

And now we'll have Commissioner Quintenz.

COMMISSIONER QUINTENZ: Thank you. And thank you to everyone who is able to be here today. Thank you to everyone who is trying to arrive today and the efforts that everyone makes on a regular basis to attend these very important meetings. I particularly find them all very helpful in the consideration of and the execution of my official duties. So your attendance is highly valued.

Thank you, Commissioner Behnam, for all of your work with this Committee, and especially on the issue of LIBOR, a critically important issue for everyone to get their heads around and take action on in a short period of time, and even shorter period of time since we first started discussing this.

Thank you, Alicia, for your tireless work, and, Nadia, for your leadership of the MRAC.

I don't have an official statement, so in the interest of time, I'll just leave it there, but I'm looking forward very much to the discussion from the subcommittees and the full Committee this morning.

Thank you.

MS. LEWIS: Thank you, Commissioner Quintenz.

Commissioner Stump?

COMMISSIONER STUMP: I just wanted to echo everything everyone has already said, but I would applaud both the ambition and the efficiency of this agenda. And in that spirit, I will reserve my comments for later. Thanks to everyone who made this meeting, and thanks to everyone who has helped pull the operation of this meeting together. There is a very interesting workload that goes into putting these meetings together. So thanks to everyone here at the Commission.

MS. LEWIS: Thank you, Commissioner Stump. Many thanks to the Chairman and the Commissioners for their opening remarks.

Now I would like to turn to Chair Zakir, Nadia, for her remarks and to start today's discussion.

MS. ZAKIR: Thank you, Alicia. I also just wanted to take a minute just to thank each of the members of the MRAC for your work on each of the subcommittees. You know, I have had the pleasure of being able to join the calls and meetings of the subcommittees over the past couple months. They have been incredibly thoughtful, sometimes spirited, but very interesting, and I very much look forward to the discussion today.

I also just wanted, you know, on behalf of the MRAC, to thank Commissioner Behnam for his leadership; also, Chairman Tarbert, as well as Commissioners Berkovitz, Quintenz, and Stump for their support of the MRAC. And a special thank-you to Alicia Lewis and David Gillers for their work as well.

So turning to today's agenda, before we begin, I'd like to do a roll call of the members on the phone so we have your presence on the record. After I say your name, please indicate your presence.

Isaac Chang, AQR Capital Management?

MR. CHANG: Present.

MS. ZAKIR: Thank you, Isaac.
Matthias Graulich, Eurex Clearing?
MR. GRAULICH: I'm present.
MS. ZAKIR: Thank you.
Lindsay Hopkins, Minneapolis Grain Exchange?
MS. HOPKINS: Present.
MS. ZAKIR: John Murphy, Commodity Markets Council?
MR. MURPHY: Present.
MS. ZAKIR: Marnie Rosenberg, JPM?
MS. ROSENBERG: Present.
MS. ZAKIR: Dr. Betty Simkins, Oklahoma State?
DR. SIMKINS: Present.
MS. ZAKIR: Suzy White, HSBC?
(No audible response.)
MS. ZAKIR: Rana Yared, Goldman Sachs.
(No audible response.)
MS. ZAKIR: Thank you. Just a few logistical reminders. Committee members and speakers, please make sure your microphone is on when you speak. For the folks on the phone, if you could please mute

your line until you are going to be speaking, that would be very much appreciated.

This meeting is being simultaneously webcast. As a reminder, also please lean into the microphone when you speak, and keep your phones away from the console.

Members, if you would like to be recognized during the discussion, please change the position of your place card so that it sits vertically on the table or just simply raise your hand, and I will recognize you and give you the floor.

Members on the phone, we will give you an opportunity to ask questions or make comments either at the beginning or end of our discussions.

Our first order of business is a status report from the following MRAC subcommittees: Climate-Related Market Risk, Market Structure, and CCP Risk and Governance. The MRAC voted to establish each of these subcommittees at our June meeting this year, and they were established this fall. The subcommittee members have had meetings since their establishment and will continue to meet independent of the full MRAC in order to progress their respective objectives.

With that, let me introduce our subcommittee Chairs.

Lisa Shemie is Co-Chair of the Market Structure Subcommittee. Lisa is Associate General Counsel, Chief Legal Officer, of Cboe FX Markets and Cboe SEF, representing Cboe Global Markets.

Stephen Berger is also Co-Chair of the Market Structure Subcommittee. Stephen is a Managing Director and Global Head of Government and Regulatory Policy at Citadel.

Bob Litterman is Chair of the Climate-Related Market Risk Subcommittee. Bob is the Founding Partner and Risk Committee Chairman at Kepos Capital.

Alicia Crighton is Co-Chair of the CCP Risk and Governance Subcommittee. Alicia is the Chief Operating Officer of Prime Services, US Clearing, at Goldman Sachs, representing the Futures Industry Association.

Lee Betsill is also Co-Chair of the CCP Risk and Governance Subcommittee. Lee is Managing Director and Chief Risk Officer at CME Group.

MRAC members, as a reminder, I will open the floor to questions after each subcommittee's report.

At this time, I'm going to turn it over to Lisa Shemie and Stephen Berger to please give their report.

MS. SHEMIE: Thanks very much, Nadia. I will start on behalf of Stephen and me. We just wanted to, of course, thank Commissioner Behnam for the opportunity to serve as Co-Chairs of the Market Structure Subcommittee. And a special thank-you, of course, to Alicia Lewis, who has been so helpful in helping us organize, corral all of the views and membership to allow us to try to come up with some coherent work that's ahead of us. So thank you all for the opportunity, which is very exciting to me, of course.

So as Nadia said, I'm Associate General Counsel and Chief Legal Officer at Cboe FX and Cboe SEF, part of Cboe Global Markets. I support our global FX business, and I'm sure, like most of us in this room, many of the issues that we talk about every day in our day-to-day jobs are issues that drive market structure, that we'd like to see drive market structure, and as a result, it's so exciting to be able to work with market participants with such divergent views to allow us to really help to play a small role in moving market structure discussions forward.

We wanted to just start by presenting the way that we have worked together up till now and what we hope to do going forward. We came up -- hopefully, most of you have seen the report that are in your materials, which sets forth a list of topics and subtopics that we hope the Market Structure Subcommittee may consider to tackle within the next 6 months to a year and beyond, we hope.

Stephen and I got together early on in this process and took a look at the topics that all of us were solicited to provide about 6 months ago -- sorry, in 2018. So all of us came up with ideas and topics that we wanted to look at, and there was a giant list, and I'm sure most of us can appreciate the fact that, you know, when given the opportunity to really highlight issues of concern to our various firms, we really all jumped at it, and as reflected in that very long list, really just a tremendous diversity of ideas that we thought we could put together.

So what Stephen and I first did was try to make sense of this and try to whittle them down in a way, not to eliminate any, but to put them in categories that could really create threads of principles through these topics so that we could really be more productive and hopefully drive a conversation in a way that could yield some results and some real recommendations.

In starting those discussions, I think right away it became clear how challenging this actually can be. Stephen represents Citadel, I represent Cboe, and we're not always aligned on all of these issues. And I know that all of us in this room have similar experiences where, because of the diversity of all of us sitting in here, it is going to be an interesting process for us to be able to synthesize and distill the ideas that we have in a way that's really impactful and helpful and can actually reflect principles of market structure that we, as a group, think should inform the Commission on its plans.

Once we had our initial work together, Stephen and I, with Alicia's help, planned two calls among the members of the subcommittee, and we went over the list, the initial list, that we had put together and asked and solicited the views of our members. We had a really good discussion on both calls and had full participation, which was wonderful.

And following that, Stephen and I got together again and were able to, I think, really boil down, based on some of the feedback we received from members afterwards, all of the topics that we came together under three principal categories of market structure: trading, clearing, and reporting. Obviously, each subcategory has several different ideas under them in addition to some categories that it was difficult to really slot into any one of the major categories.

Certainly, many of the topics straddle the three subcategories that we created, which certainly will inform the challenges that we have ahead. I think that we sort of joke that, you know, we are so happy to be working on the Market Structure Subcommittee, like even among the topics we were talking about, there is obviously overlap with other subcommittees as well, and we were very cognizant of that and trying to stay in our lane so that even though there are issues that may straddle some of the other subcommittees, that we really try to create a niche for ourselves and choose appropriate categories.

So, again, what we really tried to do was, in creating those broad categories, think of it from the perspective of each of our firms and how those topics could really make sense for us in order to be able to have a voice with the Commission. From my personal professional role in supporting a global FX business, there were several of the subtopics that were really interesting to us, as an exchange operator, and me, as the supporter of the FX business. So, for example, we talk about the swap dealer landscape issue under our major topic of trading, you know, access of proprietary trading firms to SEFs, the floor trader exclusion to see whether there is room for building on the success of recent no-action that was produced by the Commission recently. Could there be amendments to the swap definition itself in order to look at the dichotomy between the treatment of FX forwards and non-deliverable forwards?

For us, we are interested in the clearing mandate. You know, there had not been a discussion for years around whether NDFs should be subject to a mandate. That would be something that, as a SEF that lists FX products, a very interesting future discussion even if it's possible that it's really not something at the front of our minds.

Equivalency determinations: As a staff, we have been very interested in the Commission's efforts in working with their counterparts abroad and bringing equivalency to some of the regimes. And we note, though, that even with the tremendous success that has happened so far, there still remains barriers, at least as far as we're concerned, in terms of having participants from other jurisdictions join SEFs and satisfy their own regulatory obligations.

And even for me, maybe an issue that isn't at the forefront of most people's minds, but the treatment of FX more broadly. How does the Commission view the disparate treatment of deliverable forwards and NDFs?

So what we did there in creating those broad categories and very much soliciting the views of our members, what we plan to do is create working groups around all three of those major topics and have subsets of the Committee membership work on those broader topics. As you'll see from the report, there are several bullets under each of them. We hope and expect that each working group will hone in on some of them, try to not necessarily tackle each of them, but really determine, based on each firm's interest and participants' bandwidth, how many we can work on and whether we want to even combine some of them to create fewer topics, but we do hope to look at all of them.

And then the plan would be to try to come up with initial recommendations on behalf of the subcommittee to present to the Commission during an MRAC during 2020.

So certainly lots of work ahead of us. Very, again, grateful for the opportunity to be part of and play a small part in this very important effort. And also just wanted to note how impressive it is from our perspective that the Commission does put such a huge effort into soliciting the views of its constituents. This is so important to us, as a firm, so important to me, as a professional, and being able to have the ability and the opportunity to work with my fellow market participants to inform the Commission in its work I think is just such a valuable experience personally and professionally.

I'd like to turn it over to Stephen to give some more detail about some of the topics that we hope to work on.

MR. BERGER: Thank you, Lisa.

After that excellent summary, I'm not sure I have much to add, and I may only take things downhill from where they've been brought.

MS. SHEMIE: Absolutely not; the opposite.

MR. BERGER: I think the first thing I'd note is, you know, our hope is that nothing on this list comes as a surprise. We think we've identified -- I think there are a lot more topics in market structure that people are interested in weighing in on and debating and developing recommendations with respect to than there are fewer. So it was a difficult exercise to try to winnow things down, but I think each of these issues are issues that we've seen discussed, be they in proposed rules, in other advisory committees, and roundtables over the past few years.

So, you know, for example, within the Trading Working Group, I think there has been an extensive amount of conversation over the last 6 years about the "made available to trade" process. I think there's a recognition that there have been no "made available to trade" determinations made since early 2014. There have been questions around whether the process of asking SEFs to be the entities that have to do self-certifications in order to actually extend the trading obligation to a certain subset of swaps is the appropriate path forward, and how that process aligns with the processes that are taken in other parts of the world. So I think that's an example of something that we thought that was a very important piece of market structure and a very logical topic to address.

Similarly, within the Clearing Working Group, there have been countless discussions around clearing member concentration, both in the swaps market and the futures market. A lot of that has been linked to discussions around certain Basel capital requirements and how they may disincentivize the provision of client clearing services by certain clearing members that are affiliated with banks, but we're not sure that that's the entire -- you know, that there are other aspects of that to explore. And while positive steps have been made with respect to the capital aspect of that, I think there is still important work to be done there to make sure that the access to clearing is available for the full set of end users who need access to clearing services.

And then similarly within the reporting category, the post-trade transparency regime, I think there has been a lot of thoughtful work that's been done. There have been roadmaps published by the Commission previously with respect to how both the public -- the regulatory reporting and the public reporting processes could be further enhanced, and that's an area that we thought warranted revision. And another aspect of that that jumped out at us is that the block trade thresholds that have been set for the interest rate swap and credit default swap market haven't been recalibrated or updated since they were first set by rule back in 2012 or '13.

So, you know, in each of these areas -- trading, clearing, and reporting -- we thought there were a number of topics that were sensible areas where people could come together and try to develop recommendations about things that could be done to further enhance the structure of both the swaps and the futures market.

And I think the list -- I want to just say I think the list probably may seem a little swap market-centric, and that's not something that was done consciously. So I think we are definitely interested in exploring both swaps market structure and futures market structure enhancements, so you'll see a few ideas on there that are certainly more futures market-linked, such as open access and position limits. So

-- and certainly the clearing member concentration topic is also one that cuts across swaps and futures. You know, the swaps and the futures market structures are quite distinct, setting aside accusations that one was modeled on the other. So -- but so there are different issues I think we do need to explore with respect to each of those two markets.

And then one point I just wanted to pick up on that we are also keenly aware of is in certain instances, there are potential overlaps with other either subcommittees of MRAC or other advisory committees, so we've tried to footnote those where we saw those, and we'll want to make sure to do any deconfliction there so we don't either duplicate efforts or do things that are inconsistent.

So with that, I'll pause. And we wanted to provide an opportunity for anyone in the forum here to ask questions or make any comments on any of the issues that we have laid out here.

MS. ZAKIR: Thank you, Lisa and Stephen. I also want to just really thank you for shoring up what I view to be a very comprehensive list of issues, you know, that impact sort of market structure around derivatives more broadly.

And I guess one -- maybe I'll kick it off with a question, and I also will invite the members to ask questions -- but, I guess, you know, Lisa, you had talked a little bit about obviously this is a very comprehensive list of issues. You talked a little bit about wanting to potentially narrow some of those issues over time. Can you talk a little bit about how you think that will unfold? And will this be mostly consensus-driven? How do you anticipate sort of narrowing down the list of issues for the recommendations?

MS. SHEMIE: Sure. So I think the answer is that we hope to sort of see how our initial meetings with the trading groups go in January. I think that our hope is that the committees -- the working groups themselves that Stephen and I, of course, will participate on will themselves be able to start to find areas of agreement and focus that can distill what seem to be very long lists into areas where we really think that we can present impactful recommendations.

I think that one focus that we'd really like to have is, you know, in following our extremely successful Benchmark Subcommittee, Benchmark Transition Subcommittee, being able to present recommendations on which the Commission can actually act as opposed to opinion pieces that we've been talking your ear off for years about.

So I think the hope really is to try to come up with some actionable recommendations which will really evolve, we hope, from these initial discussions in January on each of the three trading working group subgroups.

MS. ZAKIR: Thank you. I think another sort of recommendation that I think was discussed during the subcommittee was also to formulate that list of issues and recommendations based on potentially what the Commission may also have on its agenda, so sort of agenda-driven given that these are recommendations to the Commission more broadly on some of these topics. So that may be another way to also potentially narrow.

And then you had mentioned that these would be recommendations. And so is the expectation that each of these three sort of working groups that have been working around trading and clearing, for example, would each have separate recommendations? Is that sort of the thinking there?

MR. BERGER: I think our goal is that the working groups will develop their proposed recommendations for the subcommittee to look at, but I think, you know, the goal is that we would coalesce with a series of subcommittee recommendations that are likely to address issues with respect to each of trading, clearing, and reporting.

MS. SHEMIE: And I think Nadia is just picking up on the point that you just made as well. I think that if it's possible for us to sort of create recommendations on each of the working groups that have a common thread among them as well, I think that would also be very impactful to be able to have a unified voice from the subcommittee even among the working groups. So maybe that's very lofty a hope, but that is certainly what we will strive to do.

MS. ZAKIR: Thank you. And then a final

question for you before I turn it over to the members. Do you have a sense of timing in terms of when you anticipate formulating those recommendations for presentation to the MRAC?

MR. BERGER: I think it will be an iterative process, but our goal is to have some of the recommendations ready to share by, you know, let's say 6 months from now. So not knowing exactly when the next MRAC meeting will be, but in anticipation of one occurring at some point in the perhaps late second quarter of next year, that would be our goal, is to have our first set of recommendations ready at that time.

MS. ZAKIR: Great. Thanks again.

I will now turn it over to the members. If there are any members who have any questions, please feel free to either raise your hand or -- any comments or questions?

Bis Chatterjee, please.

MR. CHATTERJEE: Thank you, Nadia.

Thank you again, Lisa and Stephen. I think this is an excellent list of what could be in scope.

I think it looks fairly comprehensive. And, Lisa, I think you mentioned these are issues that have been put in front of the Commission or in working groups sponsored by the Commission for many past years.

Thank you, Commissioner Behnam, for sponsoring this issue. I think it was high time the CFTC started convening on market structure formally. Other agencies have already had similar forums in the past, so I think it's very timely.

I would echo some of the comments I think, Lisa, you alluded to, and Nadia was referring to, is that market structure goes across all the three areas you've identified. And, in fact, longer term market structure, whether you look at the commodity market, the futures market, or the swaps market, is also impacted by changes happening outside these three areas, like in technology, operations, and even commercial. And we have seen historically that those three areas have falsely impacted the market structure going forward.

So I would love to see -- I think, Stephen, you mentioned it's going to be an iterative process.

I kind of see this thing being separated into two broad areas. You picked one or two areas that I think have a very long-term impact, but I've also seen areas that are currently hindering market risk and market kind of efficiency, and probably a second list which is kind of fine-tuning of a lot of like, you know, previous legacy rulemaking or processes.

Stephen, you mentioned the MAT process or even the mandatory clearing process, and my recommendation would be that we separate the focus of the Committee into very narrow, one or two longer term impact areas that are recognized broadly as issues for the whole market.

And the other recommendation I think would be is to maybe work with the other Advisory Committees sponsored by each of the Commissioners to see how the tech ops and other market aspects that the Commission looks at interacts with this market structure issue.

MS. ZAKIR: Thank you, Bis.

Vincent Johnson.

MR. JOHNSON: Hi. Thank you for the report. I just have a -- it's more of a hopeful request, but I think as you are aware, there's a -- I think there's a very viable non-bank swap dealer market out there, and you have this swap dealer trading working group. So I think my request was hope that the team will consider kind of looking at the landscape for the non-bank swap dealers because I think it's a small one right now with three, but I think there is appetite for it to grow if the conditions can be set to make it kind of viable for that. So just a request to take a look at that and consider it.

MS. ZAKIR: Thank you.

If there are no more questions here from the membership, I'd like to just turn to the phone. Are there any comments or questions from members on the phone?

(No audible response.)

MS. ZAKIR: Okay. If there are no further questions or comments on the Market Structure Subcommittee report, I just want to thank again Lisa and Stephen. And I'll turn to Alicia and Lee.

Please go ahead.

MR. BETSILL: Good morning, everyone. I'd like to thank Commissioner Behnam, Alicia Lewis, and Nadia Zakir, as well as the rest of the MRAC for allowing Alicia and I to present today on the formation and initial meeting of the MRAC Subcommittee on CCP Risk and Governance.

The Subcommittee on Risk and Governance is to provide -- is founded to provide reports and recommendations directly to the impact regarding current issues impacting clearinghouse risk management and governance.

I'd like to thank and express my pleasure and an honor to be Co-Chair along with Alicia Crighton for the important work that we will do over the coming year in this area.

I would also like to thank those of the Committee that volunteered. If it's all right, I'll just announce the names. There is Richard Berner, of the New York University Stern School of Business; Matthias Graulich, of Eurex; Lindsay Hopkins, of the Minneapolis Grain Exchange; Vincent Johnson, of BP; Demetri Karousos, of Nodal, Nodal Clear; Kevin McClear, of ICE; Dennis McLaughlin, from LCH; Dale

Michaels, from the Options Clearing Corp.; John Murphy, from Mizuho; Marnie Rosenberg, of JP Morgan; Dr. Marcus Stanley, from Americans for Financial Reform; Robert Steigerwald, of the Federal Reserve Bank of Chicago; Kristen Walters, from BlackRock; Suzy White, from HSBC; and Rana Yared, of Goldman Sachs. We thank all of you for volunteering to work on the subcommittee with us during this coming year.

We're pleased to being our work on providing actionable recommendations and, where we can, detailed best practices to the MRAC in order to enhance and advance the safety and soundness of cleared derivatives markets. We held an initial meeting of the subcommittee on Tuesday, November 26, where we discussed the mandate for the Committee, potential areas of focus, as well as white papers and other industry materials that we could draw on to enhance our discussion. Some of the things that we will look to, to provide input to the Committee are the 2017 MRAC CCP Risk Management Subcommittee final recommendations; the FIA's 2018 November paper on "Central Clearing Recommendations for CCP Risk

Management"; the October 2019, "A Path Forward for CCP Resilience, Recovery, and Resolution"; and December 2019, "Stress-Testing Networks: The Case of Central Counterparties," by Berner, Cecchetti, and Schoenholtz. Those are just some of the things that we may draw on as well as the expertise of those on the subcommittee.

Like the Market Structure Subcommittee, the CCP Risk and Governance Subcommittee has agreed to divide its work up. We have agreed that we will form two working groups, one to focus on resilience topics, and a second to focus on governance and capital issues. We are currently looking to volunteers to sit on those from the subcommittee.

With that, I will turn it over to Alicia to talk about the topics which we discussed and will want to focus on over the next year and how we'll perform that work.

MS. CRIGHTON: Great. Thanks, Lee. And again thank you to the Commissioners and the Chairman. We are excited to begin our work on this -- these set of important topics.

I think just to kind of pick up where Lee left off, where we currently stand, as Lee mentioned, is we're polling the subcommittee members to see which of these two working groups they would like to be a part of. What we do expect is, given the importance of these topics and the makeup of the Committee, that most Committee members will actually want to participate in both working groups. So we do expect a fair amount of work over the year ahead, so again thank you for your participation to the members of the subcommittee.

What we have committed to, as a subcommittee, is to be able to build upon the work that's already been done and be able to provide actionable recommendations to the MRAC where possible. I think it's important to note that with some of these topics, I think we can all kind of identify which ones they potentially are. It will be difficult to come to agreement or potentially difficult to come to agreement on what the recommendations are. However, we do think we will be able to come to agreement on what some of the principles are that will form the basis of some of those recommendations.

So I think, you know, dividing up how we sort of look to prioritize the world or think about trying to make some progress on these different topics is there are places where we think it will be easier to come to agreement, and we'll look to try and structure our discussions to focus on those topics while having some of the more challenging topics, that have historically been challenging, kind of let those continue in their own forums so that way they don't cloud the discussions around maybe topics such as margin. So that way, we can keep the dialogue constructive with the focus on, as I said at the beginning, providing actionable recommendations to the Committee.

Nadia, I know in one of the questions that you asked earlier, kind of to touch on timing, our goal, and I think similar to the Market Structure Working Committee, is that we will look to provide an update on our progress for the midyear meeting. And, again, I think it will be iterative with a set of substantive recommendations that we look to produce by the end of year or the December 2020 meeting.

MS. ZAKIR: Okay, great. Thank you.

I guess just to kick off with a quick question, can you talk a little bit more about some of the specific topics that -- the subtopics I'll say maybe -- that were discussed by sort of the members of the subcommittee?

MS. CRIGHTON: Sure. There were seven primary topics that the Committee focused on in our initial call, and we decided, as Lee mentioned, to divide them up into kind of a Resilience Working Group and Governance and Capital. Under Resilience, I think the key topics and themes that emerged are areas that we want to focus on are discussions related to margin and what some recommendations should be there, stress testing, a liquidity framework -- and I loop those two together -- and then principles of default management. I think there our thought was, given other industry work that's going on in default management and the recommendations that are emerging from an industry standpoint, it would be helpful to make sure that the recommendations are aligned. So I don't think we're looking to sort of chart a new course here; however, leverage the work that's being done elsewhere.

In the Governance and Capital Working Group, the topics of governance and transparency, including cross-border regulatory issues, CCP capital and default resources, most notably in that bucket will be skin in the game, and then non-default losses.

So those are really the seven. I think they are, each in their own right, is a very substantive topic and will take multiple meetings to I think really flesh out what the issues are and begin to sort of approach what those recommendations are, which is why we felt like dividing it at least into two working groups would be important as a way to just structure the meetings and the discussions. And our focus will be to ensure that we'll be keeping each of the meetings on those topics rather than scheduling a margin discussion and then kind of focusing more on skin in the game, for example.

So I think in order to keep us on course and to try and make some progress on a number of these, that will be our intended framework for those discussions.

MS. ZAKIR: And do you expect that that will be mostly consensus-driven in terms of prioritizing those recommendations?

MS. CRIGHTON: Yes, that's what we anticipate.

MS. ZAKIR: Okay. Thank you.

Any questions from -- any questions or comments from the members?

Kristen Walters?

MS. WALTERS: Thanks very much, Nadia. I just wanted to kind of highlight the importance of this Committee, and I think -- of the subcommittee that's being held on CCP risk. From a BlackRock perspective, we've been long proponents of central clearing post the financial crisis. We do think that central clearing has mitigated risk in many instances. For the last 5 or 6 years, a number of very senior people in our firm, including Barbara Novick, our Vice Chairman, our prior Head of Trading, Richie Prager; current Head of Trading, Supurna VedBrat; myself, Eileen Kiely, who's our Deputy Chief Credit Officer, and a number of individuals have articulated more broadly in public, to the Regulatory Committee, and at this Committee about some of the concerns that we have about potential for systemic risk in the central clearing space.

And what we've tried to do as part of this Committee -- and I've been involved since its inception -- was to highlight, you know, recommendations that both the buy side universally and the sell side have embraced. And we've had a difficult time getting consensus because some of the issues are controversial. I don't think we'll necessarily get to consensus as part of this subcommittee, but I think it's very, very important for us to have the dialogue.

I think from a BlackRock perspective, our primary concern around resilience, recovery, and resolution is some of the transparency around risk management practices, improving the robustness of margin calculations, and having a very concerted effort to ask CCPs to allocate capital for the default fund. This is a controversial topic. From my perspective, I don't think it needs to be. There's a very long standard in the banking markets for banks to set aside losses from traditional loans, securities, or derivative products.

Central clearing parties, counterparties, most of them, are for-profit organizations, and so their incentives, in part, are aligned around profit generation for these firms. Currently, they hold very little of their own capital in the default fund in the instance of a default. We think it is absolutely critical for CCPs to hold significant levels of capital against default for -- to make sure that their incentives are aligned from a risk management perspective, from a profit perspective, and also to have more of consistency with the way that insurance companies, banks, and other institutions where losses can affect broader financial markets in a very systemic way. We think that capital is absolutely critical.

I'd like to bring folks' attention to a paper that we published with a number of other buy-side and sell-side firms in late October that provides recommendations around safety and soundness of central clearing parties with a focus on resilience, recovery, and resolution. And I'm very hopeful that at our June meeting we can have individuals who participated in those papers discuss some of the key recommendations. And, again, this is with complete unanimous alignment from the buy side and sell side, which, to be fair, in my professional career across both sectors, rarely happens.

MS. ZAKIR: Thank you, Kristen.

Dick Berner?

MR. BERNER: Thanks to Commissioner Behnam for sponsoring this Committee and for organizing the subcommittees. I agree with Kristen that the work we're trying to do in the subcommittee is extremely important. I think Alicia and Lee for their leadership in that regard. I just want to echo one of the comments that Bis made a little earlier, which I think is obvious in the comments from Lisa, namely, that there is a lot of overlap in the work that's going on across the subcommittees, and I think that's particularly true with the market structure group where there is a clearing working group and a regulatory reporting working group. And so I'd say we look forward to collaboration on those issues. I think that's extremely important.

The Commission has done a lot of good work in outlining a roadmap for the future for regulatory reporting, and I look forward to helping with the implementation of that, particularly with the adoption of new ways of thinking about the reporting process to turn it from data collection into -- or from a reporting process into a data-sharing process. So I think all those things are really important in considering these issues.

MS. ZAKIR: Bob Steigerwald?

MR. STEIGERWALD: Thank you. I'd just like to add to the comments that Kristen just made. Of course, it's widely recognized how controversial some of the issues at play are in this area. Kristen made an important point about the standards that apply to banking organizations and insurance companies.

I would like to note that there is a perspective that those standards do not directly inform us in a meaningful way about the capital standards and the participation and the default waterfall that is appropriate for central counterparties. CCPs are not banks, they are not insurance companies, and they have to be regulated in a proper fashion that's well-tailored to the nature of the business they operate.

I'm sure we will have greater opportunity to discuss these issues in detail. I just want to make that other perspective known to the Commission.

MS. ZAKIR: Kristen, did you have another comment?

MS. WALTERS: Sorry. Just a clarification on the back of Robert's comments. So what I was not doing was trying to imply that we should use exactly the same capital framework that we use for banks and insurance companies for CCPs. So thanks, because I 100 percent agree with what you're saying. The point is more that we do feel that, given the size of the organizations and the activities in the central clearing space and the profit incentive of CCPs, that it does make sense for them to allocate capital and skin in the game to the default fund in some way. And so meaning that that happens in other -- for other regulated entities across financial markets. So I absolutely agree there are very significant differences between these two types of firms.

Thanks. Thank you.

MS. ZAKIR: Thanks, Kristen.

Demetri Karousos?

MR. KAROUSOS: Thanks, Nadia.

And good morning, everyone.

I just personally wanted to thank the Chair of this subcommittee because I think you're taking on an incredibly difficult task. I think it's fair to say that our first call was spirited. And I think you're getting a sense of that. I must say I think I came to that call with the expectation that some of the positions that folks were taking was just a natural outcome of commercially where they were on that equation, and coming out of that call, I am increasingly convinced that a great outcome from this process, if not clear recommendations forward that we really do hope to achieve -- and I will join everyone in doing our best there -- is certainly greater education and understanding of the structures we're talking about. So along the lines of what Bob just said, I think there -- I walked away certainly thinking there was some confusion about the role of CCPs and exactly how they work to reduce systemic risk and why CCPs and central party clearing was the clear recommendation coming out of the G-20 way back when in the wake of the great financial crisis.

So I certainly look forward to working with my colleagues on the Committee, but I really hope, if nothing else, that a greater understanding of how this works and why this structure is so critical to reducing risk in the financial network.

Thank you.

MS. ZAKIR: Thank you.

It doesn't look like there are any more questions here from the members.

Why don't we go over to the phone. Any members on the phone have any questions or comments?

MS. ROSENBERG: Hi, Nadia. It's Marnie Rosenberg, from JP Morgan. I'd like to make a couple of comments if that's okay.

MS. ZAKIR: Please go ahead, Marnie.

MS. ROSENBERG: Thanks. So I would just again like to thank Commissioner Behnam for sponsoring the MRAC and, in particular, sponsoring and initiating the establishment of the Subcommittee on CCP Risk and Governance. As many of you know, this topic has been -- JP Morgan has been very involved in advocating best practices and has been a thought leader on this topic for probably 7 years and has published two individual papers.

I think Kristen spoke extremely well on why this is very important that we focus on these topics. And we're completely aligned with BlackRock, as we published the paper with eight other signatories, "A Path Forward," and we would really appreciate the opportunity to work through some of these recommendations in the subcommittee.

In terms of what I think is really critical, starting with margin, as Alicia already said, I think focusing on what current margin requirements are, particularly, on listed products and how we think about margin levels currently.

And then, of course, the capital and governance and transparency, those are really critical to JP Morgan, and I think it's really key that we talk about those issues both from a U.S. perspective, but also from an international perspective.

And thank you, Alicia and Lee, for co-chairing this subcommittee because I do think this will be a challenging task to bring everyone together.

Thank you.

MS. ZAKIR: Anyone else?

(No audible response.)

MS. ZAKIR: Okay. Well, thank you, Alicia and Lee. You definitely have your work cut out for you. If there are no further questions for the CCP Risk and Governance Subcommittee, I am going to turn it over to Bob Litterman.

MR. LITTERMAN: Thank you very much. It's a pleasure to be here.

Let me start my remarks by expressing my deep appreciation to Commissioner Behnam, the CFTC's Market Risk Advisory Committee, and the Commission for creating the Climate-Related Market Risk Subcommittee and asking me to chair it. I hope and expect that the proposed June 2020 report from the subcommittee can play an important role in guiding the climate response of the U.S. financial community, and I'm honored and excited to chair this very esteemed group.

For me, it was an unexpected but timely opportunity to help work with an incredibly talented group of risk management experts in the financial markets on a topic, climate risk, that I've been focused on for the past decade. Having spent a 23-year career in risk management and investing roles at Goldman Sachs, I have deep respect for the critical role that the financial markets have in facilitating the efficient allocation of capital in our market economy, and the importance of appropriate regulation and oversight.

I have an unusually eclectic background that I think makes this assignment an excellent fit. I grew up in Phoenix, Arizona, and did my undergraduate studies at Stanford, where I majored in human biology with a concentration in psychology. I initially thought I was going to be a journalist, and my first job was as a general assignment reporter for the *San Diego Union*. After a year, though, I decided to go back to school and got a Ph.D. in economics from the University of Minnesota. I taught economics at MIT for 2 years followed by 5 years in the Federal Reserve Bank of Minneapolis working as a staff economist in charge of economic forecasting.

In 1986, Goldman Sachs made me an offer I couldn't refuse, and I began my career on Wall Street as one of the early quants. I started in fixed income research followed by a promotion to partner in 1994, when I became the first firm-wide head of risk management. In 1998, I moved to the Asset Management Division and head of the quantitative group.

In 2009, I left Goldman and helped to create Kepos Capital, a New York-based investment management firm, where I am currently a partner and Chairman of the Risk Committee.

I'm well-known in the financial community as the co-developer, along with Fischer Black, of the Black-Litterman Asset Allocation Model, which we created 30 years ago and which is still widely used in the investment industry to build portfolios that optimally balance risk and return.

My focus on climate risk began when I left Goldman and joined the board of the World Wildlife Fund. Like many people, I was concerned that society is not adequately addressing the risk created by climate change. The increase in greenhouse gases that humans have put into the atmosphere is the root cause of climate change. And thus, as an economic and risk professional, it was obvious to me that the risks created by climate change must be addressed. There is tremendous uncertainty about the precise levers and tools to appropriately mitigate climate risk, and we have to proceed with caution. But today, the incentives around the world go in the wrong direction, and this has to change.

I currently spend much of my time trying to focus attention on the risks created by climate change. This year, I have two publications in scientific journals on the subject. In March, I and a group of other scientists published "Natural Solutions are not Enough," in the *Journal of Science*. And just this past October, two colleagues and I published an article in the *Proceedings of the National Academy of Sciences* with the title, "Declining CO2 Price Paths." In this article, we focus on how quickly the risk of climate change is increasing and the extremely high costs of delaying in addressing it. Rather than a slow approach to taking action, we find that when you appropriately take risk into account, the optimal policiesare to act as swiftly as possible so that we can be confident that society will avoid the potential worst-case outcomes.

Recently, many investors and other finance professionals have recognized these risks and are trying to understand how to best incorporate them into their decision-making processes. Thus, the Climate Risk Subcommittee is a timely regulatory response. Moreover, the experts who make up this Committee are a diverse and exceptionally talented group. They come from financial, energy, and agricultural markets, the banking and insurance sectors, data and intelligence service providers, the public interest sector, and academia. We are extremely fortunate that they have volunteered to serve.

Our assignment is to write a report by June of 2020 that focuses on climate-related financial and market risks, and makes recommendations to the Commission. We have an appropriately broad mandate, including assessing and managing these risks. We will focus on ways in which market participants can improve the integration of scenario analysis and climate stress testing into their risk management function and financial reporting. We will address both the short-term financial risks that may be associated with the transition to a low-carbon economy, as well as the current and future market and financial risks associated with the physical risks that will arise from a warming climate. Those latter risks include more frequent or extreme weather events, such as floods, droughts, heatwaves, and hurricanes, as well as other direct impacts, such as increasing wildfires, sea level rise, and ecosystem degradation; and indirect impacts, for example, on human health and national security.

I anticipate that at the heart of the report will be a section on the implications for market oversight policies, including disclosures, governance, strategy, risk management, and conduct. We will also try to identify and make recommendations with respect to the types of scenarios and stress tests, as well as the data and analytics that need to be developed and used.

We intend to recommend additional market and derivatives products that may improve the identification and hedging of climate-related financial risks and recommend policies designed to facilitate capital flows required to finance the transition to a low-carbon economy.

I hope that our report can provide a high-level consensus from the financial community about where and how we need to focus our efforts to address climate-related financial market risk.

The Committee met for the first time in November, and what impressed me was that, as we went around the table and heard from the members, there seemed to be a strong consensus that the appropriate role of the public sector is not to direct investments, but, rather, to provide incentives and the appropriate regulatory framework and let the market freely allocate capital.

We will meet again this Friday and plan to further discuss the matters that I've mentioned to you this morning, and consider other related topic areas before finalizing an outline and developing workstreams. We anticipate members to volunteer to lead the various topics this week, and we will continue to hold monthly conference calls throughout the next 6 months as we do our work.

Again I want to thank the Commission for giving us this opportunity to take on this important assignment. And I'll be happy to take questions.

MS. ZAKIR: Thank you, Bob. I guess just to start, you've laid out a little bit of the details in terms of what are the specific topics and subtopics that you expect the recommendations and/or the report to cover. Can you talk a little bit about the process? I know some of the other subcommittees, for example, have mentioned that they are going to be breaking up into separate working groups so that they can prioritize and just sort of ensure that some of those recommendations can be developed, while others may have more challenges or issues, may be subject to continued discussion. Do you have a sense of sort of what that roadmap will look like for the report that you are looking to prepare?

MR. LITTERMAN: Yeah, I think we will break up into different workstreams. And I've been talking to members of the Committee this week about which workstreams they might want to lead, and we'll probably finalize that on Friday. But we would also anticipate that any member of the subcommittee that wants to have input on different workstreams will be able to. But it's early days, so I'm not sure how we're going to break this up.

MS. ZAKIR: Understood. And do you expect that those recommendations and those individual workstreams will be largely consensus-driven in terms of the topics that are actually shored up for the recommendations?

MR. LITTERMAN: I certainly expect that, and so far in my dealings with the subcommittee, there has been a lot of consensus. And so I'm anticipating that it will be very much consensus-driven.

MS. ZAKIR: Thank you. And you did mention that you anticipate the report to be put forth before the MRAC by June of next year. Is that right?

MR. LITTERMAN: That's what we're shooting for, and I don't see any reason not to be able to hit that deadline.

MS. ZAKIR: Okay. Great. Thank you, Bob.

I'm going to go ahead and turn it over to the members for any questions or comments.

(No audible response.)

MS. ZAKIR: Okay. If there are no questions for the members here, why don't we turn to the phone. Any members on the phone have any questions or comments?

(No audible response.)

MS. ZAKIR: Okay. Thank you, Bob. We look forward to learning more about the developments there.

This concludes our discussion of the first three status reports. Thank you again to the subcommittees and their Chairs for their hard work. And we look forward to hearing from you in the coming year.

MS. LEWIS: Well, we are actually ahead of schedule. So at this time, in keeping with the agenda, we're going to take a 10 -- well, Commissioner?

COMMISSIONER BEHNAM: Is Tom here?

MS. LEWIS: Tom is not here.

So we will actually take a 15-minute break.

So we are missing our subcommittee Chair for the Interest Rate Benchmark Reform Committee. I assume that he is on the train from New York, probably stuck. Hopefully, he's reached Union Station. So let's start out with a 15-minute break.

(Break.)

MS. LEWIS: Before we start with the Interest Rate Benchmark Reform Subcommittee, I just wanted to give those members who are on the phone and that did not make the initial roll call an opportunity to get on the record.

So do we have Suzy White, from HSBC, on the line?

(No audible response.)

MS. LEWIS: Rana Yared, Goldman Sachs?

(No audible response.)

MS. LEWIS: Operator, I know Rana Yared is on the line. Please give her an opportunity to be patched in.

Rana Yared?

(No audible response.)

MS. LEWIS: Okay. Well, unfortunately, Rana has disconnected. We will try and get her back on, on the record later on in the program.

Okay, so now I'll turn it back over to Nadia so that we can start the 1:10 discussion -- the 11:10, I'm sorry.

MS. ZAKIR: Thank you, Alicia.

Our next agenda item is a report from the MRAC's Interest Rate Benchmark Reform Subcommittee on its work to date. And presentations from the subcommittee's Initial Margin Working Group and the CFTC, as well as ISDA. Tom Wipf is Chair of the subcommittee. Tom is Vice Chairman of Institutional

Securities at Morgan Stanley and Chair of the Alternative Reference Rates Committee.

The subcommittee, under Tom's leadership, has been working diligently since it was established. We will start with the subcommittee report.

Tom, you may begin.

MR. WIPF: Good afternoon, everyone. It's an honor again to be presenting in front of the Market Risk Advisory Committee on behalf of our Subcommittee on Interest Rate Benchmark Reform. My name is Tom Wipf, Vice President of Institutional Securities at Morgan Stanley, and I represent the firm as Chairman of the ARRC as well as on the board of ISDA.

I would like to take a moment to thank Commissioner Behnam, Alicia Lewis, Nadia Zakir, the MRAC, and the rest of the CFTC for the formation of this subcommittee, as the transition to alternative reference rates is a massive task ahead of us, and to achieve success, it is paramount that we have close coordination between the public and private sectors.

I would also like to thank the members of the subcommittee for their hard work over the past year. I have been impressed by the group's commitment toward the MRAC's goal for us to be additive to the LIBOR transition efforts from the ARRC and other groups.

I would like to begin by first recapping the key developments in the LIBOR transition that have occurred since we last spoke back in September and then to discuss our three agenda items. These items are as follows on the agenda: discuss the CFTC and MRAC's subcommittees' findings on the uncleared margin impact of transitioning certain legacy IBOR-linked derivatives to risk-free reference rates; we'll discuss recent developments from ISDA as they progress towards the publication of a voluntary protocol to amend fallback language in legacy derivatives; we'll discuss updated proposals from central counterparties regarding adjustments to discounting and price alignment interest.

Developments in LIBOR transition. So since September, there have been a number of important developments in the transition driven by both regulators and market participants. Regulatory developments include the following: U.S. Prudential Regulators published proposed amendments to their uncleared margin rules to provide broad-based relief for interest rate reform. The CFTC received a letter from the ARRC regarding regulatory issues associated with the transition of derivative contracts from IBOR rates to alternative risk-free rates. The letter updates and consolidates earlier letters from the ARRC to the CFTC requesting regulatory interpretative guidance, and, obviously, we are very pleased at the announcement today from Chairman Tarbert for the relief that we will see on December 20, and thank you for that work.

The FHFA sent a letter to the Federal Home Loan Banks indicating that effective March 31, 2020, they will no longer be able to enter into new assets, liabilities, or derivatives referencing LIBOR that mature beyond 2021.

The New York Fed published a consultation on the proposed publication of SOFR averages and a SOFR index, which both could be quite useful to market participants as a substitute for LIBOR.

The OSSG sent a letter to ISDA reiterating its preference to include a pre-cessation trigger in ISDA's new fallback language.

The Federal Reserve Bank published its semiannual Supervision and Regulation Report, which mentioned LIBOR transition as a supervisory priority for each type of organization covered within the report.

Market developments include the following: ISDA published the results of its consultation on final parameters for benchmark fallback adjustments, which Ann will discuss in later detail -- later.

ISDA will also respond to the OSSG's letter on pre-cessation issues.

The ARRC published practical implementation checklists to help market participants with the LIBOR transition.

The clearinghouses have continued to refine their proposals for how they will adjust discounting and price alignment interest. This also will be discussed in depth shortly.

For legacy LIBOR swaps initial margin

findings, in the June 2019 MRAC meeting, our subcommittee presented its views on how certain uncleared margin requirements may have an adverse impact on the LIBOR transition absent any relief from the CFTC. The MRAC's feedback from that discussion was that in order to best inform CFTC's actions, the subcommittee would attempt to quantify the impact to uncleared margin if no relief is granted. Responding to this request, the MRAC subcommittee worked with the Office of the Chief Economist, the CFTC, to approximate this impact.

A report was published by the Office of the Chief Economist in November 2019 with Richard Haynes, who is here to discuss that in detail. This report calculated notional amounts for uncleared legacy IBOR swaps and used the regulatory grid method to estimate the initial margin that would be posted if these swaps lost their legacy status. The subcommittee then used the findings from this report to extrapolate what the margin impact might look like using this same approach. Bis Chatterjee will discuss this additional analysis.

The findings from the Office of the Chief Economist and subcommittee are approximations that are meant to be useful to the CFTC as they deliberate on relief from uncleared margin and the relief that was announced earlier today.

From ISDA, ISDA has also made considerable progress since we last spoke as it relates to the finalization of benchmark fallback language. When published, this language can be agreed to on a voluntary basis for legacy trades. As of a certain date post-publication of that protocol, ISDA will amend its definitions to include these fallbacks in all new trades.

ISDA consulted the market on the preferred calculation parameters for historical average credit adjustment to be included in these new fallbacks, and the market preferred a 5-year median calculation.

At the request of the OSSG, ISDA consulted the market on the inclusion of a pre-cessation trigger. ISDA reports that the consultation results were inconclusive, prompting the OSSG to send another letter to ISDA reiterating its request for inclusion of such trigger. Ann will discuss ISDA's progress to date in much greater detail as well as ongoing work to be completed before the protocol can be published.

From CCPs, we look to continue the discussion that we had at the September MRAC meeting around areas of coordination and potential risk considerations from the current proposals put forth for discounting and price alignment interest adjustments from both LCH and CME. We will hear from Dennis McLaughlin, of LCH; and Agha Mirza, of CME; who will both give brief overviews of their current proposals.

There are certain differences between their respective proposals that the subcommittee recognizes as potentially challenging from an economic and an operational perspective. There was desire from the subcommittee for consistency across the clearinghouses in how they approach this adjustment to the greatest extent possible.

Since the September MRAC meeting, both clearinghouses have coalesced around a single transition date. This is now scheduled for mid-

October 2020.

It was also mentioned at the September meeting that the differences in compensation methodologies between clearinghouses could be problematic. Dennis and Agha will confirm, though it is believed in the current proposals, these differences in compensation methodologies do still exist. We note that ultimately both clearinghouses will enact plans that best represent their clients' preferences.

The subcommittee discussed the operational challenges and potential market turbulence that could arise from separate methodologies as currently envisioned. To improve market transparency into the economic and operational dynamics occurring at the time of the proposed Single Step, the subcommittee asks that the MRAC consider the benefits and considerations of a tabletop demonstration involving both clearinghouses in 2020 well before the October switch date. A public demonstration of this type could help market participants think through their respective steps to the Single Step event so they can risk-manage appropriately well in advance. The subcommittee's recommendation is that the MRAC host such an event.

Finally, at the September MRAC meeting, we also discussed the clearing treatment for certain physically settled swaptions, particularly after the Single Step transaction has occurred at the clearinghouses. It was MRAC's view that the ARRC would be the most appropriate venue to work on this issue. In my capacity as the Chairman of the ARRC, I can report progress and current thinking from the ARRC on these topics. The ARRC has established a Swaptions Working Group to focus on this issue.

There are no easy answers. These are bilateral contracts that are not cleared by the CCPs, and so CCPs are reluctant and do not view themselves as having authority to require that compensation be exchanged on any swaps that are delivered from an uncleared swaption after the PAI discounting move.

One area where progress may be made is in adding transparency to new bilateral swaption contracts as to what will happen regarding PAI discounting and any exchange of compensation. The ARRC group is discussing that with ISDA.

For legacy swaptions, the group is looking at a model in which CCPs could provide pricing tools to let people calculate the difference in valuation between effective Fed Funds and SOFR-discounted swaps. If a swap came to the CCP with a flag indicating that compensation should be exchanged, they could help to facilitate an exchange subject to confirmation or other requirements. However, this would not fully address the issue that counterparties who will receive compensation would advocate for a compensation mechanism while those that would pay compensation might be less inclined to support that.

The ARRC could recommend compensation as a best practice if there was general market support, but the ARRC cannot require or enforce any compensation mechanism. Market participants need to clarify fairly soon on these issues -- need clarity very soon on these issues, and we will keep working to provide this clarity wherever possible.

Going forward on next steps, this

subcommittee's work will continue after this meeting, and we intend to have another update for this group at the next meeting of the MRAC. I expect the discussion of coordination between the clearinghouses on their respective Single Step proposals will be ongoing for the next several weeks and months. I would reiterate our request to the MRAC to consider the merits of hosting a public tabletop demonstration in how that transparency into the Single Step transition that would benefit the market.

We welcome any feedback from the MRAC on our areas of focus and any recommendations. The MRAC and the CFTC's guidance has been helpful and instrumental in our work thus far, and we look forward to further collaboration with this group.

Once again, I would like to thank Commissioner Behnam, Alicia Lewis, Nadia Zakir, and the MRAC for this opportunity for this public-private effort, and I thank you on behalf of our subcommittee.

And I will turn back to the Chair.

MS. ZAKIR: Thank you, Tom.

And what we're going to do is we're going to actually hold the questions until the full subcommittee report.

So let's go ahead and we can turn now to the presentation on "Legacy LIBOR Swaps and Initial Margin Findings."

Tom, I will turn it over to you to introduce the topic and the speakers, please.

MR. WIPF: Okay. We are going to pass this to Bis and Richard to discuss the findings of their work between -- since the last MRAC meeting on this topic.

Bis and Richard?

MR. HAYNES: Can you hear me? Okay, I think this is going.

Thank you, Tom. Thank you, Alicia. Thank you, Nadia. Thank you to all of the MRAC and also to the Commissioners for having the opportunity to present today.

Over the last few years, the Office of the Chief Economist has been publishing an aggregate view of risk transfer and swap markets across rates, credit, and FX. To generate these reports, we have developed the concept of entity-netted notionals, a measure of duration-adjusted risk netted within the counterparty relationship. Our office developed this tool to provide what we believe is a better measure of risk transfer than other metrics, like gross notional.

For example, where we observed just under $250 trillion of gross IRS notional, this translates to only around $15 trillion of entity-netted notionals, a number much closer to that of the size of U.S. Treasuries and corporate bonds.

We use this ENNs work to analyze the size and composition of the legacy swap portfolios of CFTC-covered entities, and earlier this year released a summary of our results. More recently, we updated this paper to include analysis of a specific subset of legacy swaps, those referencing IBOR benchmarks, and this is what I will speak to specifically today.

Currently, a number of regions, as everybody knows, around the world are in the process of transitioning away from a set of IBOR rates. Here in the U.S., steps have been taken to shift from USD LIBOR to other more robust rates, like the Secured

Overnight Financing Rate, or SOFR.

This transition has generated a set of regulatory questions. For instance, if a legacy swap switches from referencing USD LIBOR to SOFR, would this adjustment cause the swap to lose its legacy status? In order to estimate the magnitude of the swap universe potentially affected by these decisions, our office turned to our ENNs toolkit.

You can see in this table, which I will bring up right now, and I believe is also in your packet here, this table has a high-level summary of our results. This table provides both a notional, on the left-hand side, as well as an ENNs, on the right-hand side, summary of uncleared IBOR-based rate swaps as of mid-September this year. The top line provides the notional and ENNs of dealer-to-dealer swaps in this category, and the other rows show the notional and ENNs of dealer-to-client swaps broken down by client type.

As you can see, uncleared IBOR swaps are held by a wide set of non-dealer counterparties; for instance, pension funds, insurance companies, non-financials, hedge funds, et cetera; I mean, all the categories, a wide variety of clients. In aggregate, dealer-to-client swaps, which is all but the first row that you see there in the table, represent a total of just over $6 trillion of notional -- that's the final line, the total non-swap dealer line -- which nets down to just under $2.5 trillion of 5-year equivalent legacy ENNs, and that $2.5 trillion is both on the long side of these swaps as well as on the short side of these swaps, so it's relatively balanced.

Okay. If the IBOR transition causes swaps to lose legacy status, one effect would be the introduction of an initial margin mandate for counterparties that have been phased in. The ENNs calculation provides a high-level way -- and I want to emphasize that -- a high-level way of estimating initial margin levels, assuming this loss in status.

To create this estimate, we use the standard grid method to calculate potential initial margin requirements. For 5-year rate swaps -- and 5-year rate swaps is what is used within the ENNs calculation, so that $2.5 trillion measure that you see in the table there on the right-hand side is a 5-year notional equivalent. In the grid, the notional multiplier is 2 percent. Okay? So, using this multiplier, we get an IM level of around $50 billion on both the long, as well as on the short sides of these trades, of these uncleared IBOR-based swaps, for an aggregate total of around $100 billion of initial margin associated to this subset of swaps.

As comparison, this is approximately the size of the initial margin collected by the CME against all house and client futures positions. So that gives you a little bit of a benchmark about the size of this estimate.

The paper, which is now on our website and I believe also in everybody's packet there in front of you, provides additional detail and notes that our calculation methodology, I think obviously, includes a number of important caveats I will note, too, right now. First, this estimate used the grid method, which, as everybody knows, is a relatively conservative method. Bis will speak to a separate method that is commonly used on grid swaps, the SIMM methodology, to give a little bit of a sense of how varied these estimates can be.

Second, this estimate assumes that no IM is currently being voluntarily collected by swap counterparties. Of course, if any initial margin is currently being voluntarily exchanged, that would take down on the margin any additional requirements that may come if legacy status is lost.

So I will finish there, and I will just say that I hope this analysis and other analysis that you can find in the paper is of interest both, to all of you, to market participants, to other regulators.

And I would again like to thank everybody here at MRAC as well as Commissioners, Alicia, and Nadia, for the opportunity to present the results that we have put out very recently. Thank you again.

MR. CHATTERJEE: Thank you, Richard.

And on behalf of the Interest Rate Benchmark Reform, and especially the IM Working Group, we express our gratitude because in the last 6 to 7 months, none of this work would have been possible without the active engagement and the publication of the data, which was fundamentally important to I think what Tom alluded to, is in the June MRAC meeting, we discussed that any request for relief to the Commission and other agencies, that not even the Prudential Regulators have asked for, would not really sound meaningful unless we were able to substantiate with some kind of quantitative numbers that, instead of kind of identifying an individual number, would give us a range or an estimate of what the impact would be. Chairman Tarbert this morning mentioned that the Commission is making all its efforts to ease the transition to LIBOR, and the subcommittee identified that the impact of losing legacy status is one of the largest impediments.

So again thank you, Richard, to you and the Office of the Chief Economist.

I would like to kind of pick up on the analysis that Richard laid out, which is that the industry, especially in the first three phases of industry participants that have migrated to mandatory posting of IM, the industry largely uses a more regulatory approved SIMM model to calculate IM bilateral postings. While the grid method serves as a backup and we think that going forward there may be entities across the world for various reasons may continue to rely on the grid method, we think that the more sophisticated SIMM model is what is going to be used, even by the Phase 5 participants.

To progress our work on moving the estimates and notional and the grid method to what it would look under the SIMM method, the working group worked with ISDA where over the last 12 months various detailed analysis has been done, and we analyzed legacy portfolios that participants voluntarily submitted to understand the nature of the underlying trades. Now, these were all submitted on an anonymized basis to protect the position and the trades of the individual submitting parties.

One thing to note, that while we look at the notional that has been presented by Richard and his office, this is going to be spread out over possibly 1,000-plus counterparties and across 9,000-plus relationships that exist among -- between the Phase 5 participants and the swap dealers. So this number will have and covers significantly meaningful amounts of market participants.

The one thing to note that Richard mentioned there are a couple of caveats, one thing I would add to and which applies a little more to the SIMM model, is that each phase-in, and especially Phase 5 categories, have a certain minimum level of notional and margin posting requirement before they are subject to mandatory posting, and that, in turn, may kind of temper the numbers that, you know, we are seeing on screen. However, another offsetting effort -- offsetting impact that the SIMM model has is that the SIMM model is a fairly sophisticated risk and portfolio-netting model.

Typically, what we have historically seen across the industry is that swap dealer portfolios tend to be more well-balanced in terms of risk offsets, whereas some of the end user Phase 5 participants, depending on the nature of their investment strategies, may have more lumpy or concentrated on one-sided impacts. So that takes a counter effect that it may actually give them less offsetting benefits, and then their SIMM numbers might actually track closer to the grid numbers. And we continue to evaluate that, and that was an important aspect.

So based on all of these historical studies and looking at the notional numbers, while the grid model pointed to the fact that the initial margin number would probably be in the $90 to $100 billion range, the SIMM model number lies about in the $40 billion range. And, you know, while it looks like it would be about half of what the grid model would look like, again I would emphasize there are a number of caveats that make it move between participants being out of scope or less portfolio benefits. The model may move -- the model number may move like, you know, 5 to 10 percent in either direction.

So that being said, I would like to go back to Tom's comment, is that the Committee set out earlier this year, and especially after the June MRAC meeting, to come up with a range of numbers that we think will realistically frame the impact of the transition of the benchmark and what it would cause as an impact to legacy status. And you can imagine an initial margin number in the range of $40 to $100 billion is a significant impact and a significant hurdle. And so any consideration that potential regulators or the CFTC may look at this, it would greatly, I think, help the issue.

So with that kind of analysis in mind, the Interest Rate Benchmark Reform, and especially the IM Working Group, would like to recommend to the broader MRAC that the MRAC approve the considerations of the IM funding prepared by the subcommittee and the working group, and that MRAC recommend to the Commission that the Commission consider these findings in their effort and analysis and ultimately their recommendations regarding any relief.

Thank you.

MS. ZAKIR: Thank you, Richard and Bis. We will consider the subcommittee's recommendation at the end of Ann's presentation.

Ann Battle is the Disclosure Working Group leader of the Interest Rate Benchmark Reform Subcommittee, and she is Assistant General Counsel at

ISDA. Ann will give a presentation on recent developments involving ISDA, ISDA's derivative fallback consultations.

Ann, you may begin.

MS. BATTLE: Thank you. We've circulated some slides that you should have. I'm not sure if it's possible to put them up.

But today I'm going to give a little bit of an overview of the work that ISDA is doing to implement fallbacks and the documentation that we published for derivatives. I believe that we introduced this work at an MRAC meeting last year, but today I will give an update on the consultations that we have run in 2018 and 2019, including, as Tom mentioned, the very recent consultation on what we're calling the final parameters for the spread and term adjustments in derivatives fallbacks. I will also go over the expected timing in the coming 6 to 7 months for implementation of these fallbacks and mention some of the open issues.

While we work on putting the slides up, I'll just start to level-set for anyone who is not aware.

ISDA publishes standard definitions that are used in the non-cleared, and in many cases cleared, OTC derivatives market. In Section 7.1 of those definitions, we publish what we call rate options, and the rate options are what counterparties select as the floating rate in OTC derivatives that have a floating rate. And so by publishing these in a standard place, we are lucky to have the ability to also update them on a standard centralized basis to include more robust fallbacks.

Fallbacks are one aspect of the very important work to move the market away from LIBOR. As has been covered, there are also efforts to simply start trading SOFR and other alternative rates on a go-forward basis, and if you do that, you don't need fallbacks. Similarly, in the coming 2 years, we hope to see market participants voluntarily trade away from LIBOR prior to any cessation or other event. And I think the margin relief that's been discussed will remove one of the major impediments to market participants agreeing to those amendments.

However, it is expected that if and when

LIBOR is, in fact, discontinued, there will be exposure to LIBOR outstanding. And so by inclusion of these fallbacks either in LIBOR contracts that market participants continue to enter into, based on the 2006 definitions on a go-forward basis or, as we'll get to, by amending legacy LIBOR contracts to include the amended and restated definitions, and, therefore, the fallbacks, market participants will protect themselves from the disruption that could occur if LIBOR is discontinued and their contracts don't contain a clear, certain, and consistent fallback rate.

So when we update our definitions, the floating rate today, tomorrow, or any time prior to triggering the fallbacks will remain the same. However, the definitions or the rate options will be amended and restated to provide that if there is a trigger or another -- if there is a trigger, either an index cessation event or something similar that provides for moving to an alternative rate, those contracts will instead reference an adjusted version of SOFR or the relevant risk-free rate for the IBOR that the contract references today.

We have the ability to update the 2006 definitions by publishing a supplement thereto. We have actually published now over 60 supplements, and so that is how we intend to publish or implement the amended and restated rate options with the fallbacks.

Now, importantly, when we do that, the amended and restated rate options will continue to -- will apply to contracts entered into on or after the effective date. And I will get into some of these expected dates at the end of the presentation. However, the amended and restated rate options, and, therefore, the fallbacks, will not apply to any contracts entered into before the effective date of the supplement.

The amended and restated rate options will also be published centrally with our definitions, so conceptually sometimes I think it's easy to visualize that if you have a confirmation for a fixed floating swap and the floating rate is LIBOR, that confirmation the day before and the day after we publish the fallbacks will look exactly the same, it will simply contain the name of the rate option. But once the supplement, with the amended and restated rate options takes effect, that swap will contain the fallbacks, whereas the confirmation that looks identical but that was entered before that date will not.

So it's a very efficient tool, at least on a go-forward basis for embedding these fallbacks in the derivatives infrastructure. Given how efficient it is, it's also a blunt tool, and so we've taken a lot of care over the past several years to ensure that the fallbacks we're implementing will work for the entire market or will work for the entire market to the maximum extent possible.

So this next slide goes through the protocol that I think many people have heard about that we expect to launch in early 2020, and that protocol is to provide an efficient, although slightly less efficient way, for market participants to voluntarily agree that the amended and restated rate options apply to their legacy LIBOR contracts. So this will be critical to ensure that to the extent the hundreds of trillions of dollar notional of LIBOR swaps that are outstanding today contain the more robust fallbacks or contain the fallbacks to the adjusted risk-free rates in the event that they are not closed out or otherwise amended to reference a different rate prior to the cessation of LIBOR.

The protocol, in its most basic terms, will essentially say that among adherence to the protocol, irrespective of the date that they entered into a derivative that references LIBOR or one of the other key IBORs that we're covering, that reference to LIBOR or the other IBOR will be a reference to the amended and restated rate option. So it will be a reference to the rate option with the fallbacks to the adjusted form of the risk-free rates.

So the protocol itself doesn't contain a long form drafting of fallbacks, it's just the mechanism whereby counterparties can agree because, as I mentioned, ISDA does not have the ability to go in and manipulate a derivatives contract that has already been entered into. Counterparties have to affirmatively agree to that change even though, again, in this case, the change won't be a change to the reference rate on the date of that agreement, it will just be a change to provide that if fallbacks are triggered, that contract will contain the clarity and certainty of the new fallback rates.

I mentioned the word "voluntary" a couple of times, and that's really critical. It will be up to market participants to adhere to the protocol or to otherwise bilaterally agree that their references to LIBOR and the other IBORs are based on the amended and restated rate options.

A protocol is arguably more efficient than a bilateral amendment because when a counterparty adheres to the protocol, they are agreeing that with all of their counterparties who also adhere to the protocol, the amendments made by the protocol, so, in this case, the amendments to use the amended and restated rate options with the fallbacks, will apply to all contracts between those counterparties.

Importantly, however, if a market participant adheres and only three out of their five counterparties adhere, they will have the new fallbacks with those three counterparties, but they will not with the other two counterparties. Just like any amendment to the terms of a contract, both counterparties are required to agree in order for the amendments to be effective. So in that scenario, the counterparty that had adhered will have to bilaterally mitigate the contracts with the two counterparties that did not adhere. Adherence, again, I said is arguably more efficient because at least with the three counterparties that adhere -- and we can hope that all five counterparties will adhere -- the counterparty that also adhered won't have to go through the trouble and negotiation of putting in place bilateral agreements. So if there is broad market take-up of this protocol, it will significantly reduce the amount of work that's required to address risk in legacy contracts.

So I mentioned several times that the fallbacks will be to an adjusted version of SOFR or the other risk-free rates. And so I think when ISDA presented to the MRAC last in 2018, it was actually on the day that we launched our first consultation soliciting market feedback on what those adjustments should be. That consultation, I am happy to report, was, in fact, successful, and yielded a global market consensus in favor of adjusting the risk-free rate by compounding it over the relevant tenor to cover off the differences in term structure between LIBOR and other IBORs and SOFR and the other risk-free rates. It also resulted in a consensus that market participants prefer to add a spread adjustment which, based on the results of that consultation, would be calculated by taking a historical mean or median of the differences between the relevant IBOR and the relevant risk-free rate.

We confirmed the results of that 2018 consultation for U.S. dollar LIBOR, CBOR, and HIBOR in a consultation in May of 2019. And in response to that consultation, market participants also agreed to use those same two adjustments. In response to that consultation, in addition to supporting those adjustments from a substantive basis, market participants very strongly supported using consistent adjustments across the different IBORs.

We have one more consultation to do on the basic adjustments that will apply, and that's for Euro

LIBOR and Euribor, and we expect to launch that next week and give market participants a relatively short period of time to confirm the results of the 2018 and 2019 consultation for those fallbacks. We covered off U.S. dollar LIBOR in 2019 instead of the 2018 consultation because SOFR was only published a couple of weeks before the 2018 consultation. We've held back consulting on Euro LIBOR and Euribor because €STR, or Euro STR, which is the fallback rate for those IBORs, was only published in October of this year. So by middle to end of January, we hope to have confirmed these adjustments for all of the IBORs that we are covering in the amendments to our definitions.

And then I want to spend some time digging into the results of the consultation that I said concluded recently on the final parameters for these adjustments, and that is what takes us from what we are calling the historical mean median approach to the more definitive adjustment that is based on a 5-year historical median of the relevant IBOR compared to the relevant risk-free rate.

So in the recent consultation from this

fall, we asked market participants about whether the length of the lookback period that they preferred for calculating that spread adjustment and whether they referred for the spread adjustment to be based on a mean or a median. And as a result, market participants favored a 5-year median. There was support for using a 10-year trimmed mean, but ultimately we found consensus with respect to the approach that we are moving forward with.

And I think, very importantly, very few, if any, market participants who responded to that consultation raised major concerns or said that they would be prevented from trading if the spread adjustment was based on a 5-year median. So while they may have preferred a 10-year trimmed mean, they didn't necessarily have a problem with the 5-year historical median. So that was very important information gathered pursuant to that market consultation.

So the spread adjustment will differ for each tenor of the relevant IBOR because it will compare the quotes for that IBOR in that currency and that tenor to the relevant risk-free rate compounded over each corresponding tenor.

So just to take a brief example, if you are talking about a fallback to adjusted SOFR from a 3-month U.S. dollar LIBOR, you would, over your 5-year period, take the quotes that were available on each day in which the 3-month U.S. dollar LIBOR was published, and that would give you one data set. Then your second data set would be looking at SOFR, and this would include either SOFR, as published as a benchmark by the New York Fed, or SOFR based on the indicative data that the New York Fed has published for SOFR for several years prior to the launch of SOFR.

So you would then compound SOFR over each 3-month period that corresponds to your data points in the 5-year lookback period for U.S. dollar LIBOR. That will give you 5 years' worth of U.S. dollar LIBOR data and 5 years' worth of compounded SOFR data. You would then take the difference between each corresponding data point, and that will give you your data set, and the spread adjustment would be based on the median of that data set.

The 5-year lookback period will run up until the date prior to an announcement triggering the fallback. None of us know precisely how the end of LIBOR will come about; however, it is possible that there will be an announcement either by IBA or by the UK FCA or, theoretically, by another authority over IBA that a cessation or discontinuation of LIBOR will occur as of a later date, and that date, in theory, could be a day later, it could be 6 months later, it could be 1 year later.

However, importantly, for the spread adjustments, if that announcement is, in fact, some period of time prior to the actual discontinuation of LIBOR, then the spread, the 5-year lookback period, will contain a gap before the fallbacks actually apply. So you would calculate the spread adjustment based on a 5-year period up until the announcement, providing definitive information regarding the last date on which LIBOR or the other IBOR is going to be published. But up until that actual cessation, your contracts would continue to reference LIBOR. Then when the cessation occurs, if you haven't closed out or otherwise amended your contracts, the contracts will convert to the adjusted SOFR with the spread adjustment calculated as of the date prior to the announcement. The spread adjustment will remain constant once it's calculated. So upon any announcement triggering the fallbacks, the spread adjustment will be known and will be constant and will be the same irrespective of the remaining duration of your swap.

So the spread adjustment will differ between, for example, a 3-month U.S. dollar LIBOR and 1-month U.S. dollar LIBOR because you are looking at different quotes for LIBOR and you're looking at different quotes -- or different periods for compounding SOFR. However, the spread adjustment will not differ for a contract referencing 3-month U.S. dollar LIBOR with 5 years until -- with 5 years remaining and a contract referencing 3-month U.S. dollar LIBOR with 10 years or 1 year remaining.

I think the spread adjustment is the more interesting piece here, so I spent more time on that, but I do want to go back and briefly explain the other adjustment that will apply to these risk-free rates, and that's the compounding that will be used to address the difference in term structure between the IBORs and the risk-free rates.

So in response to the 2018 consultation, over 90 percent of respondents preferred using compounded setting in arrears, and the support for this adjustment has been at the same level or higher in the initial consultations that we've done.

Outside of the derivatives market, I do think that that comes as a bit of surprise because historically non-derivative financial instruments have not necessarily traded based on compounded rates. However, in the derivatives market, as I'm sure many, if not all, of you in this room are well aware, we have traded OIS contracts based on a compounding calculation in some cases for longer than these IBORs have been traded. And so a lot of the support for using compounding over the relevant period was because that will result in contracts that are not precisely the same as OIS contracts that trade today based on

SOFR, SONIA, and all of the other risk-free rates, but very similar.

To go into a little bit of the details, OIS contracts based on SOFR, SONIA, and the other rates, at least in the case of SOFR, typically trade with a payment delay; that is, because you are doing a calculation based on the values of SOFR published each day during the period, and you won't have the last value for that calculation until the last day of the period, payment is typically due on a delayed basis. So in the case of SOFR, there is a 2-day payment delay.

However, that payment delay is not contractually within the rate options that ISDA is updating; that is, we cannot change the payment date when we amend and restate the LIBOR rate options or the other IBOR rate options. The payment date is a different field in confirmations for swaps. However, in response to feedback to our consultations, it was very clear that for many, not all, but for many market participants, it would be problematic to have to make the payment on the last day of the period. Today, payments are made on the last day of the period for LIBOR contracts, but that's because LIBOR is, and the other IBORs are, forward-looking term rates, and the rate is known at the beginning of the period, so there is plenty of time to plan for making a payment on the last date.

So all of this takes you to the key issue that we consulted on for this aspect of the adjustment in the consultation on final parameters, and that is that the rate will be compounded over the relevant period but with what we're calling a two-banking day backward shift. The details of this are really the remaining 2 percent of these fallback equations and are still being worked out, but at a high level. The observation period will be shifted by 2 days so that the last -- the data, the SOFR data or the SONIA data or whatever risk-free rate you're using, that data will not be used; instead, it will be shifted to the next period.

So this is not like a lockout that we've seen in some of the SOFR and other bonds referencing these risk-free rates where that data would just never be used; the data will be used, but it will be shifted to the next period so that you have a full data set to do the compounding calculation to approximately 2 days before the payment is due. So, as I said, we are very close to having these final fallback methodologies, and that's, I think, a major step forward for the derivatives market as we move towards addressing the risk of LIBOR cessation.

When we update the rate options and the 2006 definitions, we're not going to go into the gruesome details that I just spent the last few minutes on, and we are not going to publish equations that counterparties themselves have to calculate. Instead, earlier this year, ISDA ran a formal RFP process to select a vendor that will publish these adjustments in the same way that LIBOR and other benchmarks are published today. As a result of that process, we selected Bloomberg to be the fallback adjustment vendor.

So Bloomberg will be publishing the relevant risk rate compounded over the relevant period. It will publish the spread adjustment, and it will publish an all-in fallback rate. Prior to fallbacks being triggered, Bloomberg will publish this information on an indicative basis, so it will publish a spread adjustment as if the fallbacks were triggered on that day, and it will then publish an all-in fallback rate as if the fallbacks were taking effect on that date.

Hopefully, that will be very helpful to market participants who today rely on screens or terminals to pull the rates referenced in their contracts. They will be able to operate in a very similar manner and have access to that information. From a counterparty dispute perspective, it will hopefully also be helpful because it won't be a calculation that's performed by a calculation agent. Of course, there will be standard correction and dispute policies within the service that Bloomberg is providing, but from a counterparty basis, the rate options in your contracts will reference the rate published by Bloomberg, which will, I think, greatly assist in the transparency both of the lead-up to fallbacks taking effect and in the event that fallbacks do apply to contracts, on a go-forward basis.

So I'm going to briefly spend a little bit of time on the so-called pre-cessation issue that Tom mentioned in his remarks, and I am going to conclude with an overview of how we expect the timing to play out in the coming months, including timing for publication by Bloomberg of the indicative fallback rates and publication of the definitions and protocol.

So Tom mentioned that earlier this year the FSB OSSG sent ISDA a letter asking us to consult on what they're calling a pre-cessation trigger. And so I mentioned that the triggers and the legal language for the fallbacks will describe a clear public statement indicating a definitive date on which LIBOR will be discontinued, and that language allows for an announcement simultaneous with the discontinuation or an announcement in advance of the discontinuation.

The pre-cessation trigger that the FSB OSSG has asked ISDA to also include is based on a statement from the UK FCA indicating that LIBOR is no longer representative. And the FSB OSSG has subsequently asked ISDA to implement that as a third trigger in the amended and restated rate options to implement a move to SOFR and the other adjusted risk-free rates prior to cessation if such a statement is made.

So we consulted on this issue over the summer. And, in general, market participants did express concerns about continuing to trade based on a non-representative rate. However, the market participants were divided with respect to whether it should be a so-called hardwired or required trigger for use of the ISDA definitions, and for inclusion of those amended and restated definitions in the protocol that I described earlier. We published a report summarizing the responses to that consultation on an anonymous basis earlier this fall, and there is a link to that report available on this slide.

As Tom also mentioned, the FSB OSSG recently sent ISDA another letter, and that's the letter in which they asked us to include the trigger on a mandatory non-optional basis along with the other triggers.

ISDA, a couple of weeks ago, responded to that letter and indicated that we are moving forward with the implementation of permanent cessation fallback, but also indicated that we will continue to work with the regulators and with market participants, so that the derivatives market is prepared and protected against the scenario that the UK FCA finds LIBOR to be non-representative and LIBOR does not cease upon that finding.

In the letter, we mentioned some of the feedback to the recent consultation that's also in the report, and we think that's information that market participants could benefit from in forming a more definitive view on how to implement pre-cessation triggers. The two key pieces of information that we mentioned to the FSB OSSG are, how long would LIBOR be published after it is found to be non-representative?

So right now, under the EU benchmark regulation, if LIBOR is found to be non-representative, it must cease publication within a reasonable period of time, but "reasonable" is not defined. In ISDA's letter to the FSB, we said that we think that it's more likely that the market could come to a consensus on this issue if they better understood what "reasonable period of time" means. In the letter, based on responses to the consultation and conversations within the ISDA board, we also took the position that that reasonable period of time should be months and not years. The letter describes some of the risks that could occur if a non-representative LIBOR is published for an extended period of time, particularly given that some cash products, including cash products that are hedged by derivatives, would not be able to be amended and, therefore, would continue to reference LIBOR while presumably the rest of the market has moved on to other risk-free rates.

The second key piece of information that we indicated as necessary for the market to come to -- to potentially come to more of a consensus on this issue-- was clarity on how central counterparties would act in the event that the UK FCA finds LIBOR to be non-representative. At the end of last year, both LCH and CME indicated an intention to include the fallbacks -- the fallbacks that ISDA is implementing in all of their cleared contracts upon the date on which those fallbacks take effect. That was in contemplation of the permanent cessation fallbacks. CME and LCH also provided information for ISDA to include in the consultation on pre-cessation issues, stating their intentions and what they may do in the event that the UK FCA finds LIBOR to be non-representative. However, based on feedback to the consultation, the market is looking for more clarity in the form of rule changes or something similar to better understand what the CCPs would do.

So the conclusion of this letter from ISDA to the FSB OSSG was that while we move forward with implementation of the permanent cessation fallbacks, we will reconsult the market on pre-cessation issues and how a pre-cessation trigger based on non-representativeness should be implemented if and when the market has the benefit of this additional information. We think it's very important to consult on different information instead of utilizing resources and time of market participants to consult again on an issue that we consulted on so recently.

So moving on to the timing -- and we'll come back to timing for pre-cessation at the end of this slide -- I mentioned that next week we are going to publish a supplemental consultation on the spread and term adjustments for Euro LIBOR and Euribor derivatives fallbacks. That will be very similar to the supplemental consultation on those adjustments for U.S. dollar LIBOR, but it will fold in the parameters. So it will cover the consultations that we did in 2018 and 2019 plus the final parameters. And we'll ask market participants to confirm that compounded setting in arrears with a backward shift and a 5-year median historical spread adjustment is, in fact, appropriate for Euro LIBOR and Euribor.

At one point, we had plans to implement fallbacks for these benchmarks on a different timeline, but given the efficiencies that could be realized if we're able to include them in the same set of amendments to our definitions -- that is, in the same supplement and in the same protocol -- we decided to wait and consult on this quickly, and if the results are consistent, we will be able to do all of this at once.

So in the first quarter of next year, ISDA and Bloomberg will finalize and publish, so that they're fully public and transparent, the final methodologies for the fallback rates. The issues that remain outstanding right now, as I mentioned, relate to the technical details of the backward shift, relate to different holiday calendars between the IBORs and the risk-free rates, and similar issues. Also, in first quarter of next year, we will publish the amendments to the 2006 ISDA definitions via the supplement and the protocol to include the terms of that supplement in legacy transactions.

Between first quarter and second quarter of next year, Bloomberg will publish the adjustments so that market participants can access them. It's possible that Bloomberg will publish those on a test basis and then start fully publishing them. And as I mentioned, when Bloomberg goes live on this, it will be indicative fallback rates because presumably at that time, none of the fallbacks for any of these IBORs will have been triggered yet.

In the second quarter of 2020, the

amendments to the definitions to include the fallbacks and the amendments made by the protocol will take effect. So there will be an approximately 3-month period between when we publish these amendments as final, when we launch the protocol and open it for adherence, and when the amendments take effect. And, again, by "take effect," I mean that the fallbacks apply in your contracts. So "effectiveness" does not mean that the rate referenced in your contract changes to adjusted SOFR, it just means that legally you have the contractual fallbacks.

The idea behind this 3-month period is that hopefully a broad set of market participants will adhere during that 3-month period, and then on the effective date, the fallbacks will take effect on a go-forward basis, and as long as a lot of market participants have adhered to the protocol, they will also apply on a legacy -- they will also apply to legacy contracts, and that will limit the amounts of work that market participants need to do to distinguish between contracts that have the fallbacks and contracts that don't have the fallbacks.

The statements from LCH and CME last year indicated that the CCPs anticipate making the change on the date, which is now in second quarter 2020, on which all of this takes effect. And so in the event that those plans come to fruition, that would also result in consistency across the cleared and the non-cleared market for implementation of these fallbacks.

So the last item on this slide relates to the pre-cessation issues. That's, at this point, to be determined based on when the market receives the information explained in the letter and presumably any other information that market participants feel they need in order to provide additional feedback on the pre-cessation issues. When that happens, ISDA again will reconsult, and then based on the responses to that consultation, we'll determine how to best implement a pre-cessation trigger. It's possible that it may be via some sort of complementary documentation solution to everything that I've described. It's possible, if the timing lines up, that everything would be combined. But the key issue right now is the market learning more about how this pre-cessation issue may play out, while at the same time moving forward as quickly as possible to address the risk in the derivatives market of a permanent cessation of LIBOR. So.

MS. ZAKIR: Thank you, Ann.

At this time, I would like to open the floor to questions and comments from the members, any questions or comments regarding Tom's presentation, Bis and Richard's presentation, or Ann's.

Lee Betsill?

MR. BETSILL: Thank you. If the Chair will allow, I would like to make a statement regarding Ann's comments on pre-cessation, and specifically on CCP rulebooks.

ISDA, in its response to the FSB OSSG, has implied that as one of the initial steps, CCPs need to provide greater certainty on the actions they would take if the FCA would determine that LIBOR was no longer representative. We think that this approach does not recognize the role of CCPs at this stage in the process. Our role is to provide risk management to the marketplace. And expanding on this, we note that certain swaps and derivatives contracts are required to be cleared by law, and CCPs stand ready to clear approved products.

However, let's not forget that swaps are initiated under ISDA's swaps definitions. Hence, any widespread adoption of pre-cessation triggers needs to be the result of a market-led solution in combination with coordinated regulatory action.

We, as CCPs, stand ready to assist with these efforts, including, where and when relevant, rulebook changes supporting fallbacks.

CME Group has stated publicly our support for efforts by the official sector, ARRC, ISDA, and their industry-wide working groups to improve and strengthen LIBOR fallbacks. In the interest of market stability and to ensure a coordinated response, we recommend a proactive approach to address the potential scenario that LIBOR will be declared non-representative. We recommend including this scenario as a trigger in the ISDA fallback language so that there is greater certainty and the market's actions in such an event are coordinated across all markets.

If such a trigger is adopted by ISDA, CME will incorporate ISDA fallback language in our rulebooks to ensure they are aligned with the ISDA protocol.

We would like to thank ISDA for the consultation that they undertook on pre-cessation triggers and their intention to conduct a potential follow-up consultation for clarity on implementation.

As a clearinghouse for swaps, we applaud ISDA's lead and will align with ISDA for both triggers and methodology as much as possible across the OTC derivatives marketplace, reserving the right to make necessary adjustments based on consultation with our client base.

We also believe that coordination among the FCA and other impacted regulators is key. The FCA can take a non-representative decision post-2021 based on panel bank participation and other factors. To provide certainty in the market, a non-representativeness decision should be coordinated among impacted regulators, and the process to announce such a decision be communicated in advance.

Thank you.

MS. ZAKIR: Thank you, Lee.

Dennis McLaughlin?

MR. McLAUGHLIN: Thank you. I'd like to thank the members of the panel for dealing with the issues around this difficult topic. And I, in particular, thank Ann for a very good presentation, a very clear presentation, of what some of the issues are that we face.

From LCH's perspective, we have monitored closely ISDA's work in connection with rates reform, and we continue to engage with regulatory authorities and their clearing members regarding a response to the market's transition to risk-free rates, including the adoption of ISDA fallbacks and the switch and discounting to SOFR and other RFRs.

We would endorse the FCA's and other regulators' position that it is important that a benchmark is representative of the relevant underlying market. If a relevant regulator announced that a benchmark was non-representative, we would find it challenging from a risk management and regulatory perspective to continue to clear swaps linked to that benchmark. For these reasons, we continue to consider the consequences if LIBOR is considered to be non-representative.

And notwithstanding our existing powers to use alternative rates, we will shortly be consulting on a rulebook change to provide for an automatic trigger into fallback arrangements where a competent authority determines LIBOR to be non-representative.

As you would expect, such considerations require thorough legal and regulatory analysis and governance review, and we are currently considering the possible options in this context, and we will release relevant announcements at the appropriate time.

Thank you.

MS. ZAKIR: Thank you.

Rob Mangrelli?

MR. MANGRELLI: Thank you. And thank you, Ann, for the thorough overview of where ISDA is at. Maybe just a question on the ISDA front, if I may. You noted that in response to the topic of pre-cessation triggers, one of the possible impediments would be to those who are hedging underlying cash market risk where they may be continuing to use a LIBOR rate for some period of time. I guess with that topic in mind, given that ARRC has recommended fallback language that possibly differs in several ways from ISDA's recommended language, one of which being the inclusion of a forward-looking term SOFR if available in waterfalls, if ISDA is going to reconsider a topic like triggers, has any thought been given to reconsidering other topics where ISDA and ARRC language may differ materially?

MS. BATTLE: I think on the forward-looking term rate, it's important to consider how derivatives based on SOFR and the other risk-free rates currently trade, which is based on a compounded rate. That is also how some SOFR bonds have traded. I think it's well-known that the expectation in the loan market may be for a forward-looking term rate if and when it's available. I think the difference is therefore between the ISDA fallbacks and the ARRC fallbacks, are based on the differences with respect to how these contracts trade on a go-forward basis for the different financial instruments, and in looking at it in that light, I think it becomes more reasonable that there are slight differences. You likely want the fallbacks for your contracts to be based on how you would trade that new rate on a go-forward basis.

All of that being said, we absolutely appreciate and completely agree that market participants who enter into one-for-one hedges need to continue to be able to do so. Whether that is to enter into a one-for-one hedge based on the hedge alone that is entered into based on a rate other than just a compounded form of SOFR, or if you have a loan that's going to fall back to a different rate.

I think the reality, like the reality today, for market participants who enter into those one-for-one hedges is that some bilateral communications and conversations are going to have to occur. We've recently been discussing with our working group language that counterparties could use to ensure that their hedges match up if the fallbacks take place, and, in some cases, that might mean adhering to the protocol using the ISDA definitions, but then entering into some tweaks to true up what that hedge might be.

So I recognize that's not as elegant of a solution as that which I just described, but in talking to, you know, buy-side corporate end users, some of the regional banks that transact with those market participants, it's not too far from the reality of how these one-for-one hedges are entered into today.

I'm not sure if Tom also wants to comment on this issue.

MR. WIPF: Yes. Thank you, Ann.

I think the view we took at the ARRC was that we have tried to put tools out that will create forward risk reduction, and having pre-cessation triggers, knowing that this bit of uncertainty is which we still see today. Market participants do have an opportunity now on new issue, to a large degree, if they choose to continue to use LIBOR, to have the ability to use these fallbacks. And I think what we did in terms of forward-looking term was to set a waterfall in place that that seemed to be a preference that we heard, but we just go very quickly to SOFR compounded in arrears. So to the extent that's not available or not a choice across these particular cash products, which I think is where this is heading, we have tried to put forward tools.

And I do think the goal across all of these groups has been consistency at every level, but to some degree, as we quickly approach the 751 day point -- who's counting? -- we sort of arrive where we're backing into some of these deadlines, and I think when we think about the deadline itself and we understand how this all plays out -- and I think Ann has given us a real good picture of how this all plays out at the end -- we have a deadline and then we have tools. And I think what the ARRC and ISDA is trying to do is to lay as many of those tools on the table as possible for market participants knowing that most likely all the tools that people would like to have may not be available in time for the deadline. So really letting people begin to understand that the deadline is sort of an immovable object, the tools are a bit more of a variable, but getting them out seems to be the goal.

So that's really how we looked at it at the ARRC, but I would say that across ISDA and ARRC -- and Ann is on the ARRC and has been an active participant -- we do want consistency where possible.

MS. ZAKIR: Thank you, Tom.

Kristen Walters?

MS. WALTERS: Thanks very much. Thanks to the panel. I think from a derivatives market's perspective -- well, actually, I know from a derivatives market's perspective, everything that Ann and Tom have told us about the timeline for the ARRC, with ISDA, everything they said that was going to happen has actually happened in a highly organized and deliberate way. So I think for derivatives, which obviously is the focus of this Committee, there is a very good state of preparedness.

I just want to comment again on cash products. So of the $36 trillion in LIBOR-linked products that will exist after the deadline, $2 trillion -- about $2.3 trillion are in cash products: student loans, credit cards, bank loans, floating rate notes, and mortgages. And so the ARRC has helped with fallback language for these products.

However, even though there is language, it's not necessarily clear that there's a mechanism to apply the language. And I would highlight floating rate notes as an example. These require unanimous consent of all noteholders in order to amend any of the interest rate provisions.

And this, to me, is a bit of an elephant in the room with regard to whether or not LIBOR continues to exist beyond the deadline. I think, from our perspective, as a firm, and my personal perspective, the future of LIBOR is unclear, particularly as it pertains to these cash products. I know there is work with the New York State Legislature around the issue I talked about for floating rate notes, but I do think that additional consideration needs to be taken.

I guess the final point is from a disclosure and awareness perspective, a tremendous amount has been done amongst market participants, but not a lot, if anything, or minimal amounts of it happened in the consumer space. You know, personally, I've had a couple friends who refinanced their mortgages recently, and, you know, they kind of asked their mortgage broker more about SOFR. And, of course, the mortgage brokers had absolutely no idea what SOFR is, what -- and so I just -- there are a lot of consumer products out there that reference LIBOR, and we do need to have a solution if we truly intend to cease LIBOR at the end of 2021.

Thanks.

MS. ZAKIR: Thank you, Kristen.

Frank Hayden?

MR. HAYDEN: Yeah, I want to say excellent panel. Thank you very much. I appreciate everything. And to echo what Kristen said, the thing that just caught my mind's eye is the fact that on these term and spread adjustments, you know, Bloomberg is going to be publishing them. And I recognize that they're great and everything else, and I recognize ISDA is great and everything else. But I'm very -- you know, I'm kind of concerned that people that aren't members of ISDA or subscribe to Bloomberg terminals may not be able to see these adjustments. And so are they going to be publicly available for other people to see?

MS. BATTLE: So the equations for the adjustments will be publicly available from both ISDA and Bloomberg. I would note that the consultations we ran were open to ISDA members and non-members given the importance of the adjustments that the decision we made very early on in the process that we would reach out beyond our members.

Bloomberg will be coming out in the near term with information about how to access the spread and term adjustments. They will be available on the terminal, but they also will be available via a separate API or in a web-based fashion. Access to the spread and term adjustments, like real-time access to LIBOR, will not be free, and I can't at this time speak about the Bloomberg commercial arrangements. However, the adjustments and the fallback rates on a delayed basis -- and "delayed" does not mean a long delay -- will be available in a web-based format for free.

So if you want real-time access, just like if you want real-time access to LIBOR, there will be a fee associated, but the information will ultimately be publicly available, including outside of a Bloomberg terminal.

MR. HAYDEN: Yeah, I would just say with that, it needs to be available in a commercially reasonable manner. I mean, if it's delayed where, you know, folks who are not members can't access the data and it freezes up the market, it creates the systemic risk we're trying to address, right?

MS. BATTLE: Absolutely.

MR. WIPF: Just quickly on that, I think there has been one development at the ARRC that I think we'll hear more about, but when we do start speaking about cash products -- and Kristen and I totally agree -- these are the places where we need to see more progress.

As you may know, Fannie and Freddie have announced a consumer-based adjustable rate mortgages that will reference SOFR. And the Fed has recently produced a consultation on producing averages of SOFR, which will be compounded and on a screen. So basically on the Fed screen at some time in the first half of 2020, for particular parts of the market and particular products, there will be an ability to see an average of 30-day, 90-day, and 180-day SOFR, which will be compounded. And potentially we know when the mortgage product will be used in advance. So to the extent that there is a certainty of payment in a particular product -- in many cases, consumer products, loans, and others -- you would be able to look at what 3-month SOFR was on an average basis, and an index that people who need that certainty of payment well in advance could utilize that. And that should cover a lot of real estate in the market as we think about particular products that I think that we've called out on a go-forward basis. Again, the fallbacks and the floating rate note challenges are huge, but there are a few other things sort of on the horizon that might be able to be helpful to some market participants perhaps away from the derivatives markets or some of the larger institutional markets.

MR. HAYDEN: Thank you.

MS. ZAKIR: Thank you.

Stephen Berger, Citadel?

MR. BERGER: Thanks. I very much

appreciated the data that was presented by Richard and discussed by Bis as well about the size of the legacy IBOR swap market. I just had a few questions. And I guess I want to preface this by saying I'm completely sympathetic to providing relief for legacy swaps to ensure that if there are amendments to fallback language or referencing new rates, that they don't trigger requirements that they otherwise would have been subject to. But I just want to make sure I'm understanding the data that was presented correctly.

So the table talks about legacy swaps. So is it correct that -- in the paper, we talk about there are in-scope swaps, legacy swaps, and then out-of-scope swaps. So the table is just zeroing in on that middle bucket, the legacy swaps?

MR. HAYNES: That's correct, yes.

MR. BERGER: Okay. And then I guess I infer in the table that was presented that shows the kind of -- the dealer-to-customer side of the market, we're sort of zeroing in there on Phases 5 and 6, generally, in terms of the UMR phase and schedule? Like --

MR. HAYNES: No, this includes anything

within 1 through 3 even, as long as those swaps in 1 through 3 would also be legacy.

MR. BERGER: Right. So the SD/SE bucket on the top line is probably Phase 1 through 3.

MR. HAYNES: Exactly, exactly. But, yes, you are correct that the bottom rows are likely 4, 5, 6, et cetera, yes.

MR. BERGER: Okay. And are we also -- are we accounting for the fact that for relationships that are under -- for relationships that would have under $50 million in IM, that those wouldn't be captured?

MR. HAYNES: Right. So, no, that's a good question. So in this, we are not capturing that, and part of the reason we're not capturing that, and we kind of described this in the paper, is that we do not have direct margin information unfortunately for uncleared.

MR. BERGER: Okay.

MR. HAYNES: We've done some other estimates just to kind of get a sense of what proportion of the total market that segment represents, and we believe it's relatively small. But you are absolutely correct

-- and we try to point this out -- that the numbers up here are an overestimate because we do scope those in.

MR. BERGER: Okay. That's helpful.

And then the other thing I would note, I think an important caveat that was also made was that for certain -- it's probably certain counterparty types more than anything else, they already posting. So for the largest category we see here, hedge funds, I think the vast majority of those relationships are already going to be posting collateral that may be in excess of what a SIMM calculation would even suggest.

MR. HAYNES: Absolutely, yes, yes. Very well worth emphasizing.

MR. BERGER: Okay. Thank you for those clarifications and for doing this analysis, which is very interesting and useful.

MR. HAYNES: Sure.

MS. ZAKIR: Thank you.

James Shanahan, CoBank?

MR. SHANAHAN: I want to thank the group for their presentation today. And I also want to compliment the ARRC on creating recently consistent fallback language across cash products. I think that the consideration of risk that could be created by creating inconsistencies across cash products is something that really needs to be drawn out. I would encourage ISDA, though, at some point to reconsider some of these independent variations, including advocating for that a fallback waterfall consistent with the ARRC, that a term LIBOR, forward-looking term LIBOR, solution is I think where the ultimate market will end up. And I think that failure to look at that aspect could create a lot of noise through the aspect. So that's something that we've advocated for consistently, and I'd really encourage ISDA to take that action.

MS. BATTLE: Thanks, Jim. I would note that we did look into that quite aggressively for about a year to a year and a half. I think the issue that we continually ran up against is that it's perhaps a logical impossibility to say that the derivatives market in bulk will end up on a forward-looking term SOFR because a forward-looking term SOFR, by definition, is built based on OIS or futures-referencing SOFR. So that logical inconsistency I think is what ultimately prevented ISDA and, as I said, more than 90 percent of the respondents to our consultations to conclude that the direction of travel for derivatives should be where the derivatives market is expected to go. And I think for purposes of loans and other products, we all, including ISDA, strongly hope that we get to that massive SOFR derivatives market so that there can be a very robust forward-looking term LIBOR. And in that case, as mentioned, I do think that we cannot, as ISDA, opine on what market participants would do, but it would be reasonable, based on how markets have acted in the past, that market participants who do, for example, in turning to a loan based on that forward-looking term, forward-looking term LIBOR, will be able to hedge that.

But I can definitely assure you if you go back to our work files from 2016, 2017, and even early 2018, we were aggressive on the forward-looking term rate, but it just became a logical inconsistency.

MS. ZAKIR: Thank you.

Craig Messinger, Virtu Financial?

MR. MESSINGER: Thank you. I also want to compliment the panel, a great discussion.

I want to touch back on the Bloomberg conversation a little bit. Education is a real problem, and Bloomberg has a very limited audience. And I don't get a great deal of confidence that there will be an easy way to disseminate where resources will exist. So I would encourage -- you have a couple quarters to do this -- thinking about a multitude of news sources or other resources where people can find either a public entry point to the information, because Bloomberg is purely a commercial entry point, and there are -- to my knowledge, there are no other alternatives that have been suggested yet that would not be commercial.

So if education is one of the pillars of what we're trying to make sure we're out there providing to the broader industry, we need to think of other sources, whether that could be, you know, things like the CFTC or SIFMA or whatever, but I think if I was doing a Google search, I don't want to go to Bloomberg, I want to know all the different sources that I could go to. So I would encourage you to think of that.

MS. BATTLE: Thank you. And we would appreciate feedback on that point going forward.

MS. ZAKIR: Sam Priyadarshi, Vanguard?

MR. PRIYADARSHI: Thank you. At the September MRAC meeting, the MRAC had approved for CFTC consideration "plain English" disclosures for new derivatives-referencing LIBOR and other IBORs. And the language that was recommended was predominantly referring to a permanent cessation, and there is no mention in the "plain English" disclosures to a pre-cessation trigger. Would the subcommittee reconsider the "plain English" disclosures?

MS. BATTLE: I think we would be more than happy to consider developments that occur. I mean, the disclosures were published as a utility and service, and hopefully something that's been helpful to the market. And I completely agree if a portion of them becomes obsolete or no longer fully accurate, then the subcommittee should relook at them. I think it's a little bit early to reopen them right now, given the developments that we discussed.

MS. ZAKIR: Thank you.

We have time for about two or three more questions, so we'll take those and then we'll move on.

Kevin McClear, ICE?

MR. McCLEAR: I apologize. I missed the queue when we were talking about the CCPs' approach to the LIBOR transition. So I really don't have a question, and I don't have a statement, but I have some talking points, and I'd be glad to give you ICE's perspective on the LIBOR transition.

So let me first say we're a little different in that we don't have a big book of OTC transactions. We clear credit default swaps, but they're not LIBOR-dependent. LIBOR is not a contract spec for the credit default swaps. So we don't have a fallback provision in our rule set for credit default swaps, so we don't think there is anything we need to do with respect to credit default swaps.

We do clear some futures contracts out of ICE Futures Europe and ICE Clear Europe that have LIBOR components. So short sterling futures and

Euroswiss futures are the two biggest. And with respect to their transition -- I'm going to echo some of what Lee said -- our approach is we serve the market at ICE, and we're going to follow the market. And we know how to transition. We've transitioned before, and we'll be ready to transition. And most importantly, in our futures rule set at ICE Futures Europe and ICE Clear Europe, we have the ability to fall back to an alternative rate, so we can continue to clear the short sterling and Euroswiss futures I mentioned. We have broad authority in our rule set. We can choose the alternative reference rate ourselves or we can select an industry best practice alternative rate.

I'd also like to note what we've been doing to facilitate the transition with respect to listing alternative reference rate contracts. For a while now, we've listed a 1-month to 3-month SONIA, SOFR futures, ESTER, and Saron. Those are across all the major currencies.

The other thing we've done to facilitate the transition is we've developed a spread market between

LIBOR and the alternative reference rate contracts. That will help the marketplace adjust, we think, to the future use of -- or the LIBOR changes.

And I'm just going to conclude and loop back by saying that when we transition -- and this was a theme in the opening remarks -- we want to make sure we're orderly. We don't want to cause any market disruption. So we're really looking for a market-led transition that allows us to prudently risk-manage our book of cleared transactions.

Thank you.

MS. ZAKIR: Thank you.

Dick Berner, NYU?

MR. BERNER: Thanks for great presentations. I just want to reaffirm the suggestion that Tom Wipf made because the operational challenges are going to be really considerable here in many, many dimensions. I know the ARRC has a subcommittee that deals with operational challenges, and I think the idea of having a tabletop, maybe more than one tabletop, exercise to deal with those operational challenges would be really constructive.

I also want to back up what Craig said. I think that having a number of venues in which -- particularly for cash products and for consumers, the information be made available as widely as possible so nobody is surprised would be really beneficial.

MS. ZAKIR: Okay. Thanks.

Let me go to the phone here. Are there any comments or questions from members on the phone?

MS. YARED: Hi. This is Rana Yared, from Goldman Sachs. Can you guys hear me?

MS. ZAKIR: Yes, we can hear you, Rana.

MS. YARED: Excellent. Third time is a charm. First, thank you to all three of the subcommittees for doing very important and, frankly, yeoman's work. A couple of comments both on this one and earlier when I had failed to get through.

So as it relates to the CCP Committee, I wanted to mention that Goldman Sachs is extremely supportive of that Committee's work and has a very sharp focus on the resilience of CCPs and the work that that Committee will do around resilience. Also, I'll pick up that there were a couple of people who mentioned that it will be a tricky and challenging committee. That may, in fact, be the case, but I want to encourage the group to focus on the points of agreement and to use positive movement forward on anything to be a good sign versus waiting to agree on all the points to be able to make progress, and will specifically note that there seems to be agreement among the group that adequate margining is the single most important resilience point that can be correct because it is a first barrier to something actually going wrong. And so we encourage the work around that.

And then as it relates to LIBOR, I'll disclose -- I don't know if it's a conflict or not -- I am on the ISDA board, and will mention that we continue to be focused on having the transition move as soon as possible, the reason being we think that that will cause liquidity to coalesce around SOFR and to reduce the temptation to continue to use the older benchmarks.

And we're also appreciative of the comments that were made earlier about certain pronouncements that various government organizations have made about new products having exposure to old reference rates past long stop dates. We think that will be incredibly helpful in moving the market and in coalescing the liquidity around the target new risk-free rates.

MS. ZAKIR: Thank you, Rana.

Now the Committee will consider the subcommittees' recommendations. Since the recommendation was made by a member of the subcommittee who is also a member of the MRAC, a second is not needed. It has been moved that the MRAC approve the initial margin impact findings and that the findings be submitted to the Commission for consideration. Is there any discussion? The floor is open for questions and comments from the members at this time.

Are there any questions or comments from members on the phone?

(No audible response.)

MS. ZAKIR: If there is no further discussion, we'll take a vote on the recommendation from the Interest Rate Benchmark Reform Subcommittee that the MRAC approve the initial margin impact findings and that the findings be submitted to the Commission for consideration. As a point of order, a simple majority vote is necessary for the motion to pass. All those in favor, say aye.

(Chorus of ayes.)

MS. ZAKIR: Members on the phone?

(Chorus of ayes.)

MS. ZAKIR: All those opposed say nay.

(No audible response.)

MS. ZAKIR: Okay. The ayes have it, and the motion is passed.

This concludes the ISDA and legacy LIBOR swaps and initial margin discussions. Many thanks to our speakers. You may return to your seats.

At this time, I ask that Agha Mirza and Dennis McLaughlin come forward and join Tom Wipf at the speaker table.

The next item on the agenda is a follow-up to our discussion from our September meeting regarding the CME and LCH proposals for transitioning price alignment interest and discounting for U.S. dollar over-the-counter cleared swaps to the Secured Overnight Financing Rate, SOFR.

I will turn it over to Tom to introduce the topics and the speakers.

MR. WIPF: Thank you, Nadia. As you mentioned, we, at the subcommittee last time back here, did express, I think, the view that greater consistency in the Single Step efforts would be a good outcome. We appreciate the responses that we've seen so far, but we'd like to get the updated version. So we will introduce Dennis McLaughlin, who is the Interest Rate Benchmark Subcommittee member and Chief Risk Officer of LCH; and Agha Mirza, Interest Rate Benchmark Reform Subcommittee member, Managing Director and Global Head of Interest Rate Products at CME.

So, Dennis, if you would like to begin.

Thank you.

MR. McLAUGHLIN: Thank you, Tom.

LCH entered into an extensive consultation with its membership over transitioning to SOFR discounting. And the first point that they suggested, the strong consensus of the membership, was a date around October, middle of October 2020, and I think we settled on the date of October 17, give or take a day or two, to actually do the transition.

The key points of the transition were, the key elements that we came up with, and we actually made a proposal then along these lines, and we communicated this out to the market, was first that there would be compensation for the valuation risk change that would be provided as a combination of cash and compensating swaps. Client accounts will be able to elect cash only if they choose to do so via their clearing broker because we recognize that there may be -- they may have constraints that normal dealers wouldn't have. An option would be used to facilitate the cash-only election and to determine the cash-compensating amounts.

And so we are targeting not a restricted subset of products, but all U.S. dollar discounted positions in swap here to be in scope, including the non-deliverable currencies. So just to be clear, that means U.S. dollar LIBOR, U.S. dollar Fed Funds, U.S. dollar SOFR interest rate swaps, U.S. dollar CPI zero coupon inflation swaps, and the non-deliverables you need in countries, like Korean won, CNY, Indian rupee, et cetera.

And we are targeting conversion, as I said, to take place around 17th of October 2020, and we have circulated this proposal to the market based on the feedback that we got through the member consultations, so it's public.

So that's the summary of what our proposal is. I can go into more detail later.

MR. WIPF: Thank you very much, Dennis.

We will now pass to Agha.

MR. MIRZA: Thanks, Tom.

I would like to begin by thanking the CFTC, its Chairman and Commissioners, and the members of the CFTC's Market Risk Advisory Committee for the opportunity to present here today.

CME Group believes that migrating the discounting and price alignment environment for cleared U.S. dollar interest rate swap products from the daily effective Federal Funds rates to SOFR, Secured Overnight Financing Rate, in accordance with the ARRC Paced Transition Plan, will foster liquidity across the SOFR term structure, an important objective. By conducting a single-day transition, we intend to efficiently move discounting and price alignment while mitigating any potential risks and ensuing valuation changes.

After extensive consultation with market participants over several months, as well as ARRC's Paced Transition Working Group, pending regulatory approval, CME Group has determined and communicated scope, timing, cash adjustment, and discounting risk exchange in relation to this Transition Plan. We have also provided a proposed roadmap in our most recent communication to the market on December 3 for further discussing the basis swap option mechanism, which I will describe briefly, and the treatment of legacy uncleared swaption contracts and operational readiness with our clients and market participants.

In the CME plan, all existing cleared U.S. dollar interest rate swap products are in scope for the transition with a target transition date of October 16, 2020. This date, we believe, essentially helps to accelerate the timeline outlined in the ARRC Paced Transition Plan, and it also provides the market adequate notice to facilitate an orderly transition.

In terms of the process on the close of business on October 16, CME will conduct a standard end-of-day valuation cycle determining settlement variation and cash payments on open positions in U.S. dollar interest rate swaps, as calculated in the current Fed Fund-based discounting and price alignment environment. Upon completion of this initial cycle, CME Clearing will then conduct a special valuation cycle determining settlement variation and cash payments on those positions as calculated with SOFR-based discounting price alignment. This will require that value transfer attributable to the change in discounting be neutralized, which will be done through a special valuation cycle, including a cash adjustment that is equal and opposite to the resultant net present value of each cleared interest rate swap product.

Another implication of this transition would be that it would effectively move the discounting risk for all participants from Fed Funds to SOFR at closing curve level on October 16 of next year. To mitigate both the potential re-hedging cost associated with this transition and the sensitivity of valuations to closing marks on October 16 of next year, we intend to facilitate a mandatory process to book a series of Fed Fund-SOFR basis swaps to participants' accounts. Such basis swaps will restore participants' positions to original risk profiles and will be booked at closing levels at zero NPV on October 16.

Importantly, effective October 19, 2020, and thereafter, CME Clearing will apply SOFR-based discounting and price alignment to all cleared U.S. dollar interest rate swap products. An important point to mention, some of the buy-side clients have indicated that they may not want to take the SOFR-Fed Fund basis swap risk exchange, and to accommodate that, CME believes that an auction should be made available to market participants wishing to liquidate any Fed Fund-SOFR basis swap exposures arising from the mandatory discounting risk exchange process. We intend to engage a third-party service provider to conduct an auction to enable participating firms to offload these positions. And we will be consulting with the market participants on the details of the auction mechanism and will communicate these in due course.

CME Group moves forward with the scope, timing, cash adjustment, and discounting risk exchange aspects of the discounting transition. We intend to begin internal and external validation of operational and reporting requirements through first quarter of next year with operational buildout and testing proceedings through second quarter.

We fully support efforts to promote liquidity in the SOFR benchmark and look forward to facilitating wider adoption of SOFR and continued partnership with industry participants.

Thank you.

MS. ZAKIR: Thank you, Agha.

Tom, would you please provide the subcommittee's view on the current proposals? Are there any other issues that the CCPs should consider?

MR. WIPF: Yes. Thank you.

I would first like to thank the CCPs for these updated versions of their plans. I would also like to thank the CCPs for their responsiveness to the requests of the subcommittee around dates, and I think we appreciate that response very much. We continue, from our perspective, would like to see consistency where appropriate, understanding that you will respond to your stakeholders in the most appropriate ways for your organization, but we do thank you for these synchronized dates, and we think that will be very helpful.

And I think very much we'd like to thank all the CCPs for their comments today on this issue around pre-cessation. Clarity around this is extremely important as we move forward. Obviously, this has been a bit of a challenge both for ISDA and folks in the market as well. So I think any clarity that we get on this, we appreciate all the clarity that we received today, and hopefully that people in the market can take that on board and think about that as they begin to move forward and respond around this.

The subcommittee recommends -- the Interest Rate Benchmark Subcommittee does recommend that the MRAC hold a tabletop exercise simulating the October 2020 PAI transition.

MS. ZAKIR: Thank you, Tom.

Before we consider the recommendation from the subcommittee, we'll open the floor to questions and comments from the membership on Agha and Dennis' presentation. Any questions or comments?

(No audible response.)

MS. ZAKIR: Are there any comments or questions from members on the phone?

(No audible response.)

MS. ZAKIR: Okay. If there are no further comments or questions, we will consider the recommendation.

Committee members, you have heard the recommendation coming from the Committee. Is there a second?

MR. HAYDEN: Second.

MS. ZAKIR: Frank Hayden, Calpine. Thank

you, Frank.

It has been moved and properly seconded that the MRAC hold a tabletop exercise simulating the October 2020 PAI transition. Is there any discussion? The floor is open.

MR. McLAUGHLIN: Just a --

MS. ZAKIR: Yeah, go ahead, Dennis.

MR. McLAUGHLIN: Just a question. Do you expect the CCPs to run the exercise on the same date or a different -- can we be flexible about the dates that we each choose?

MR. WIPF: I think the goal would be to replicate what this would look like, so where we are today as if we were on the same date or similar dates.

MR. McLAUGHLIN: Yep.

MR. WIPF: I think the view would be actually to play that through and to tabletop that all across. That would be -- I think that would be our ideal outcome, where people in the market could actually see how that would play out, perhaps identify gaps that they may have in their processes, and identify risks that may not know about until we actually do it. So I think the goal would be to do that with the CCPs, market participants, and others, and have that done here.

MR. McLAUGHLIN: And so just earlier rather than later? I mean, if we're transitioning in October -- right? -- what would you suggest? May or earlier in the first or second quarter?

MR. WIPF: I would say well before October. I think the goal would be, you know, to some way get this on the agenda as quickly and efficiently as possible to set out the framework for that. I think, you know, we have the scenario, so with the scenarios that you've described, I think we have a lot of information now that we didn't have before. So I would suggest that we'll get back and we'll coordinate with the subcommittee and with MRAC and CFTC if this moves forward to set this up in a way that provides the most value for people in the market as quickly as possible to help them identify things that they -- you know, maybe some unknowns they may have in terms of their processes in doing this work.

MS. ZAKIR: Thank you, Tom.

And I know we haven't talked about the timing for that, but obviously that's something that we can discuss further and we'll provide notice.

Agha Mirza?

MR. MIRZA: And if I may comment that CME is fully supportive of the tabletop exercise idea, you know, and also supportive of Tom's suggestion that this be done well in advance of the October date. We intend to consult with the market participants on operational readiness and reporting requirements in the first quarter of 2020. So sometimes after that, then we have had feedback and input from market participants would be a good idea for the tabletop exercise.

MS. ZAKIR: Thank you.

Any questions from members on the phone?

(No audible response.)

MS. ZAKIR: Okay. If there is no further discussion, we will take a vote on the recommendation from the Interest Rate Benchmark Reform Subcommittee that the MRAC hold a tabletop exercise simulating the October 2020 PAI transition. As a point of order, a simple majority vote is needed for the motion to pass.

All those in favor, please say aye.

(Chorus of ayes.)

MS. ZAKIR: Members on the phone?

(Chorus of ayes.)

MS. ZAKIR: All those opposed say nay.

(No audible response.)

MS. ZAKIR: The ayes have it and the motion has passed.

This concludes the business part of the agenda.

MS. LEWIS: So it's now time for closing remarks. I think we've lost some of our Commissioners and the Chairman, so then I will just go to Commissioner Behnam.

COMMISSIONER BEHNAM: Thanks, Alicia. They're all upstairs having lunch together.

Thanks to Nadia, Alicia, of course, for all the work you do. Thanks to the panel.

Tom, 751, we're all going to keep that in our heads now.

A special thanks to all the Co-Chairs:

Stephen, Alicia, Lisa, Lee, Bob Litterman, who has since left. I know we had a lot of discussion today, and, Alicia and Lee, you have the Sisyphean task of getting us over the hump here on CCPs. But I think Rana said it the best, let's focus on what we can agree on and move the conversation forward. It's something that I think we all agree is very important from a resiliency standpoint to make sure that the ecosystem of our markets are healthy and well, and this is certainly a very important issue to discuss.

And I would just comment, all morning was a very good conversation.

Demetri, I appreciate your comment about education, you know, in the context of the LIBOR transition and making sure that we're understanding -- within the CCP conversation and understanding folks are educated about what's going on, and that will help us and inform us to make better decisions.

So moving forward, we have a lot on the plate, LIBOR obviously moving in a very good direction, still a lot of unresolved issues, but I think as long as we can work collectively, we can move forward and work towards 2022.

And the tabletop should be a good exercise. We'll figure out a date that works for everyone. There are going to be a lot of reports probably in 2020 and conclusions, but we'll figure out a time that works for everyone. And probably we'll discuss this later to make sure that we have everyone from the firms who are zeroed in on this so that the exercise can be most beneficial to the firms and the people who are thinking about the transition.

So with that, thanks, everyone, for a long morning and early afternoon, but we can all break now. It's a busy time of year, so, as I've said before, Happy Holidays, Happy New Year. And we're available if there is anything we can do as we sort of move the MRAC forward. There are a lot of exciting issues I think we have before us, and 2020 should be a good year. So thanks again, and look forward to seeing you all soon.

MS. LEWIS: Thank you, Commissioner Behnam.

Before I adjourn, I just wanted to also give the people on the phone one more opportunity if you did not indicate your presence.

Suzy White, HSBC?

MS. WHITE: Hi. Yes, Alicia. I'm here.

MS. LEWIS: Okay.

Rana Yared, Goldman Sachs?

MS. YARED: Hi. I'm here.

MS. LEWIS: Okay, you're on the record.

Well, I want to thank everyone for attending this meeting. Happy Holidays. This meeting is adjourned.

(Whereupon, at 1:08 p.m., the meeting was adjourned.)

COMMODITY FUTURES TRADING COMMISSION

AGRICULTURAL ADVISORY COMMITTEE MEETING

3:05 p.m.

Wednesday, April 22, 2020

(Via Teleconference)

CONTENTS

P R O C E E D I N G S

MS. MERSINGER: Good afternoon. As the Designated Federal Officer and acting chair of the Agricultural Advisory Committee, it's my pleasure to call this meeting to order.

I would like to welcome everyone to today's virtual meeting. While this is certainly not how we envisioned the first AAC meeting under Chairman Tarbert's sponsorship, we are grateful for the chance to come together in a way that keeps us all safe and healthy.

Before we get started, there are a few logistical items that I do need to mention to the committee members and invited speakers.

Because this is a virtual meeting, it is also being broadcast. So please make sure you identify yourself before you begin speaking.

Also, please signal when you have completed your comments, so we can continue with the next speaker or question.

Ensure your phone is unmuted before you start to speak and that you speak clearly into the mic.

For committee members, please send a message to the panelist group on Webex or dial *0 if you would like to be recognized during the discussion.

Finally, please keep your telephone line muted when you are not speaking. If you do not mute your line, the conference operator may need to mute your line for you.

Now that I have those housekeeping items out of the way, I would like to turn this over to the committee sponsor, Chairman Heath Tarbert, for his opening remarks and introduction of our honored guests. Chairman Tarbert?

CHAIRMAN TARBERT: Thank you very much, Summer.

This is Chairman Heath Tarbert. Good afternoon, everyone, and thank you for joining today’s meeting of the Agricultural Advisory Committee.

First, I want to say that I am humbled to be a sponsor of this committee. The members of this committee and the industry groups you're a part of have mobilized and risen to the challenge of feeding our nation during this pandemic. I realize a lot of you and your members are struggling, and I therefore specifically want to thank you on behalf of the Agency for the important work you are doing. It's truly an honor to work with you.

Agriculture is essential to the basic needs of everyone around the world. We're reminded of that now more than ever. The ag sector also plays a critical role in our economy and has been the cornerstone of the Commodity Exchange Act since it was actually ag-related products that gave birth to the global derivatives markets. So as I have said before and I will say again, if the derivatives markets aren't working for American agriculture, then in my view they're simply not working.

Today we face unprecedented uncertainty and price volatility across our ag commodity markets. Many of you rely on these markets to mitigate and hedge risk as agricultural producers and end users. Given the unique circumstances we're facing due to COVID-19, it's important that we have this call to discuss what we're seeing, how we're managing it, and what tools we have in place to address the uncertainty and volatility ahead.

Our job at the CFTC is to understand the challenges confronting the agricultural sector and to ensure that our derivatives markets are doing the job of providing opportunities for end users to manage risk.

To start us off, I'd like to share a couple of updates about our work here at the CFTC.

Last week, in response to the growing public concern around the livestock market, I established a Livestock Markets Task Force that will monitor daily in real time livestock contracts. So we're talking about the Live Cattle, the Feeder Cattle, and the Lean Hogs contracts, specifically. I am pleased to report that this task force is up and running to ensure market integrity in these uncertain times.

I'm also excited to announce that we will soon appoint a CFTC liaison to the U.S. Department of Agriculture for the first time in our 45 years as an agency. As many of you know, the predecessor to our agency, the Commodity Exchange Commission, was actually part of the Department of Agriculture, and then it was spun off and made into an independent agency. But in so doing, the original Commodity Exchange Act, as amended, that gave rise to the CFTC actually requires that the USDA appoint a liaison officer for the purposes of maintaining a relationship between the USDA and the CFTC now that the CFTC became an independent agency.

So to facilitate that cooperation, the CFTC will assign a member of our Division of Market Oversight Staff to be a primary point of contact for the USDA liaison. So, in other words, we're also going to have a CFTC liaison to USDA, just as we have a USDA liaison to the CFTC. And that's really important again to signify that we have a robust dialogue and continued historical coordination with USDA on matters of mutual interest.

A final point I want to make is that the CFTC team is teleworking just like the rest of

America and much of the world. But even though we are physically separated, our commitment to our critical mission is stronger than ever. We won't let these challenges stop us from doing the necessary work to fulfill our mission, which is to promote the integrity, resilience, and vibrancy of the U.S. derivatives markets through sound regulation.

I would like to thank staff from the CME Group and ICE Futures U.S. for joining the call today.

I also want to thank my fellow commissioners, Commissioner Quintenz, Commissioner Behnam, Commissioner Stump, and Commissioner Berkovitz, for joining, and I am looking forward to their statements.

We're also fortunate to have Rob Johansson, the Chief Economist for USDA, on the line, as well as a number of leaders and experts from our own Division of Market Oversight.

But I want to give special thanks and a grand welcome to Secretary of Agriculture Sonny

Perdue who is on the call with us today. The Department of Agriculture and Secretary Perdue are on the front lines of this fight. Given the extraordinary times we're facing, I cannot think of anyone more qualified or more equipped to lead the Department. I think we can all agree that we're lucking to have Secretary Perdue at the helm of USDA.

Secretary Perdue and I have stayed in touch since the very start of the pandemic. Staff of the USDA and the CFTC have been communicating regularly on market conditions and factors that impact pricing in our ag markets. Our partnership with the Department of Agriculture is critical to our work here at the CFTC, and we're grateful for the Secretary and the Department for the insight and knowledge they bring to our discussions.

Secretary Perdue, thank you so much for joining us today, taking time out of your tremendously busy schedule to share some remarks with the Agricultural Advisory Committee. Mr. Secretary, the floor is yours.

SECRETARY PERDUE: Well, thank you very much, Dr. Tarbert, and for all your commissioners and your members of the Ag Advisory Committee, good afternoon and it is an honor to join you. And I want to be one of the first to welcome the CFTC back to its roots in USDA, and we appreciate very much liaison. Obviously, our fortunes are intertwined and our responsibilities and roles are intertwined more and more so it seems like. And I appreciate the efforts that you have made in the relationship that we enjoy. Thank you for your leadership and engagement on agricultural issues. I'm well aware that other sectors in the economy may have outpaced the futures trading, but I very much appreciate you all recognizing the bedrock issue of agriculture in futures trading as well. And certainly its price discovery and transparency is critical in our sector. And I appreciate very much what CFTC does in that effort.

So I really also want to congratulate you for reviving this Ag Advisory Committee and meeting on a regular basis after being inactive for a while.

And I really appreciate your prioritizing hearing from your users in the various sectors, farmers, ranchers under your leadership. I know it was just a couple of months ago that we were in our office here discussing the state of the farm economy, but after all that has gone on, it seems like a lot longer than that. But you know that our whole economy has been hurt hard, and agriculture is no exception. But just as we all are discovering more and more, I think we have come to a better appreciation of our farming. And food production and food supply chain is much more appreciated because of its essentiality than it had been before.

So I do want to tell you in the beginning and all your members on the committee that I'm very proud of your individual sectors. I'm proud of all of our farmers and ranchers, as well as everyone involved from the vendors helping our farmers all the way to the consumer in the food supply chain getting it done day in and day out. This has been an amazing, resilient effort. I know that we realize that our food supply chain is one of the most efficient. It’s sophisticated. It’s integrated. It’s almost synchronized in many ways and just-in-time.

So the Covid-19 impacts have rippled through that. When you think about the dual supply chain that we had developed in this country because of efficiency. When you think half of the food being consumed outside of the home, they developed a supply chain that served that restaurant and institutional market very efficiently. And different types of packaging and quantities and products even, in that way. When you have that whole sector, half of that consumption stop, you can imagine the ripple effect is like a crash on the interstate highways where everything gets backed up. But we’ve been very active in trying to reallocate and realign the supply and demand with the needed demand here across the country.

So you know well that price movements over the last few years have been primarily driven by those significant demand shifts or market expectations for changes in demand in the near future. Just an example, you know we've got cotton prices at decade lows and livestock prices are at multiyear lows due to the loss of that institutional and restaurant market. And there have been also concerns about potential closures or disruptions in the processing industry as well.

So all of those are vital and critical, and we appreciate your attention to recognizing the need for transparent markets of integrity that people can depend on and really make their future business - either production or consumption decisions around. And it's critical that we maintain our commodity futures trading in this country as the gold star around the world in a 24-hour global environment that we are in right now.

So USDA, obviously, is working as quickly as possible to bring help to those producers who have been devastated. You may recall that last week the President announced a $19 billion support for those producers through direct payments, as well as our out-of-the-box food distribution system program that we're developing. So we will use the funding from resources, as well as CCC funds to do that. Congress really essentially also gave about $25 billion more in food stamp recipients, increased funding for our food nutrition services for our school children, as well as those people in need from out of jobs and things like that. So we're going to continue to provide direct support basically to producers where prices and market supply chains have been significantly impacted.

As you know, in the government we've got a lot of steps that we have to do to implement programs. We have to write rules. They have to be detailed, make sure they're transparent and fairly implemented by rule and not just by feel. So we're doing that as we speak. I am hoping that our purchase and distribution of both produce, dairy, and meat products will be able to begin within 2 weeks, and then the direct support will require rulemaking. But we hope to have sign-ups beginning in late May as quickly as we're able to.

So more information and more details are going to be provided when that rule is published.

But we are working daily and sometimes 24 hours a day with our federal partners - FEMA, HHS, CDC - and additional support and guidance regarding our food supply chain continuity of operations, reopening processors of both the food and agricultural sector. And we’re working with CDC and OSHA to provide guidance on our best practices for our employees in our meat, poultry, seafood processing facilities.

And it has been an interesting time, one challenge after the other, but I am very proud of the team at USDA. I think the public would be extremely proud if they saw these people working remotely actually in a more difficult environment getting the job done.

We're monitoring certainly, as you indicated, the flow of food from farm to table and paying particular attention to any supply/demand disruptions or divergences that seem to be not reasonable. You may remember or your members may know that on April 8th, 2020, I directed our Agricultural Marketing Service to extend its investigation initiative after the Holcomb fire in

Kansas and to include the price effects for Live Cattle and boxed beef during the current COVID emergency.

As part of this ongoing investigation, our Packers and Stockyards Division will determine if there is any evidence of price manipulation, collusion, restrictions or complications or any unfair practices or unfair advantages. And that is what our public expects. That's what our producers expect, and I hope that's what all the people in between expect as well. And I know that's the reason you set up your task force, and we look forward to working directly with that task force, as well as your liaison.

So you can rest assured if any of that investigation yields any evidence of any violation of the Packers and Stockyards Act, we'll begin immediate and necessary enforcement action and, where appropriate, initial referrals to the Department of Justice for further consultation.

So I know trade is a huge part. That's why the markets are here in the United States, and we are working hard, even through these difficult times, to help find customers overseas and reduce the barriers to doing business with them. We got USDA, the phase I Japan agreement, beginning of implementation of China Phase I, and a number of priorities including the EU and UK that I wanted to mention as well.

But those are some highlights. I know I've spoken longer than I intended, but I very much appreciate the opportunity to speak to your members. It’s a good, distinguished group that you have there, and I know they will give you good counsel regarding the agricultural aspects of the commodity futures trading. And I very much appreciate, as I said, the relationship and look forward to continuing.

Dr. Johannson, who is the real brains behind USDA as our economist, will be here to help answer any specific questions about our CFAP program or anything else that your members may have as we go along.

So thank you very much for the

opportunity, Chairman.

CHAIRMAN TARBERT: Thank you so much, Mr. Secretary. And I'm sure I speak for everyone on the call to say it's tremendously valuable to hear directly from you on these important issues, and we are all very grateful for your leadership. And I look forward to strengthening the relationship between the Department and our agency in the weeks, days, and months, and years ahead. So thank you so much.

SECRETARY PERDUE: Hear, hear. Thank you.

MS. MERSINGER: This is Summer Mersinger again.

Now I would like to turn to the commissioners for their opening remarks. First, I'll check in with Commissioner Quintenz. Commissioner Quintenz, are you on the line?

COMMISSIONER QUINTENZ: Yes, Summer, this is Commissioner Quintenz. Can you hear me?

MS. MERSINGER: Yes, sir. Thank you. The floor is yours.

COMMISSIONER QUINTENZ: Thank you. This

is Commissioner Brian Quintenz.

And first, let me thank you, Mr. Chairman, for your leadership in convening today's meeting. And what a privilege, not only to have Secretary Perdue join us today, but to have him in that role and at this time. I'm so grateful to have heard from him about USDA's ongoing efforts in this unprecedented time for the agricultural community.

Given that ongoing historic levels of prices and volatility in the agricultural cash and futures markets, it's timely that this committee specifically could come together today to share their insights with us on liquidity and market integrity and accessibility of futures markets with the Commission.

America's agricultural producers and growers tirelessly dedicate themselves to putting food on our kitchen tables while they themselves constantly struggle to ensure the solvency of their farms and their ranches. The CFTC, along with the futures exchanges and market intermediaries, must work just as tirelessly to ensure that our futures markets remain a reliable, efficient hedging tool for them.

This agency has a unique role to play in protecting America’s farmers and ranchers, and since becoming a commissioner, I've had the privilege of traveling all across the United States to wheat fields in Kansas and soybean farms in Michigan, rice farms in Louisiana, Arkansas, a cotton gin in Georgia, corn fields across the Midwest in Iowa, Minnesota, South and North Dakota, cattle ranches in Montana, just to name a few. And that includes the farms and places of businesses of many of the participants on this call and members of this committee. And let me just say that I’m incredibly grateful for those relationships that developed from those travels and in many cases those friendships. I've been consistently impressed and humbled by these Americans’ work ethic, their sophistication and dedication to growing their businesses, many of which are family owned, in the face of historically low commodity prices, international trade disputes, and intense competition.

The combination of steep declines in commodity prices and global supply and demand forces has put unrelenting pressure on America's farmers to increase yields, cut costs, and drive efficiencies to remain profitable. The severe supply and demand shocks caused by the COVID-19 challenges are the latest of many circumstances the heartland has withstood in recent years. These difficult events make it all the more vital that farmers and ranchers feel like they can depend upon liquid, well-functioning agricultural futures and swaps markets to hedge their risk.

Recently I have noted that some have expressed concerns regarding the performance of certain futures contracts, and I take those concerns seriously. I encourage market participants to continue voicing those concerns and experiences to the exchanges, to the CFTC staff, and to us as commissioners. In particular, I commend the Chairman for convening the Livestock Market Task Force to examine conditions in the cattle markets and ensure contracts are working as intended.

For over 150 years, the U.S. futures markets have enabled farmers and ranchers to hedge their commercial risk in the most liquid, competitive, and vibrant futures markets in the world. This is no small accomplishment. It has taken generations of hardworking, creative, and aspirational thinkers to build both today's agricultural industry, as well as today's futures marketplace, and I am committed to working to strengthen the trust that the agricultural community has in our futures markets and ensure the longstanding tradition continues for America's next generation of farmers.

Thank you very much.

MS. MERSINGER: Thank you, Commissioner Quintenz. Commissioner Behnam?

COMMISSIONER BEHNAM: Good afternoon. Can you hear me, Summer? This is Commissioner Behnam.

MS. MERSINGER: Yes. The floor is yours.

COMMISSIONER BEHNAM: Thank you. Good afternoon, everyone. I want to first off thank Chairman Tarbert for sponsoring and hosting this afternoon’s meeting. It’s certainly a challenge, as we noted earlier, with a telephonic meeting, but one that I think will be effective. And I appreciate his efforts to put this forward, given the conditions.

I also want to thank him for starting the Task Force, given a lot of the challenges and the volatility we've seen in the market and the issues that we have heard as a commission. I couldn't appreciate that more. I think it’s the best way that we can engage with market participants and, above all else, show them proof that we care, that we are constantly thinking about these issues, and that we want to find solutions as soon as possible.

A special thanks to Secretary Perdue and his leadership and his words, taking time this afternoon to share some of his thoughts on the COVID crisis and what he’s doing as Secretary over at the Department to help ensure that the ag economy and the producers all across the country are enduring here and getting out on the right end of this challenge. There are certainly a lot of issues ahead, but again, as has been said, Secretary Perdue is the right man for the job here.

I do want to recognize that it’s a great relationship that we've had -- the Chairman has mentioned it many times --- the CFTC and USDA. We had Secretary Vilsak. I think he came to the CFTC back in 2014. So we have a long history of engagement with the USDA. And as Chairman Tarbert said, I have full confidence that we’ll continue that with the liaison and constant communication to ensure that we're doing what we need to do on our end to promote and to make the futures markets as effective and useful as possible.

I also want to quickly thank Summer and Christa Lachenmayr, Summer particularly, for her role at DMO and Christa for her input, as always, on agricultural issues.

I finally want to thank the members of the AAC. I know a lot is going on. I certainly wish all of you well, your families, a lot of transition in the past few months. But I certainly appreciate your willingness to be on the call and provide the commission with input. A lot of challenges in the ag economy, more so than many. I’m thinking about the front line individuals who have had the courage, including our health care workers, but ag is right there putting food on the table for Americans and the world, as you always have. It certainly means a lot to me, and I know it means a lot to the commission and folks across the country. So thanks for your continued hard work and your willingness to fight this very challenging fight we're going through right now.

I sponsored the AAC a few years ago before we had a full commission, and I had the privilege of hosting a meeting for the first time outside of D.C. in Kansas City. And we discussed crop insurance and farm credit. It seems like many, many years ago, but those were relevant issues at the time, and I think given the challenges we're facing today, crop insurance and farm credit are among the many issues that I think growers and producers are dealing with right now. So we continue to sort of parse through all the challenges that folks are facing and trying to come up with solutions to ensure that our markets are functioning well.

Given the market volatility and thinking about what was mentioned earlier about the spreads between boxed beef and cattle prices, I want to commend a lot of the market participants, the exchanges for their engagement, their continued increased engagement, with producers and market participants. We've learned, I think, as a commission that communication is key more so than ever now that we all work remotely, and I think it’s important that all members of this sort of ecosystem, the exchanges included, which they’ve done a great job, continue to engage to resolve some of these issues about the limit days, the delivery challenges settlement, and the spreads to ensure that we do have market integrity and that we are, as regulators, overseers, and as exchanges, that we're doing what we need to do to ensure that the markets are fairly reflective of price discovery and allow risk management, as we've said.

The ag economy has faced headwinds for

many, many years. It has endured many different challenges over decadeS -- but I'm confident we'll get through this one -- most recently, as the Secretary mentioned, trade issues, weather issues. They don't seem to stop and we will continue to fight I think as a commission and as a member of this conversation and this group to ensure that the markets are functioning well and we're doing what we need to do to allow farmers to hedge these risks.

CFTC is a partner. We have long been a partner and we continue to be one.

I'm often reminded of thinking about growers, producers as the best stewards of their land, and they certainly are. And it's the 50th anniversary of Earth Day. So it's, I think, timely to think about and have this discussion with our producers and folks across the country who are working hard to produce food for the States, of course, and for the globe. And as they are the best stewards of their land, I do want to commend and thank them for all the work they're doing and certainly ensure that I'm doing what I can, working with my colleagues, as the chairman and Commissioner Quintenz and my other colleagues we'll do what we can to ensure that the markets are functioning well.

So with that, I look forward to today's comments. Thank you again for your participation, and I will turn it back to you, Summer. Thanks.

MS. MERSINGER: Thank you, Commissioner Behnam. Commissioner Stump?

COMMISSIONER STUMP: Thank you, Summer. This is Commissioner Stump.

And I wanted to thank you and Christa and the Chairman for calling this meeting or organizing the meeting. I very much appreciate all of the committee members and the panelists and especially Secretary Perdue for participating.

Having had the opportunity to work through many prior challenges with USDA makes today's meeting a bit bittersweet for me. In a prior capacity, I spent almost a decade working on ag policy as a staffer in the House and the Senate, which afforded me the opportunity to work with USDA on the implementation of two farm bills and several disaster programs. I think everybody on the commission knows that. What you may not know is that my husband also worked at the Department of Agriculture and in the grim days following 9/11, he became the agency's first homeland security director. And I mention this just because while my family and I are very proud to have worked with USDA in some previous difficult times, no challenge is quite like any other. And today we are again called to work together in managing yet another unprecedented circumstance that impacts our ag markets. And I'm so pleased that we're having this meeting to try and get our arms around it.

As for the CFTC's part in all of this, we have an obligation to preserve the integrity of the futures markets specifically so that everyone involved in the production, distribution, and consumption of food and fiber can reliably discover prices on transparent market venues.

But we don't do this in isolation. Price discovery in the futures markets relies on various inputs tied to the underlying cash markets. So we rely on partners such as the Department of Agriculture to help us maintain this integrity.

As the past few weeks have shown, price discovery is sometimes a grim job. Today we are particularly sensitive to and acknowledge the real world implications of recent commodity prices. But we must, nonetheless, ensure that the price is transparent and reliable regardless of its favorability. Only then are these markets able to actually serve their risk management function as intended.

We also take very seriously our obligation to ensure that those who attempt to manipulate these markets are held accountable. And we have such a remarkable forum here today. I know many of the people on this committee, I've known them for many years, and we are very blessed to have so many people willing to take time out of their busy day to help us discuss these issues and think through them in a way -- in very dynamic circumstances. And I just want to commend all those who are willing to participate who give of their time and their energy and, as I said, we have many partners and preserve the integrity of the various commodities we regulate, but none more important than the market participants who help us have a view into what's happening on the ground.

So with that, I'll turn it back to you, Summer.

MS. MERSINGER: Thank you, Commissioner Stump. Commissioner Berkovitz?

COMMISSIONER BERKOVITZ: Thank you, Summer, and congratulations on your first meeting. And thank you, Christa, for all the work you do to support our agricultural market oversight program. And thank you, Mr. Chairman, for your sponsorship of the committee and your leadership in conducting this meeting today. We had one of these a few weeks ago with the Energy and Environmental Management Advisory Committee, and it's particularly critical in a time like this that we engage in this dialogue with members of the affected markets so that they can hear from us about what we are doing to ensure market integrity and, as important, we learn from market participants firsthand about conditions in the markets.

I'm pleased particularly to welcome Secretary of Agriculture Perdue to the meeting today. Commitment and cooperation among all levels and branches of government are critically important as our country seeks to overcome the COVID-19 pandemic and its economic consequences, including in the agricultural sector. We are meeting with the Secretary and his leadership staff in this spirit today.

America's farmers, ranchers, and other participants in the agricultural commodity have long been a focus of the commission's work in promoting price discovery and effective risk management in derivatives markets and ensuring that these markets are free from fraud and abuse.

Last summer, I had the privilege of traveling the country to meet with farmers, ranchers, and agricultural market participants throughout the United States. Each of these visits emphasized the importance of agriculture to the U.S.

economy and to our national well-being through safe, abundant, and affordable domestic food supplies. I saw firsthand how American farmers and ranchers were diligently working to overcome the threats posed by floods, tariff wars, and collapsing prices.

And I might add that, on my travels last summer, I happened to intersect with Secretary Perdue's travels and we both attended a dinner with farmers and ranchers and leaders of the agricultural community in Minneapolis. And I had a good conversation with the Secretary at that dinner, and we talked about a convergence in our agricultural markets. And I think it's great that we have a Secretary that understands our markets and that is committed to supporting our markets and so knowledgeable about our markets and supportive of our mission. So I look forward to continuing to work with Secretary Perdue and his staff on issues of mutual interest, and I'm pleased to see that we will have a new liaison to the Department of Agriculture.

The COVID-19 pandemic has added a myriad of new existential challenges to our agricultural sector. In this environment, it is critical that our commodity markets serve their purpose to help overcome these challenges and not contribute to them. We must ensure that the commodity markets continue to serve their intended function of risk management and price discovery so that farmers, ranchers, and others in the agricultural sector can manage the risks posed by the current situation.

I look forward to the discussion today, including with respect to livestock markets and processing facilities. I thank each of today's panelists for making the time to help inform the commission so that we can better ensure that CFTC regulated agricultural markets are working effectively for all farmers, ranchers, and commercial businesses involved in feeding America during these challenging times.

Thank you, and I look forward to the discussion today.

MS. MERSINGER: Thank you, Commissioner Berkovitz. And thanks again to the committee and the commissioners for making time to take part in this important meeting today and for sharing your remarks with the committee.

I also want to echo the thanks to Christa Lachenmayr who has been very involved in preparing for this meeting today, and I also want to say thank you to Ann Wright, Deputy Director of the Office of Legislative and Inter-Governmental Affairs, and Jenna Tubby, an intern with the Office of Legislative and Inter-Governmental Affairs, who were also a very important part of today's call.

With that, at this time, I would like to do a roll call of the committee members on the line. When I call your name, please indicate that you are present.

Buddy Allen, American Cotton Shippers Association?

[No audible response; MR. ALLEN subsequently signaled his presence via email.]

MS. MERSINGER: Next we'll go to Joe Barker, National Council of Farmer Cooperatives.

MR. BARKER: Present.

MS. MERSINGER: Chris Betz, Michigan Agri-Business Association?

MR. BETZ: Present.

MS. MERSINGER: Larry Birgen, National Farmers Union?

MR. BIRGEN: Present.

MS. MERSINGER: Darryl Blakey, National Cattleman's Beef Association?

MR. BLAKEY: Present.

MS. MERSINGER: Robbie Boone, Farm Credit Council?

MR. BOONE: Present.

MS. MERSINGER: Amanda Breslin, Coalition for Derivatives End Users?

MS. BRESLIN: Present.

MS. MERSINGER: Patrick Coyle, National Grain and Feed Association?

MR. COYLE: Present.

MS. MERSINGER: Rob Creamer with the Principal Traders Group and Futures Industry Association?

MR. CREAMER: Present.

MS. MERSINGER: Neil Dierks, National Pork Producers Council?

MR. DIERKS: Present.

MS. MERSINGER: Ed Elfmann, American Bankers Association?

MR. ELFMANN: Present.

MS. MERSINGER: Ed Gallagher, National Milk Producers Federation?

MR. GALLAGHER: Present.

MS. MERSINGER: Tommy Hayden, Commodities Markets Council?

[No response. MR. HAYDEN subsequently signaled his presence via email.]

MS. MERSINGER: Matt Hines, American Farm Bureau Federation?

MR. HINES: Present.

MS. MERSINGER: Thomas Hogan, Cocoa Merchants Association of America?

MR. HOGAN: Present.

MS. MERSINGER: Tom Kadlec, Futures Industry Association?

[No response. MR. KADLEC subsequently

signaled his presence via email.]

MS. MERSINGER: Chris Klenklen, National Association of State Departments of Agriculture?

[No response. MR. KLENKLEN subsequently signaled his presence via email.]

MS. MERSINGER: Ron Lee, National Cotton Council of America?

MR. LEE: Present.

MS. MERSINGER: Randy Melvin, National Corn Growers Association?

MR. MELVIN: Present.

MS. MERSINGER: John Owen, USARice Federation?

MR. OWEN: Present.

MS. MERSINGER: Monte Peterson, American Soybean Association?

[No response. MR. PETERSON subsequently signaled his presence via email.]

MS. MERSINGER: Paul Riniker, National Farmers Organization?

[No response.]

MS. MERSINGER: Mark Scanlan, Independent

Community Bankers of America?

[No response. MR. SCANLAN subsequently signaled his presence via email.]

MS. MERSINGER: Stephen Strong, North American Export Grain Association?

[No response. MR. STRONG subsequently signaled his presence via email.]

MS. MERSINGER: I think we're maybe having a problem with some folks' lines. So we will just finish our roll call here, and we might have to check back to see who we missed.

Justin Tupper, US Cattlemens Association?

[No response.]

MR. ALLEN: Summer, this is Buddy Allen, American Cotton Shippers. I apologize. I had a muted line, but I'm on.

MS. MERSINGER: No problem. Thank you.

MR. TUPPER: Justin Tupper is present.

MS. MERSINGER: Thank you.

Hayden Wands, American Bakers Association?

[No response. MR. WANDS subsequently signaled his presence via email.]

MS. MERSINGER: Ryan Weston, American Sugar Alliance?

[No response. MR. WESTON subsequently signaled his presence via email.]

MS. MERSINGER: Chris Young, International Swaps and Derivatives Association?

MR. YOUNG: Present.

MS. MERSINGER: Thank you. We can go back and touch base with those that we didn't hear from in case you were having problems with your line after the call.

As noted in today's agenda, next we'll have remarks from Derek Sammann. He is the Global Head of Commodities and Options Products and our Senior Managing Director at CME Group.

Derek will be followed by David Farrell. He's the Chief Operating Officer of ICE Futures US.

And with that, I'll turn it over to Derek for his presentation.

MR. SAMMANN: Thank you, Summer. Can you hear me okay?

MS. MERSINGER: Yes.

MR. SAMMANN: Terrific. This is Derek Sammann from CME Group.

And let me start by saying thank you to Commissioner Tarbert and the entire Ag Advisory Committee for the opportunity today to provide a brief overview on the state of agricultural markets.

I especially want to thank the industry associations represented here today with whom we've been engaged throughout these difficult times. Your engagement is extremely beneficial to helping us provide the best markets for commercial customers.

The disruption that the COVID-19 has caused in the global economy, and in the agricultural markets in particular, is unprecedented. These extraordinary circumstances have led to disruptions in the food supply chain, the results of which can be seen primarily in livestock and dairy markets, with the physical supply chain of adapting to a shift in demand from food service to grocery channels and uncertainty around processing capacity.

Cattle and hog futures prices at CME Group were particularly impacted by these shifts. We observed and heard from our customers about the unusually wide basis between spot prices and futures prices. We know this was confusing for many market participants as they saw robust current demand as consumers cleared out the meat case at the local grocer while futures markets were pricing any impacts of closed food service outlets, the potential for additional shelter-in-place orders, and the possibility that COVID-19 might infect and shut down processing plants, all factors which have now come to pass.

The measure of the effectiveness of a futures contract is not if a futures contract matches today's spot price, which it rarely will in volatile and uncertain markets. Instead, it is how effectively it enables the convergence between the futures price and the cash price by the end of the delivery period.

For example, in the cash-settled March Feeder Cattle contract, we recently saw the basis converge from $22 between the cash spot and futures to 36 cents in a week. Based on the first cattle option and the settlement period, which was $22 below the futures price, we proactively took action to widen the daily price limits to ensure that convergence would not be impeded. Based on successive cattle options in the settlement window, which were at and above the futures price, the index caught up to the futures price, and those wider daily price limits were eventually not needed for the two prices to successfully converge.

Last week, we saw an orderly convergence in the cash settled April Hog contract. Over the past year, we have consistently seen convergence successfully occur across our livestock contracts, both the physically settled Live Cattle contract and the financially settled Feeder Cattle contract where the futures prices and the cash prices successfully converged.

In the case of livestock, it's important to note the broad delivery territory as it relates to different cash prices. Convergence means the futures price and the cash price in at least one of those locations equal each other, but not necessarily at all of those locations. Additionally, it means the two prices will converge at the end of the delivery period not necessarily before the delivery period or on the first day.

It's worth highlighting that liquidity in the live cattle contracts has improved significantly over the past few years as the Exchange has made contract enhancements which have boosted deliverable supply and addressed the potential for congestion during the delivery period. This is consistent with how we regularly review our futures contracts and seek customer feedback on the ways to make these products as efficient as possible for customers that manage their risk in the livestock markets. As a result, this contract was much better positioned to withstand this current market uncertainty.

We remain equally vigilant around the grains and dairy markets. Many of the fundamental factors impacting livestock are also impacting the dairy markets, where we see heightened volatility in both milk and cheese products. The impact on grains was less severe. However, low Crude Oil prices and reduced global energy consumption have filtered back into ethanol demand where Corn prices reached a 14-year low.

We continue to closely monitor our contracts' performance, especially as it relates to enabling the successful convergence of futures and cash prices in our market. We also continue to work closely with the ag industry to ensure that all our contracts remain effective hedging tools by ensuring that we have appropriate price limit mechanisms in place to allow price discovery and convergence to efficiently occur in a timely manner. CME Group remains committed to continuing to work with the ag industry and maintain an open line of communication to build and improve the effectiveness of our futures and options contracts for robust risk management and efficient price discovery.

Thank you. And I'll turn it back to the committee.

MS. MERSINGER: Thank you, Derek. Dave, are you on the line?

MR. FARRELL: Yes, Summer. Can you hear me?

MS. MERSINGER: Yes. The floor is yours.

MR. FARRELL: Okay, great. My name is David Farrell and I'm the Chief Operating Officer for ICE Futures US.

First and foremost, I'd like to thank Chairman Tarbert, the commissioners, and the industry associations represented on the committee for allowing us the opportunity to update the committee on the status of our agricultural markets.

In such extraordinary times and with unprecedented disruptions on both the supply side and the demand side, the futures markets remain critical in providing their three primary functions to the agricultural supply chains.

First, risk management. We continue to offer contracts that allow firms to offset their commercial risks that exist in their business and manage their risks.

Second, price discovery. We provide a place for today's unique supply and demand dynamics to play out publicly to determine the price of a standard specification of product.

And third, the futures serve as a buyer and seller of last resort and allow for convergence with the physical market. For example, if a seller has a surplus of stock, they can use the futures markets to pass it on to other participants that may need it. And likewise, a buyer with a genuine commercial need and no access to supply can utilize the futures markets to service that need.

Our agricultural markets, including the domestic crops that we have, are global in nature. They serve as benchmarks for goods traded around the world.

(Inaudible) electronically, which has allowed for a relatively uneventful transition of participants from office environments to working from home and other working arrangements. Participants have been able to access the market to carry out their required business and to manage their risks.

The impact we do see with the onset of the

COVID-19 epidemic has a distinct fingerprint that we can see across our agricultural markets, and it’s evident in the patterns of volumes and volatility in those markets. Each of our agricultural futures markets and options markets have seen above average volume and volatility year-to-date with a minimum of a double digit increase in the volume for that market.

The pattern of that activity has followed a similar path in each market. At the beginning of the year, broadly speaking across our ag markets, we saw average volume and we saw average volatility relative to last year. Beginning in February and through the start of March, we began to see some extended periods of increased activity and above average volume. Following that volume increase, we saw implied volatilities respond and increase as well, mainly throughout March and into the early April timeframe.

However, in recent weeks, as we've progressed through April, we've seen a return to more average or below average, in some circumstances, trading activity. So the overall arc of activity is similar across many of these markets. After the initial uncertainty around COVID-19 has come to pass, markets are starting to settle in and trade and progress in a more normal fashion.

While the derivatives trading activity in our markets is 100 percent electronic, there are aspects of our futures supply chain that could experience constraints. Some activities require people to be congregated together and to perform a function. This could manifest itself in warehousing or sampling operations, transportation, as well as the grading function, specifically for coffee and cocoa.

Coffee and cocoa grading occurs in our exchange facility in New York by a panel of licensed experts, most of whom are based in the New York vicinity. Considering New York is one of the high-risk regions, we've taken precautions to ensure the safety of the graders and our staff who assist and help facilitate the grading. These precautions have reduced the potential capacity of our grading function. However, to date, we continue to be able to facilitate grading where necessary.

While the delivery mechanism and delivery locations vary greatly for each of our markets, we're monitoring the key functions which are critical for an exchange delivery in eligible locations. We're reviewing our contingency plans and potential mitigations, as well as advising participants of the market of conditions that exist where necessary. Logistical complications are always possible with physically settled contracts, but ultimately we're preparing ourselves to ensure that the markets remain available for trading, that participants are able to manage their commercial risks, and that price discovery continues in an orderly manner.

Thank you again to the commission for inviting us to update you on our markets. We wish everybody on the committee and at the commission good health and safety as we work through these very difficult times. Thank you.

Back to you, Summer.

MS. MERSINGER: Thank you, David. Thank you both for your insight and taking time to join us today.

I will note we've received some messages from those individuals from the committee that are on the call. So we're unable to unmute their lines to say "present," and we will adjust the record accordingly to account for those individuals.

Now I'd like to open the meeting up for a few questions. For those of you listening in, the committee members sent questions ahead of time, and thank you all for doing that. I'll read the questions and probably address them to our panelists. As the Secretary mentioned, we also have USDA's Chief Economist, Dr. Rob Johannson, on the line. Tom LaSala, the Chief Regulatory Officer for CME, is also on our line, and we have a few people from our Division of Market Oversight, specifically David Amato with our Market Intelligence Branch.

We'll do the best we can to get you as many questions as possible today. If you have other questions and you'd like to ask them during the discussion, if you press *0 that should take you to the operator to alert the operator.

With that, I’m going to kick off our question and answer session, and we’ll start with a question for Chairman Tarbert. Chairman, groups such as dairy, cattle, and corn farmers are experiencing large price volatility in the industry. The demands for these products are high, yet ranchers and farmers are struggling. How does the CFTC plan to make sure these markets are working properly?

CHAIRMAN TARBERT: Thanks so much, Summer.

I mean, in a nutshell, we're putting all of our efforts into making sure that we understand, during this period of immense volatility, exactly what's going on in our markets. And particularly, as I mentioned, we've put together the Livestock Task Force specifically for that reason. And so we are talking to the exchanges. We're talking to market participants. We're talking to the clearinghouses just to make sure that we get a sense of basically any indication that prices are moving in an uneconomic manner relative to the underlying commodity's cash prices. So in other words, the question we're asking, as we're looking at everything, is, does all this make sense, or is something else going on here? Could it be caused by a trader exerting market power or attempting to manipulate futures prices? And if so, we will refer that matter to enforcement for an investigation.

And so that is what we are doing. We're watching the markets very carefully, and in particular, given the volatility in sort of the Live Cattle or the Feeder Cattle contracts, we've put together this Livestock Task Force.

MS. MERSINGER: Thank you, Chairman.

With regard to the Livestock Task Force, when you're communicating with industry groups and the general public about the work the CFTC is doing during this time, are you able to publicize those efforts, such as what surveillance is undertaking, or if there are investigations? And is the commission able to post an update on any type of ongoing investigation in an industry segment?

CHAIRMAN TARBERT: So, Summer, we can certainly give indications that give information as to what we're seeing in the markets. Our Market Intelligence Bureau does a lot of that. Calls like this provide that insight on what's happening in the markets, and I try to give commentary where possible in the various media, as well as my fellow commissioners often do the same.

The one area, though, that I think we don’t really publicize unless we've decided to take a concrete action is on the enforcement side. So if, in fact, we file a case, we bring a case against someone, we detect something, we will go ahead and often publicize that through a media release, and we can always make sure that the members on this call get those in a timely manner.

What we don’t normally do is publicize our surveillance activities and our investigation activities. And the reason for that, of course, is number one, we want to make sure we get it right, we do a thorough investigation. We gather all the evidence, and we give the people that we're looking at sort of the benefit of the doubt before we decide to bring an action. So we don’t want to do anything prematurely.

The other thing, of course, is that we need to be smart about how we go about our surveillance to ensure that particularly if we're monitoring certain things or we identify certain patterns, that we don’t expose those patterns such that we're unable to gather the evidence we need if we think there's wrongdoing.

So that’s the way we bifurcate it. I think in terms of market information and being able to say what we're seeing out there, we're happy to publicize those efforts. On the other stuff, the surveillance and the investigation, again there you should know that we're doing it, but we can’t reveal the details prematurely.

MS. MERSINGER: Thank you.

The next question -- there's probably a few people on the panel who are able to answer this. So I’ll throw it out there and let folks provide their feedback on this. This is a question we received from a number of our advisory committee members.

We've all seen the news about the Crude Oil market. And members submitted questions related to this week’s activity. Would it be possible to get an overview of the Crude Oil markets and what happened in the past week, what the implications are for a negative price for the May contract? And is it possible that the contracts in the ag complex -- like Live Cattle, Feeder Cattle, Lean Hogs, dairy, grain -- could also at some point go negative?

MR. SAMMANN: Hi. This is Derek Sammann. I think I’ll maybe be the first to step into this one. Thank you, Summer. So let me address the first part of that at the outset.

So the negative pricing in front month the May WTI contract on Monday was driven by three fundamental factors impacting the global oil market. Number one, significant oversupply of crude globally particularly here in the U.S. with U.S. shale continued production. Number two, significantly reduced demand for global oil due to the COVID-19 impacts of shut-ins in states and nobody flying and nobody traveling. And thirdly, the concerns about increasingly full U.S. storage capacity here in the U.S. for the WTI contract product.

During Monday's trading day, the already steep contango continued to steepen, eventually pushing the May contract below zero for the first the last few hours of trading. While this kind of contango is rare this steep, it is simply a reflection of the oversupply of the U.S. crude market seeking storage. So our WTI contract did what it was designed to do, which basically is to reflect the underlying supply and demand dynamics of efficiently converging towards the underlying cash physical price.

So to your second portion of the question, in terms of ag products, negative prices in ag markets are unlikely primarily because the ability to create near-term storage options. It's much cheaper and much easier than creating near-term storage capabilities for crude oil. For example, in grains and oilseeds, it's virtually impossible to have a zero or negative price because grains and oilseeds can be stored on the ground and covered with a tarp, for example.

In addition, delivery instruments do not require the buyer to take physical stocks of grain which he may be incapable of handling.

In Live Cattle, for example, it's very unlikely despite grave concerns around beef processing capacity due to COVID-19. Slaughter-ready cattle can always be put back on feed or even put out to pasture. While it's not ideal -- it certainly would imply very cheap cattle -- but it probably wouldn't create negative prices for cattle.

Lean hogs? Lean hogs are cash settled to the CME Lean Hog Index. For the index to go negative, hogs on the cash market would need to trade at negative prices. This could really only happen if most, if not all, hog slaughter capability was lost across the entire nation and the price of hogs in the cash market reflected the cost to destroy them. Hogs can be put in pens for some period of time, So that's an unlikely scenario.

And finally, on the dairy side, butter may represent an agricultural product that may potentially have a risk of trading at negative prices, but it's very unlikely in our estimation primarily because it can be stored for a limited period of time and finding an alternative climate-controlled warehouse base is much cheaper and easier than finding an alternative storage for crude oil, which is far more complex and costly.

So that's on the CME side.

MS. MERSINGER: Thank you, Derek.

MR. FARRELL: Hi. It's David Farrell from ICE. And I want to tread really carefully here just to make sure we don't cause any alarm, and I want to ensure that I avoid any confusion, confusing our conversation around theoretical possibility with a conversation around likelihood.

In the realm of theoretical possibility, yes, negative prices are possible. They would be extremely unlikely, but possible.

Each market has its own set of potential legitimate constraints on supply, storage, transportation, delivery, something on the demand side, which could lead to extreme prices, whether they be high, low, negative. In particular, this could happen if the prevailing conditions occur very close to a contract's expiration and there was some additional time constraint. The conditions would certainly need to be extreme. They would likely be restricted to a specific geographic area, and they would also probably very likely be very short-lived. So, again, it's a theoretical possibility but it's not a likely event in our ag markets.

MS. MERSINGER: Thank you, David.

The next question -- I'll let you kind of start by answering this one. Based on how the markets are functioning during the pandemic, are there any rules or regulations that are currently in place that have benefited the operation of the markets? Or do you all see anything that needs to be established for anything in the future?

MR. FARRELL: I think broadly speaking, the principles that we have at the exchange and the principles that we utilize with our rule book and the way that we operate the market has allowed us to preserve those core functions. And it’s not to say that in very extreme times you won’t have extreme volatility, but the purpose of the market is still functioning. It’s still providing risk management for participants; it’s still providing price discovery, which is very important in these times particularly as all the different supply dynamics and demand dynamics come together in one place. And ultimately it will provide a buyer and seller of last resort to allow convergence.

MS. MERSINGER: Thank you, David.

MR. SAMMANN: From the CME side, I would say the most important thing that we're seeing in this market is the continued dialogue with the CFTC at multiple levels and our customers. Where we have needed to take decisive actions to ensure the continued smooth operation of markets, we have done so. The point that I made on Feeder Cattle earlier in my prepared remarks are a great example of that where we wanted to make sure that where we saw a spread between the underlying cash price on the first day of the settlement window versus our futures price, we needed to make sure that we were able to adjust that daily price limit so that didn't impede the ability for those markets to converge.

So our partnership and communication in coordination with the commission, as well as with the commercial customers and keeping an open dialogue, have us comfortable that as we are seeing issues that are extraordinarily impacting this market, we're comfortable that we have the right input from customers and the right support from the commission when we need to get things done for the benefit of the market.

MS. MERSINGER: Great. Thank you.

And speaking of the commission, I'm going to quickly turn to Dave Amato in our Division of Market Oversight. He's also on the call today. And just kind of a general question. Dave, are the markets reacting as you would expect them to react given the current conditions?

MR. AMATO: Hi, Summer. Yes, this is Dave Amato. As Summer said, I'm an economist in the

Division of Market Oversight, Market Intelligence Branch. I also head up the Livestock Task Force that the CFTC has put together, and thank you, Chairman Tarbert, for that opportunity.

In terms of the question, I guess I can kind of go over a few highlights. In terms of the price movements that we're seeing, I would say that the market is reacting the way we would expect. But the big caveat there is we're living in very, very historic times, as many of our speakers have talked about. I don't believe anyone on this call has experienced anything like this in any other ag environment or commodity markets that we're aware of, at least not in our lifetimes.

You have the packing plants around the country, they're now the most significant hot spots for COVID-19. Looking at some statistics that have come out, currently about 8 percent of the U.S. packing capacity is off line and most of the plants are operating at anywhere from 50 to 75 percent of normal production. A lot of that is due to employee absenteeism. So given those estimates, the total meat packing industry is operating at about 60 percent of normal capacity.

We have very strange things happening. We have milk, about 8 percent of milk production is being dumped. We have poultry producers getting letters from processors telling them to kill some of their chickens in the field. In terms of hogs, we have about -- normally we process about 2.5 million hogs per week. It's estimated that if the virus continues, we'll be only able to process about 2.1 million. So that leaves about 400,000 hogs per week backing up. As some of our guests have said, there are some things you can do to sort of alleviate that, but at the end of the day, when you have that many hogs with no home defined, we're probably going to have to seek some euthanization of hogs as well. So these are just definitely very, very strange times.

I think it's very similar to what we saw in the Tyson Holcomb fire that the U.S. Ag Secretary referenced earlier, except it's at a much, much greater level. Instead of having one plant down, you're having multiple plants down, lots of different locations across the country, and it's impacting all the meats.

I think in terms of volatility, it's just been extremely volatile, particularly if we look at livestock, which I know has come up a lot. The fundamentals are sometimes changing daily, sometimes point prices in different directions. Normally volatility is caused by either fears or uncertainty, and the situation that we're in right now has both. You have the virus scaring people, closing packing plants, making people sick and die.

And just to kind of give you a little background, we looked at March 1st through April 14th to the June Live Cattle contract, and that contract -- those 31 days -- it had 14 days where it either traded limit up or limit down. So that's about 45 percent of the trading days over that 31-day period you saw limit moves. And so it's going to take a lot of research to find a more volatile time than that.

And so, I think, one of the things that

we're seeing -- normally when you have volatility like we're seeing today, you expect to see a lot of open interest. Usually the investor class likes volatility as an opportunity to make money. But what we're seeing pretty much across the board, with a few exceptions, but most of the commodities have much lower open interest today, on an all futures and options combined basis, than they did at the start of the year. And I think that fear factor has actually removed people from some of the markets, as opposed to drawing them in.

And then just a couple other notes on the Commitment of Traders. I think the CFTC’s Commitment of Traders can provide a little bit of insight to the public on what's been happening in the markets. And so, just sort of a few observations, again focusing on cattle and livestock because so much attention has been placed on that.

In the cash market, you have farmers and ranchers and packers and processors, and they're dealing in an exclusive commercial market. But obviously in the futures markets, we have a large investor class that participates in these markets. And so what we've seen, if you look at the data, especially if you look at things like livestock, since January and once the virus hit, we've seen a tremendous sell-off by non-commercials and this is available on the CFTC website for the Commitment of Traders reports. And as you see pretty much across the board in most of the ag products, there's been a large sell-off by non-commercials, and you see buying at lower prices by the commercial class. And so I think a lot of the sell-off that we've seen - the downward pressure in prices is due to this non-commercial exit, changing positions from being net long to either less long or possibly even in some cases net short. So I think to summarize, the general price action is very consistent with the supply and demand that we're seeing, but it's just incredibly unprecedented.

As someone mentioned oil just a few minutes ago, I think oil is a perfect example. You had oil back in June of 2008 trade for almost $150 a barrel, and then this week we're seeing negative, minus $37, dollar prices. So is that consistent with the supply and demand? Very possibly, but it's just incredible times that we're living in.

So that's all I have. Thank you.

MS. MERSINGER: Thank you, Dave.

Just to follow up on that, you mentioned convergence. Can you give us kind of some circumstances where there may be a lack of convergence in the markets and then also, if there's anything that we should consider or be prepared for moving forward in the months ahead based on the current uncertainty?

MR. AMATO: Again, to go to like livestock and Live Cattle, the April basis has been very wide. Cash transactions had been relatively small or very, very light the past few weeks. However, over the last several days, we have seen that basis come in nicely. It's obviously been a big concern for us because the cash and futures were so wide. At one point the basis was about $19 cash over futures. It has come in today to about $3.50. So as we approach LTD, last trading day, on April 30th, we're definitely moving in the right direction.

As someone mentioned, cattle is a physically delivered contract. We don't expect to see any deliveries at this point because cash is still over futures, vut those two prices are coming together. And so I think it would be an incredible accomplishment if we do have this convergence. It's what we expect, but we are living, as I said, in very, very difficult times. And so if something like Live Cattle, which has the potential to deliver physical animals, if you could have convergence in a market like that, I would say that our markets are functioning extremely well.

As was pointed out by, I think, by the CME gentleman, the CME has made adjustments as needed as we saw in the Feeder Cattle contracts back in March when they changed the price limits for a futures contract to ensure convergence. So there are rule changes and tweaks like that can sometimes be made to ensure that we get to convergence.

MS. MERSINGER: Thank you, Dave.

The next question -- I'll actually turn to

Dr. Johannson. So your boss mentioned a number of supply chain issues that you guys are watching, and I'm just wondering if you could go a little bit deeper into what you all are doing with respect to keeping the food chain supply operational and how you're monitoring that and working with other agencies to alleviate bottlenecks in the system.

DR. JOHANNSON: Yes. Thanks again for inviting us to participate and provide some comments just to echo what some of the speakers have already mentioned regarding well-functioning markets and, in addition, the numerous sort of historic conditions that we're facing right now.

So, yes, of course, when we talk about the food supply chain, we're moving, talking about all the way from the farm operation all the way to the grocery store or obviously previously to other marketing outlets. Transportation is a big part of that. We've been working with DOT to ensure that -- for example, some of their hours of service regulations have some exemptions for critical products.

We've also been, of course, closely monitoring the situation in the packing plants and working with DHS and CDC and others on the various task forces that are arranged at the White House right now to deal with these issues to ensure that discussions of PPE and other protective measures are also deliberately considering the ag supply chain. So in those discussions, we are participating to make sure that whatever policies are being put in place are also considering the agricultural sector and the agriculture food supply chain.

The Secretary has certainly been on more calls than I can relay with different State governors and other officials regarding policies in those regions around some of the packing plants to understand what's ongoing. And of course, we've been in touch with the companies as well. We understand that a lot of the packing companies are putting in place measures to try and establish social distancing when possible and adjusting some of the operations of those facilities to ensure that, when possible and to the extent possible, those protective measures can be put in place.

Of course, we also have a number of our employees that are directly impacted and that are participating with ensuring the smooth functioning of those facilities. And we're, obviously, making sure that all of our employees are adequately protected as well.

So, again, there are lots of moving pieces. We're engaging with a lot of the folks that are probably on the call today in terms of understanding what they're seeing in terms of the economic impacts on their stakeholders and making sure that we're aware of what those are as we start putting in place some of the programs and policies the Secretary mentioned and the President mentioned earlier on both the food purchase, which is also going to help on the supply chain side, as well as the payments to producers to help them with their impacts.

Now, I know that we also have some of the folks in the USDA on the line that may want to point out some more specifics on this. So I'm just going to see if Dudley Hoskins is available to continue making comments on this particular issue.

MR. HOSKINS: Yes, Rob, thank you. And this is Dudley Hoskins, USDA in the Secretary's office.

Dr. Johannson, I think, did a great job of framing out just the landscape of challenges and issues, and maybe just to go a little deeper on some of that at a granular level.

So the Secretary has directed us to do a number of different things. I think his metaphor at the top of the call was about something like a car wreck on the interstate and the backlog that that creates. What we saw when the restaurant and food service industry came offline really kind of overnight, there was an incredible shock to that supply chain. I'm not telling anything you all don't know. But in response to that, one of the things the Secretary directed us to do was to find and facilitate as much regulatory flexibility as we could to help redirect as much of that product from food service, restaurant, et cetera into the grocery store retail market.

And some of the things that we did unilaterally within USDA and some in partnership with our colleagues at FDA. The Secretary amended some of the federal milk marketing orders that had very specific restrictions on volume and flow in certain regions. That was an effort to try to redirect more fluid milk that was disrupted from some of the school lunch programs and helped broaden the infrastructure that that product could go to in the processing space. It also directed AMS to bring more flexibility to some of the shell eggs that were initially set to go into food service and restaurants and to allow them to be regraded, relabeled, repackaged, and redirected into the grocery store sector.

And then he's done some other things -- trying to exercise some discretion on some of the COOL enforcement for a product that was currently in storage. That will still not apply to imported product, but will provide more flexibility to try to pull especially some of those specialty crops back into the retail sector.

And honestly, a lot of this is done in real time. It’s, wherever we can, we are finding as much flexibility for our producers, for our stakeholders, for our customers, for the entire universe of folks that are on the call now, not to say we've done it all and it’s been perfect, but wherever we can, trying to mitigate the immediate shock both to the supply chain but ultimately the disruption and -- “frustration” is probably not the right word. There's a better word, cut in the most technical sense, the frustration for producers trying to move those products in the market.

And so those are just some of the specific actions the Secretary has directed us to do, in addition to the things that Dr. Johansson laid out about working with the White House task force and the Vice President’s office and our colleagues in DOT and FEMA and DHS and EPA across the board.

So I’ll stop there, but I just wanted to add a little more color to what Dr. Johansson was framing out. Thank you.

MS. MERSINGER: Thanks, Dudley. And I also understand that you are a distinguished former member of the AAC. So we're excited to have you on in a different capacity today.

Another issue that the Secretary touched on -- I'm just wondering if anyone from USDA can provide a few more details on the trade deals. Specifically how has COVID-19 impacted Phase I of the China deal and how will it impact some of the other trade deals that were underway before the pandemic hit?

DR. JOHANSSON: Yes. It's a great question.

Of course, we were very excited in the beginning of January to sign the Phase I deal with China and certainly were moving full speed ahead on that before, obviously, the Chinese ag sector was significantly impacted in late January and into February and then, of course, we are where we're at here in the U.S.

So I guess we're still moving forward on a lot of that agreement. But it is still relatively early in that agreement. We have until December to meet those purchase amounts. We still are operating under the assumption that China is going to be able to meet those purchase agreements, although obviously with global GDP taking such a large impact, obviously purchasing power for a lot of things, including a lot of ag products, is going to be down going forward. And when essentially the rebound occurs in GDP growth is certainly questionable. I think most people were expecting a pretty quick recovery, that's "quick" meaning after a V-shaped type of recovery. But depending on how reopening goes in countries, we'll have to continue to monitor what growth patterns look like.

So in terms of the Chinese agreement, yes, we're still moving forward on that. We still have a lot of interaction with the Chinese ag teams. Of course that includes more than purchases including, for example, the regionalization agreement for poultry and HPAI which was fortuitous given the fact that we just had an issue with HPAI recently.

USMCA is -- they're still looking at

implementations. There are some delays there but not directly related to coronavirus. As with any of these agreements, they do take a long time to get across the finish line. And then, of course, once implementation starts, it does take a little bit of time to get up to speed on them.

For the Japan agreement, we did see some promising results in our meat trade in January and February. We're still getting data in a lot from our trade -- so monitoring those trade flows. A lot of times that data is a little bit delayed so I would say that at this point in time it's still a little early to tell how much coronavirus has affected some of the progress that we're making with the Japan trade agreement.

Let me just stop there and see if Dudley wanted to add anything in addition to some of those SPS issues.

MR. HOSKINS: Thanks Rob, and this is Dudley. I think you covered the landscape there.

I think one other topic is always front of mind. So last summer or fall -- I'm losing track of some of this -- the Department of Commerce and Mexico facilitated a tomato suspension agreement. That agreement went into effect earlier this month, I think April 4th is when those inspections started. We have the AMS graders at their posts doing those inspections. It’s not an SPS issue, but it just goes to the larger narrative of the Secretary’s expectations, whether it’s the food safety meat inspectors at FSIS or the AMS graders or the folks we have in the market news space. His expectation is we're at our posts doing our work, and if there are disruptions to the food supply chain, it will not be because of a lack of USDA personnel facilitating that commerce and making sure that trade is moving.

The SPS issues don’t stop. The high path AI (HPAI) incident recently is really unfortunate. It’s an event, but we're working our way through that. And there have been some other minor challenges in some of the plant virus space, and we're doing our best to keep those from compounding and complicating the flow of commerce, but I think to Rob's point, trade and commerce are a priority for the administration, for the Secretary, that's essential or critical. And on USDA's role, we will be there to do that work and make sure we're not an impediment or a chokepoint in any of those processes.

MS. MERSINGER: Great. Thank you both.

Another interesting question for USDA not COVID-related, but certainly something that's on the minds of a number of farmers and ranchers across the country. So market access is key for the agricultural industry. And one thing that folks have to deal with dairy is access to quality Internet and being able to communicate within the industry.

I was wondering if someone from USDA can give us an update on USDA's work to improve rural broadband access.

DR. JOHANNSON: Well, we're trying to cover a lot of topic areas here. But I don't have any top-of-the-finger numbers in terms of how much that initiative is essentially pouring out of USDA at the moment. But the Secretary has been pretty on top of this issue as well, wanting us to make sure that we expanded, where we could and where it makes sense, rural broadband to get into areas that didn’t have it to this point.

I think there was some additional stimulus money for this as well.

I’m going to turn it over to Dudley real fast and see if I can pull up some of that stuff for folks on the line.

But, again, as Dudley pointed out, we're all hands on deck at the moment, and I can just speak from my -- my personal sort of portfolio has narrowed pretty quickly to focus 100 percent on economic impacts on the various sectors due to coronavirus.

But just a second, I’ll see if I can find something else to help answer that question, and certainly I imagine that you'll have outreach to your folks on the line after the call is over so that we can send you any additional information if we have answers that we can’t get to right now.

MS. MERSINGER: Yes, absolutely, and sorry to throw a curve ball there. Dudley, did you have any comments on rural broadband access?

MR. HOSKINS: I'm really not, and I would be wasting your all's time just to try to regurgitate some talking points, but to Dr. Johannson's point, this is obviously a priority for the Secretary and the administration. We have our mission area at USDA rural development. This has been one of their bedrock priorities, at least since the Secretary has been in that role, probably previous to that. He's had them double down on what we can do to build and support and expand that infrastructure.

I think what would be most helpful for you all and for the AAC would probably be for me to take that back and see if I can get you a readout or a more up-to-date, informed status on where that stands and what the next steps are. I'm sorry not to be more helpful on that.

MS. MERSINGER: No, completely. That's very helpful, and yes, we can pass on information after the call as well.

I got one more here for you, and then I'll take the two of you off the hot seat.

Because the farming sector is so dependent on hiring guest workers and there are a lot of concerns whether or not they will have access to these workers with all the travel and visa restrictions. Can you shed some light on how the administration plans to address the concerns and whether or not the recent executive order signed by the President will impact these guest worker visas and further restrict their ability to be here to help the farm communities?

MR. HOSKINS: This is Dudley. So this will be another one where I won't want to muddy the waters with misinformation. One of my colleagues in the Secretary's office has been kind of our single point of focus on the ag labor, and she's been working with the Department of Labor and different embassies, especially Canada and Mexico, and trying to help manage and facilitate that flow of the critical workforce especially under all things

COVID. So I will add that to the list for follow-up for you after the call.

DR. JOHANNSON: Yes. And just also on that note, we've been working hard with the State Department, DHS, and the White House on this issue to limit the disruption caused to that H2A workforce. And so again, as Dudley mentioned, I don't really want to muddy the waters with incorrect information, but I just wanted to emphasize that we're certainly aware of the issue of labor supply. We have been working on this issue, and the Secretary has been working on this issue a lot. And of course, right now it's highlighted by whether or not this workforce is affected by other immigration policies. So with that being said, we'll make sure that we pass that along to you as well.

MS. MERSINGER: Great. Thank you.

The next question -- maybe Derek can take this question. We're going to go back to livestock for a minute.

With some of the sale barns reducing the amount of our feeder cattle sales, what is CME doing to monitor the integrity of the Index for the April contract?

MR. LaSALA: Summer, this is Tom LaSala. I'll field that.

MS. MERSINGER: Thanks, Tom.

MR. LaSALA: Sure. So in addition to our normal oversight activities at CME, which includes work conducted by our market regulation team, our research department, as well as our business line, CME, the CFTC, and the USDA are in frequent communication around which auctions are operating and the volumes conducted in these auctions. At present, we believe there will be adequate volumes for settlement in April, but certainly we'll continue to monitor the situation very closely. Thank you.

MS. MERSINGER: Thank you.

So staying on the cattle markets for a moment, so this is kind of for someone at CFTC. And we talked about the Holcomb fire and some of the swings in volatility that we saw on the market at that point and, of course, the swings in volatility we are seeing with the COVID-19. If the Chairman or Dave or someone could give us some ideas of factors that would cause these swings in volatility in the cattle market.

CHAIRMAN TARBERT: I'll let Dave go ahead and answer that as the head of our Task Force.

MR. AMATO: Well, I think, Summer, basically the reason why at first we saw a little bit of a disconnect between the cash and the futures is because, like some of the gentlemen who have spoken previously have said, they're pricing different things. So the cash market is obviously pricing a spot price, and the futures price is pricing the end of April for, say, Live Cattle. And that time difference and with the tremendous uncertainty that we've all had - I mean, every day, it seems like, when we get up and we put our computers on, there's another packing plant that's been closed or another two or three. And so I think the futures market had been pricing in some of that uncertainty, and some of that uncertainty was leading to prices in the futures market to be at a lower level than the cash market. But as we have now started to approach and get closer and closer to the last trading day, cash and futures are now spreading the price similar time events, and they're coming together.

But I mean, in terms of the Holcomb fire, like I mentioned in the previous answer, this is the Holcomb fire times 10 or 15 or 20 because of the number of plants that are at stake and the number of States that are involved and the number of employees that are out. And so I think all of that has created that volatility which is based on fear and uncertainty. And I think we are in times that are just incredibly uncertain. We don't know if by next month more packing plants will be online or will this continue and we'll continue to have more and more of these plants have to go offline. If that's the case, I think we'll see situations where cash and futures continue to get pulled down and we'll have the boxed beef prices probably be at very high levels because less and less product is moving through the system.

MS. MERSINGER: Thanks, David.

Just staying on the cattle market here and to go back and put USDA on the spot again, but also certainly I think Dave Amato could jump in here as well. Can you expand upon the current standing of the investigation that was started after the Holcomb fire and how USDA has decided to expand its review to similar circumstances that followed the outbreak of COVID-19? And also I'm kind of wondering what the status is of the CFTC's cooperation with various requests that the commission has received for investigations into the cattle market as well.

MR. HOSKINS: This is Dudley Hoskins, USDA. I will take the first part of that and get out of the way.

So unlike the rural broadband or ag labor, this is something I have some awareness on, but unfortunately, this is really something we as a Department are not prepared to comment on publicly. So in terms of timeline and process, the Secretary made some public statements following the Holcomb fire in August. There's some additional tweets and conversations he's had publicly since the COVID epidemic was designated a national crisis.

Beyond those sort of public-facing pinch points, all we can tell you is the investigation is ongoing and the Packers and Stockyards Division are working with the full authorities under their statutory permissibilities, and they're doing that work in consultation with other partners in the Federal Government. So it is ongoing. The investigation will go as far and wide as the evidence takes them. The Secretary has been clear he does not anticipate putting any kind of fictional or manmade timelines on how far that investigation will go or how long it will last. So I think what he articulated earlier is really where the Department is on it publicly.

The Packers and Stockyard folks are doing their work. They will continue to do their work. If they find evidence of violations, they will take action on those. Where and if appropriate, they will refer certain actions to our federal partners in the Department of Justice. But beyond that, we really can't speak to timeline or specificity or anything beyond that.

So I'll stop there. I'm not trying to be evasive, but that's really where the Department is. And thank you.

MS. MERSINGER: Thank you, Dudley.

Dave Amato, did you want to comment at all on kind of the status of the CFTC's role and the various -- kind of the cooperation and some of the requests that have come in that we've seen in the press on the cattle market?

MR. AMATO: Sure. The only thing I can add is we've cooperated with the USDA in the past on data requests and we'll continue to provide data as needed.

MS. MERSINGER: Thank you.

Jumping real quick to CME and the messaging efficiency program, markets continue to adjust. What has CME seen from both pre-market period activity, and do you have any updates on the MEP?

MR. LaSALA: Hi, Summer. It's Tom LaSala.

Can you hear me?

MS. MERSINGER: Yes.

MR. LaSALA: Okay, perfect.

So let me begin by stating that we're continuously monitoring our markets and have a dedicated team in market regulation specifically committed to monitoring activity in the pre-opening period. Price action in the pre-open is impacted by a number of factors, including news, market fundamentals, the number of participants that choose to enter the market, as well as the strength of those views, and additionally the time at which those participants choose to enter the market.

Where we see problematic activity in the pre-open, our practice is to contact the participant promptly to help ensure the activity does not continue as we then conduct a review or formal investigation.

I know that in speaking with my colleagues on the business side, that we already have a meeting scheduled with NCBA for next Wednesday, April 29th, to discuss both the pre-opening period, as well as the messaging efficiency program.

So thank you.

MS. MERSINGER: Thank you. Can you tell us a little bit about the pre-opening, what it's for, and what the messaging efficiency program does?

MR. LaSALA: I'm more efficient with the pre-open. That's a period in time where parties can enter orders, and you're looking to effectively find price level. And during the time in the pre-open, which happens to be almost 2 and a half hours, of which the last 30 seconds are locked down, so you can no longer cancel or modify orders in the last 30 seconds, what you're effectively looking for is an equilibrium price. And then the volume of those orders that are still existing in the market after the close-out that basically intersect will trade at that equilibrium price as soon as the market opens.

So, I mean, what we've seen, especially during these volatile times is very, very different perspectives insofar as what value is. Very different perspectives and I mentioned earlier not only, you know, you talk about the different perspectives, but when participants choose to enter the market. So there's been somewhat, I'll say, behavioral differences that have come into play during this time where we're getting significant market volatility that's, I think, sensitized people in the market, their view and their participation in the pre-open. So it's one that we're communicating very significantly with market users, and as I mentioned, the meeting next week with NCBA -- we plan to have significant discussions with them about that at that time.

MS. MERSINGER: Thank you.

Going back to Chairman Tarbert for a minute. Chairman, there's been a lot of discussion about the CFTC and the USDA working together. Are you talking to other agencies during this time? Are you having regular conversations with the Hill, with other agencies? How are you working with other parts of the government during this time?

CHAIRMAN TARBERT: Thank you, Summer.

The answer is that we are working very closely with lots of other agencies in the U.S.

government, as well as our counterparts overseas. Now, I’d say when it pertains to agricultural issues, it’s obviously USDA. But obviously, the energy sector has seen volatility as well. We've had frequent calls with the Department of Energy, and then every day, almost, I have a call with one of our other federal financial regulators. I just literally got off the phone 15 minutes before we started this Agricultural Advisory Committee meeting with the chairman of the SEC with whom I have frequent contact, but also the Federal Reserve, the banking regulators, the Treasury Department.

Again, we want to make sure as a financial regulator that the dislocations that we see due to the coronavirus in the real economy don’t take what is obviously a historical and unparalleled economic crisis and turn it into a financial crisis. So right now the financial markets are performing well in the sense that they're working the way they were intended to work in most cases insofar as they're reflecting what's going on in the real economy, but they themselves are not adversely affecting the real economy. They are not a source of systemic risk, which is affecting everyone else. And we want to, obviously, make sure we keep it that way. So when it comes to oversight of our clearinghouses, our market participants, major financial institutions, we're working very closely with our other counterparts here in the United States' regulatory community, but throughout the world.

MS. MERSINGER: Thank you.

And one last question here for the Chairman. How will the CFTC continue moving forward with the rulemaking priorities due to the disruption from COVID-19?

CHAIRMAN TARBERT: Sure. Great question, and it's one that I hit on a little bit in our last open meeting where we had five votes: three proposed rulemakings and two final rulemakings. And it's simply this.

Obviously, the COVID-19 pandemic has changed the world and has changed this country in the last month or so, and the CFTC has pivoted to make sure that we are absolutely responsive to any needs to ensure that our markets remain orderly and liquid. So in other words, dealing with the issue at hand is job number one. That includes, for example, with respect to this audience, setting up the Livestock Task Force to monitor severe volatility in parts of the ag sector, and it also involves issuing relief where needed, temporary targeted relief to make sure that our markets remain orderly and liquid and that the American public, in a time when they're facing perhaps the most risk they've ever faced, they are able to use our markets to hedge. So that's job number one.

That said, this agency can certainly walk and chew gum at the same time. That's why we're having this call today. And so while that's job number one, we also are going to continue to move forward on the policy agenda which has lasted in some cases for a number of years. So we know that many people on this call have certain things they want to see done, and we're fully committed to doing that. And so what we have done is basically pivoted our resources to focus first and foremost on COVID-

19 and its effects, and we'll continue to do that.

And then rather than start new, big projects, new proposals, what we've done is essentially decided anything that's basically sort of either proposed or in good enough shape that it can be proposed in, let's say, the next 2 months, we're going to go ahead and propose that and then pivot and focus on finalizing everything that we propose. So in other words, we're going to begin what we started, but we're not going to start anything new and big. And that's a way that I think we can balance making sure that this agency is responsive to COVID-19, but at the same time not losing sight of the bigger policy issues that many people have wanted us to resolve for a number of years.

MS. MERSINGER: Thank you, Chairman.

And as we are approaching on the almost 2-hour mark here, I'm going to go ahead and wrap up the call. Thank you all for joining today. I know this is a very busy time for everyone, and we appreciate your participation. And with that, the meeting is adjourned. Thank you.

(Whereupon, at 4:55 p.m., the meeting was adjourned.)

U.S. COMMODITY FUTURES TRADING COMMISSION (CFTC)

GLOBAL MARKETS ADVISORY COMMITTEE MEETING

(GMAC)

Tuesday, May 19, 2020

10:03 a.m.

Location:

Commodity Futures Trading Commission (CFTC)

Three Lafayette Centre

1155 21st Street, N.W.

Washington, D.C. 20581

BEFORE:

Dawn D. Stump (GMAC Sponsor)

Angie Karna, GMAC Chair

ALSO PRESENT:

Heath P. Tarbert, Chairman, CFTC

Brian D. Quintenz, Commissioner, CFTC

Rostin Behnam, Commissioner, CFTC

Dan Berkovitz, Commissioner, CFTC

AGENDA

AGENDA (Continued)

P R O C E E D I N G S

OPERATOR: Welcome, and thank you all for standing by. At this time, all participants will be in a listen-only mode for the duration of today's presentation. Today's conference is being recorded. If you have any objections, you may disconnect at this time.

I would now like to turn the conference over to Andree Goldsmith. You may begin.

MS. GOLDSMITH: Thank you. Good morning, everyone. As the Designated Federal Officer for the Global Markets Advisory Committee, it is my pleasure to call this meeting to order.

I'd like to welcome everyone to today's meeting. This is the first GMAC of 2020 and the third under the sponsorship of Commissioner Stump. In light of the global response to COVID-19, we are holding today's meeting as a virtual meeting to protect the safety of agency personnel, GMAC members, Subcommittee members, presenters, and the public. While this is not how we envisioned holding our first meeting of 2020, we are grateful for the chance to come together in a way that ensures everyone's health and safety.

To ensure that today's meeting goes as smoothly as possible, there are a few logistical items that I need to mention. Because this is a virtual meeting, it is also being broadcast in a livestream on the internet, so please be sure to identify yourself before speaking. Also, please signal when you have completed your comments so we can continue with the next speaker or question. Please ensure that your phone is unmuted before you start to speak, that you speak clearly into your phone, and that you re-mute your line when you are done speaking.

For GMAC members and Commissioners, if you would like to be recognized during the discussion, please use the Webex chat icon at the bottom of the screen, then select the "all panelist" option within the dropdown menu, indicate that you have a comment or question, and press "enter." For any Subcommittee member, please just unmute your phone if you would like to speak. If any meeting participant needs assistance during the call, please dial "star-zero" to connect to the conference operator. Finally, please keep your telephone line muted when you are not speaking. If you do not mute your line, the conference operator may need to mute it for you.

I'd now like to turn it over to the GMAC sponsor, Commissioner Dawn Stump, for her opening remarks.

COMMISSIONER STUMP: Thank you, Andree. This is Commissioner Stump. Good morning to everyone, and I also want to welcome you all. Certainly I should acknowledge that this meeting looks much different than I had envisioned even just a few short months ago. And while we're not able to gather in the same room, I am grateful that we can hold these types of discussions and move forward the GMAC priorities in a format that ensures the health and safety of the GMAC Members, the Commission staff, and the public.

Simply put, the markets we regulate are global in nature. This always seems to become more apparent in the midst of difficult times, yet we work with our regulatory counterparts around the world constantly. Certainly, these relationships serve to improve responses in unsettled times, but we should not forget that they also serve us well in less eventful times. I hope that when we emerge from the current pandemic, this spirit of cooperation will remain evident. Market regulators around the globe are undeniably linked in good times and in challenging times. I would like to take the opportunity to thank Chairman Tarbert for his leadership on global coordination, and my fellow Commissioners for their efforts to cultivate productive relationships with our counterparts around the globe. I very much appreciate their attendance at today's meeting and their contributions to the discussion.

I would also like to thank the GMAC members for sharing their expertise of navigating the regulations applied to these global markets. We are very fortunate to have such expertise as we engage in today's discussion. In addition, I would like to take -- I would like to extend a special thanks to today's presenters, Mr. Suyash Paliwal and Ms. Wendy Yun. Finally, I would like to thank Andree Goldsmith, the GMAC Designated Federal Officer, for organizing today’s meeting, and Chair Angie Karna for her leadership of the GMAC.

The first presentation today is from Suyash Paliwal, Director of the CFTC's Office of International Affairs, and will focus on coordination efforts among the international regulatory community in the face of recent market events. The COVID-19 pandemic has affected economies all over the globe, and Mr. Paliwal and his team have been key players in engaging with international coordination efforts during this unprecedented period of market volatility. The international regulatory community has come together to address the challenges caused by the global pandemic, and the CFTC has played a leadership role in these endeavors under the leadership of Chairman Tarbert and Director Paliwal.

Next, we will turn to the work of the GMAC Subcommittee on Margin Requirements for Non-Cleared Swaps. Following the last GMAC meeting in September, during which the GMAC heard several presentations on the unique challenges posed by the latter implementation phases of margin requirements for non-cleared swaps, the Commission established this

Subcommittee. In our public solicitation for Subcommittee nominations, it became obvious that the interest in this matter is vast, and the viewpoints are many. It is, therefore, remarkable that such a diverse group of representatives was able to deliver a report to the Committee in a relatively compressed time frame, further complemented by an unprecedented global pandemic. The Subcommittee's mandate was to examine the implementation of margin requirements for non-cleared swaps, to identify challenges associated with forthcoming implementation phases, and to recommend actions the Commission may take to mitigate any challenges identified.

The Subcommittee took that mandate and ran with it. In just a few short months, the Subcommittee has prepared a detailed report outlining several unique challenges posed by the upcoming implementation phases, and recommending a number of specific potential actions to mitigate these challenges. The Subcommittee is to be commended for continuing its hard work, even as its members were responding to recent market events, and the timing of margin requirements was evolving within the BCBS and IOSCO. In short, the efforts to get this report before the Committee today was no small task, and I know the full GMAC has carefully considered its content and is prepared to discuss today.

I want to thank especially Warren Gorlick and Carmen Moncada-Terry from the CFTC's Division of Swap Dealer and Intermediary Oversight for their engagement with the Subcommittee. I also want to offer appreciation to each member of the Subcommittee, and especially Subcommittee Chair Wendy Yun for her leadership. I'm so pleased that many of you could attend this meeting today, and I look forward to hearing the presentation.

With that, I will turn things back to Andree and Angie. Thank you.

MS. GOLDSMITH: Thank you, Commissioner Stump. Chairman Tarbert?

CHAIRMAN TARBERT: Good morning, everyone. It's a privilege to be here today with the members of the Global Markets Advisory Committee and its Subcommittee on Margin Requirements for Non-Cleared Swaps. I'd particularly like to commend and thank

Commissioner Stump for her leadership in sponsoring and supporting the important work of the GMAC and its Subcommittee. Thank you also to Andree Goldsmith for her diligent work as the GMAC's Designated Federal Officer.

I, of course, also want to express my appreciation to Angie Karna for continuing to serve as GMAC Chair, and to Wendy Yun for serving as the Chair of the GMAC's Margin Subcommittee. To both of you and all the members of the GMAC and the Margin Subcommittee, thank you for giving your limited time and invaluable insights to us. Your contributions are critical to helping the CFTC pursue its mission to promote the integrity, resilience, and vibrancy of the U.S. derivatives markets through sound regulation.

I very much look forward to today's presentations. I'm pleased that Suyash Paliwal, our Director of the Office of International Affairs, will be speaking about international coordination in the wake of the COVID-19 pandemic. I'm also particularly looking forward to the Margin Subcommittee's presentation on its report and recommendations for margin requirements for non-cleared swaps.

As a threshold matter, I agree with the report's recommendation to extend the compliance deadline for Phases 5 and 6 of the margin requirements by a year in response to COVID-19 as the Basel Committee and IOSCO have -- has also basically supported this extension, and they did so because it allows firms to dedicate the necessary operational resources to their COVID-19 response and business continuity efforts. And I also want to point out that several regulators abroad have already taken steps to implement this relief.

As I've said before I believe the Committee, -- the CFTC's Margin Rules are a key systemic risk mitigant. However, the margin -- the market participants receiving the extension are only those with the smallest uncleared swaps portfolios. So we're essentially balancing the critical need to marshal scarce operational resources for COVID-19 against the relatively small risk posed by a one-year compliance delay. So as a result, I believe the CFTC should follow the international counterparts in granting that extension, and this measure is on our near-term agenda, and I hope the Commission will vote on it in short order.

More generally, the Subcommittee should be proud of having produced a comprehensive and thoughtful set of recommendations in this report. I particularly appreciate that a number of the recommendations suggested multiple alternative ways of accomplishing the objectives. So this is a kind of flexible, practicable thinking that is incredibly helpful to the CFTC as we determine how to address the issues that were readily identified in the report. In that regard, I know that Warren Gorlick and Carmen Moncada-Terry of the CFTC's Division of Swap Dealer and Intermediary Oversight were very helpful to the Subcommittee's work in producing the report, and will continue to contribute to their extensive -- their extensive expertise as we digest and react. And I can tell you that I met actually with Warren and Carmen last week to discuss the recommendations and whether there were any that we -- that we could implement in short order. So, Warren and Carmen, thank you as always for your dedication on these issues.

I look forward to hearing more from the presenters about the issues and working with my fellow Commissioners, CFTC staff, and GMAC members to pursue our sound commitment to derivatives regulation in a sound manner. So thank you all very much. Great to be here this morning.

MS. GOLDSMITH: Thank you, Chairman Tarbert. Commissioner Quintenz?

COMMISSIONER QUINTENZ: Thank you, and good morning, everyone. Thank you to Commissioner Stump for convening today's meeting, as well as Andree and Angie for your leadership. I, too, am looking forward to hearing the presentations from our own Suyash Paliwal as well as the GMAC Subcommittee, and just a few thoughts on the, on UMR.

You are now in the final implementation stages of the margin framework for uncleared swaps, and in 2019, one survey found that the 20 largest market participants, you know, the Phase 1 firms, had collected approximately $173 billion of initial margin for their non-cleared derivatives transactions.

Collectively, Phases 1 through 4 firms, market participants captured by Phases 1 through 4, comprise approximately 89 percent of the total average aggregate notional amount of swaps across all phases, with the remaining phases of 5 and 6 comprising only 11 percent of notional amount, but representing approximately 94 percent of all entities brought into the uncleared margin regime.

Given the large number of firms brought into scope during Phases 5 and 6, and the estimated 7,000 initial margin relationships that need to be negotiated, as well as the small overall percentage of swap activity covered by these firms, or that these firms represent, I believe it's important to implement these final phases in the most responsible, least burdensome way. So I'm extremely interested to hear from the Subcommittee regarding their thoughts and recommendations. In particular, looking forward to learning more about providing possible relief from initial margin calculations for small covered swap entities, providing compliance grace periods to allow firms time to establish the necessary custodial documentation after the initial margin threshold has been exceeded, and aligning the timing and methodology for the material swaps exposure calculation with the global Basel Committee on Banking Supervision and IOSCO framework.

In closing, I'd like to thank all of today's presenters as well as the GMAC Membership, and, again, to Commissioner Stump, Andree, and Angie for organizing the meeting. Thank you.

MS. GOLDSMITH: Thank you, Commissioner Quintenz. Commissioner Behnam?

COMMISSIONER BEHNAM: Good morning, everyone. Thanks, Andree. First off and foremost, of course, thanks to Commissioner Stump for her leadership as sponsor of the GMAC. Special thanks to Andree Goldsmith as DFO, Angie Karna for her leadership as chair, and Suyash for presenting today, and, of course, Wendy Yu as Chair of the Subcommittee. I also recognize the CFTC staff who have participated on today's report and the production of it. It's a fantastic report. Like the Chairman said, as with all advisory committee reports, these are very valuable for the Commission to consider. It just provides us such great depth and information about what the market is thinking, what challenges you're facing, and what we need to do as regulators to be flexible to both meet our mandate, but also allow markets to function smoothly and in a well -- you know, a well-mannered way.

I do want to just point out some issues about uncleared margin, which we're going to -- hear about today. Obviously, a huge part of the Dodd-Frank law and in the global reforms after the financial crisis, uncleared margin is a huge sort of critical foundational point of the reforms, but as we sort of have emerged into Phase 5 and Phase 6 now, I think it's both important that we move forward with it, but move forward with it in a smart and effective way so that we reduce operational risk, that we time these things well, and that we allow both our market participants, including end users, to use our markets freely, openly, and in a sort of efficient way. We need to, I think, think as regulators to be able to oversee markets that are functioning well, but that ultimately we allow our market participants to use them for the purposes that they are set out to use.

So looking forward to today's conversation. Again, big thanks to everyone who put this together and participated, is going to participate, and, again, a special thanks to Commissioner Stump for her leadership. I'm looking forward to today's conversation. Thank you.

MS. GOLDSMITH: Thank you, Commissioner Behnam. Commissioner Berkovitz?

COMMISSIONER BERKOVITZ: Thank you, and thank you -- thank you, Andree, and thank you, Commissioner Stump, for sponsoring this Committee. Thank you, Angie Karna, for chairing -- for chairing the Committee. And thanks to all the presenters today, Suyash and Wendy, and others, who will be speaking.

In this time when we, as the Chairman noted, 100 percent of the agency is teleworking, and certainly teleworking -- I've been impressed by our ability and the dedication of our staff to our mission and under some very trying circumstances with kids at home and balancing all the additional responsibilities that people have to undertake in this extraordinary time in the face of some very serious and extraordinary challenges. But we have been able to keep focused on our mission and do our necessary work overseeing the markets and considering necessary improvements and reforms as previously.

I would say, though, that from my personal experience, although we can meet -- in our meeting this challenge in this manner, it really doesn't substitute for a number of the face-to-face interactions that we have the privilege of when -- in normal times, and one of those is certainly advisory committee meetings and being able to sit at the table and interact, and have both the formal conversations and informal conversations that go along with public meetings. So we'll get the job done, and we're getting the job done today, but I think there is a certain loss. And in that regard, it's absolutely critical that we have meetings like this, and we do stay informed, and we do hear from market participants, even if it's -- even if it's over the phone. So, again, I want to thank Commissioner Stump and all the participants today.

The situation with respect to initial margin has been noted, and certainly I supported the previous extension of the compliance framework. One question that I'm interested in in this time is the extent to which, given the stresses on the economy, the credit -- the credit risks are -- what the effect of increased counterparty credit risk, in light of the economic downturn and the economic stresses that many sectors of the economy -- the retail sector, the energy sector, transportation sector -- given the increased credit risks in these various sectors, how does that affect the risks presented by -- to the intermediaries on uncleared swaps, and whether there's a cumulative greater counterparty credit risk component here that we should be considering as we consider these deadlines and the risks proposed -- posed by these various sets. So I think that's a question that I'm very interested in learning about as we proceed to consider these margin requirements.

So I'm very much looking forward to the discussion today, and thank you, again, everyone who made this happen.

MS. GOLDSMITH: Thank you, Commissioner Berkovitz. Thanks again to all the Commissioners for taking part in this meeting of the GMAC and for sharing your remarks with the Committee. Before we begin with our presentations today, I would like to do a roll call of the GMAC members on the phone so that we have your attendance on the record. After I say your name and firm, please indicate that you are present.

Chris Allen, Standard Chartered Bank?

MR. ALLEN: Yes, I'm here. Hi.

MS. GOLDSMITH: Ted Backer, Morgan Stanley?

(No response.)

MS. GOLDSMITH: Ashley Belich, RBC Capital Markets?

(No response.)

MS. GOLDSMITH: Shawn Bernardo, TP ICAP SEF?

MR. BERNARDO: Good morning. I'm here.

MS. GOLDSMITH: Darcy Bradbury, D.E. Shaw & Co.?

MS. BRADBURY: I'm here. Thanks.

MS. GOLDSMITH: Maria Chiodi, Credit Suisse Securities?

MS. CHIODI: Here. Thank you.
MS. GOLDSMITH: Clive Christison, BP?
(No response.)
MS. GOLDSMITH: Joe Cisewski, Better Markets?
MR. CISEWSKI: Yes, I'm here. Thank you.
MS. GOLDSMITH: Jim Colby, Coalition for Derivatives End Users?
(No response.)
MS. GOLDSMITH: Gerry Corcoran, R.J. O'Brien & Associates?
(No response.)
MS. GOLDSMITH: Sunil Cutinho, CME Clearing?
(No response.)
MS. GOLDSMITH: David Goone, Intercontinental Exchange?
(No response.)
MS. GOLDSMITH: Paul Hamill, Citadel Securities?
(No response.)
MS. GOLDSMITH: Amy Hong, Goldman Sachs?
MS. HONG: Present. Thank you.
MS. GOLDSMITH: John Horkan, LCH Group?

MR. HORKAN: Present.

MS. GOLDSMITH: Adam Kansler, IHS Markit?

(No response.)

MS. GOLDSMITH: Angie Karna, Nomura Securities, International?

MS. KARNA: I'm here. Thank you.

MS. GOLDSMITH: Robert Klein, Citigroup Global Markets?

MR. KLEIN: I'm here. Good morning.

MS. GOLDSMITH: Agnes Koh, Singapore Exchange Limited?

MS. KOH: Good morning. I'm here.

MS. GOLDSMITH: Ben MacDonald, Bloomberg LP?

MR. MACDONALD: Good morning. I'm here.

MS. GOLDSMITH: Erik Tim Müller, Eurex Clearing?

(No response.)

MS. GOLDSMITH: Joe Nicosia, Louis Dreyfus Company?

(No response.)

MS. GOLDSMITH: Murray Pozmanter, DTCC?

MR. POZMANTER: Present. Thank you.

MS. GOLDSMITH: Thomas Sexton, NFA?
MR. SEXTON: Good morning. I'm here.
MS. GOLDSMITH: Jessica Sohl, HC Technologies?
(No response.)
MS. GOLDSMITH: Thane Twiggs, Cargill Risk Management?
MR. TWIGGS: I am present. Thank you.
MS. GOLDSMITH: Supurna VedBrat, BlackRock?
MS. VEDBRAT: I'm here.
MS. GOLDSMITH: Masahiro Yamada, JP Morgan Securities?
(No response.)
MS. GOLDSMITH: If any GMAC members were unable to indicate your presence on the call, please email me to confirm your attendance for the record.
I'd now like to turn it over to Warren Gorlick, Alternate Designated Federal Officer for the GMAC Subcommittee on Margin Requirements for Non-Cleared Swaps, to conduct a roll call of the Subcommittee Members.
MR. GORLICK: Thank you, Andree. This is

Warren Gorlick. After I say your name, could you do the same as what Andree just did with respect to the GMAC members? So I'll just begin in alphabetical order.

Mr. Mark Bailey, Two Sigma Investments?

(No response.)

MR. GORLICK: Ms. Darcy Bradbury, D.E. Shaw & Co.?

MS. BRADBURY: I'm here.

MR. GORLICK: Mr. Rosario Chiarenza, Morgan Stanley?

(No response.)

MR. GORLICK: Betsy Cochrane, Barings?

(No response.)

MR. GORLICK: Mr. Dominick Falco, BNY Mellon?

(No response.)

MR. GORLICK: Ms. Vera Horgan, Wellington Management?

MS. HORGAN: I'm here.

MR. GORLICK: Ms. Tara Kruse, ISDA?

MS. KRUSE: Present.

MR. GORLICK: Ms. Alessandra Riccardi,

National Futures Association?

(No response.)

MR. GORLICK: Ms. Sachiyo Sakemi, BlackRock?

MS. SAKEMI: Present.

MR. GORLICK: Mr. Andrew Smith, Virtu Financial?

(No response.)

MR. GORLICK: Mr. Nick Steele, Barclays?

(No response.)

MR. GORLICK: Ms. Christine Stevenson, BP Energy?

(No response.)

MR. GORLICK: Mr. Chris Walsh, AcadiaSoft?

(No response.)

MR. GORLICK: And Ms. Wendy Yu, Securities Industry and Financial Markets Association Asset Management Group?

MS. YU: I'm here.

MR. GORLICK: Okay. Did I miss anyone?

(No response.)

MR. GORLICK: Okay. Thank you very much, and please email me in case you join the call later. Thank you -- thank you again.

MS. GOLDSMITH: Thanks, Warren. With that, I'd like to turn the program over to Angie Karna, the Chair of the GMAC, for an introduction of our presenters.

MS. KARNA: Thank you, Andree. Just a few logistical reminders. Please keep your phones on mute while you are not speaking. Following the presentations, if a GMAC member or Commissioner would like to be recognized to speak, please use the Webex chat icon at the bottom of the screen, then select the "all panelists" option within the dropdown menu, indicate that you have a question, and press enter. Please identify yourself and your firm prior to speaking, and indicate when you are finished speaking.

The first item on the agenda is a presentation from Suyash Paliwal, Director of the CFTC's Office of International Affairs. Mr. Paliwal will give a presentation on International Coordination Efforts in the Time of COVID-19. Please go ahead, Mr. Paliwal.

MR. PALIWAL: Well, good morning, everyone.

Thank you, Angie. Thank you, Commissioner Stump and Andree, for the kind invitation to speak at this GMAC meeting. Thanks also to Wendy for your leadership of the Subcommittee, and I look forward to your presentation. It's my pleasure to share with you a few thoughts on some of the international coordination among regulators and supervisory authorities that have taken place as we have together faced the COVID-19 pandemic. It needs no retelling that this pandemic has roiled our daily lives and, as one dimension, roiled the markets in which we operate.

Before getting into the substance of what I would like to share as to the attention, responsiveness, and cooperation among regulators and authorities in the global community, I would just like to say that I hope everyone on this call is doing well in this highly unusual and, in many ways, challenging environment. We all have our professional responsibilities and objectives as well as our personal responsibilities to ourselves, our loved ones, children, elders, parents, in a setting where work-life balance has taken on new meaning. We've all made great efforts as we have weathered the recent weeks and maintained poise in facing the coming months. Here at the CFTC, we have been fully remote for about two months now and have been able to run all operations seamlessly and without interruption through the teleworking mode.

And just as an aside, I'm guessing we all remember that viral video from some time ago of the BBC interview of a professor in South Korea where his two young children suddenly barge in and stroll confidently over to their dad's home office desk, followed by his frantic wife trying to get the kids off the international airways since there's some decorum of her husband's interview. Yes, I've heard all of that on calls since March from kids, to pets, construction workers, delivery folks, birds chirping, wind howling, and all manner of life soundtracks. And for what it's worth, I have to say it has its charm.

At the outset, I should note that any views I express do not necessarily represent the views of the CFTC or any Commissioners. They're purely my personal views, but hopefully you'll still listen. One of the hallmark features of this agency and its leadership, a value that I share, is transparency and stakeholder engagement. Indeed, the work of the GMAC and all the advisory committees exemplifies this. In the CFTC's Office of International Affairs, which is responsible for coordination of the agency's international and cross-border policy initiatives in bilateral and multilateral settings, we have a vantage point on the Agency's manifold coordination efforts with our counterparts globally. So hopefully I can provide some useful insights to you, and hear your valuable perspectives, on the front lines of the derivatives market.

As perhaps many on this call have experienced, workloads in our space seem to have at least doubled, with some or all of business as usual taking place, and a whole additional layer of work relating to maintaining awareness of and responding to circumstances of the COVID-19 pandemic. It has been the same for regulators as we have -- as we have remained vigilant to preserve the smooth functioning of our markets.

In my remarks today, I would like to speak about three main things. First, I would like to provide some observations on how we have been thinking about the COVID-19 pandemic, how it has played out in derivatives markets, and manifestations we have focused on. Second, I'll give perspective on modes of coordination among regulators and authorities and the global community. And third, I'll share some thoughts on regulators' more pointed responses, both on an individual and multilateral basis. But first, to recap a few highlights of the COVID-19 turmoil.

The coronavirus pandemic has led to one of the most volatile periods the derivatives market has ever experienced. The volume of futures, options and swaps trades had surged to an all-time high, but as we saw it, this was not a story of doom and gloom, but of resilience and robustness. Derivatives markets, in particular, served as shock absorbers rather than amplifiers of risk, internalizing the impact of the market swings. In many ways, it is a testament to the reforms implemented over the last decade following the 2008 global financial crisis.

Prior to that crisis, derivatives markets were not heavily regulated. Following that crisis, regulators around globe, through the G20, undertook to reform the derivatives regulatory framework. With a basic ecosystem of trading and execution, clearing, and transaction reporting, that ecosystem, by and large, did what it was designed and built to do. In many ways, we could not have conjured up a better stress test.

The virus knew no national or jurisdictional boundaries. Financial markets, participants, and regulators the world over faced the same sorts of challenges at the same time. Central clearing, as a concept, assures, among other things, that counterparty default risk is mitigated, and this is what happened. Rather than having volatility lead to widespread uncertainty or toxicity of assets or panic, volatility was channeled, as designed, into the clearing ecosystem. The absorption mechanism, of course, was margin, and we saw that. Margin calls were placed. Margin levels increased substantially. This occurred with initial margin for clearinghouses, balanced risk management objectives, and anti-procyclicality concerns, and significantly more so with variation margin.

Generally, across the board, margin was provided as required, a testament not only to the clearing ecosystem, but also to the resiliency of financial and non-financial cleared market participants. In addition, reforms put in place by the CFTC since 2008 required enhanced transparency and competition, both of which help ensure price discovery and improved pricing and liquidity for market participants, including producers and processors seeking to hedge their risks. For example, reforms of swap execution facilities required additional pre- and post-trade price transparency and competitive methods of execution. This helps ensure that the swaps markets, which are critical to many types of financial instruments, interest rates underlying mortgages, and currency exchange rates, remain transparent, fair, and competitive. Moreover, recently-proposed amendments to swap data reporting rules would, for the first time, require the reporting of margin and collateral data for uncleared swaps. If adopted, this proposal will significantly strengthen the CFTC's ability to monitor their systemic risk in uncleared swaps markets.

The clearing ecosystem requires resources and expenditures to maintain. It proved its resiliency merit. Capital markets functioned to enable market participants to generate money needed to meet margin calls. There was appreciable need for funds to meet margin calls, prompting something of a dash for cash, particularly denominated, which created room for liquidity support. This support came with central banks providing interventions through their facilities. To sum up this high-level recap, one takeaway is that financial markets did what they were supposed to do, enabling us to weather the COVID-19 turmoil and prepare for the denouement in the coming months.

Before turning to my second main topic, coordination among regulators globally, I'll just share a bit about how the CFTC has adapted to the circumstances of the COVID-19 turmoil. In short, there was a heightened degree of internal- and external-facing coordination and communication. Internally, the agency's leadership held frequent coordination calls, almost daily, as the pandemic evolved, and continuing into the present, at times holding multiple intraday calls. This enabled the agency's leadership to pool information and insights gathered from the markets, our registrants, domestic and international counterpart regulators, and the agency's world-class staff, and to respond timely, thoughtfully, and decisively.

The agency's teams connected frequently with regulated entities, other agencies, Capitol Hill, the media, and even academics, to produce the most informed responses we could achieve, and this will continue as we proceed from the liquidity strains of the recent few weeks to the coming months as the economic consequences of COVID-19 continue to unfold.

Of course we were not alone in this sort of mode of response. The Office of International Affairs held periodic check-ins bilaterally with key counterparts in the U.K., Europe, and Asia to maintain awareness of the ebb and flow of the virus itself and its market impacts. Responsiveness was consistent among our counterparts, from adapting to remote working, to relating institutional preparedness, to communications with market participants, to careful consideration of targeted responses.

Turning now to international coordination more directly, in many ways, the multilateral bodies at the forefront of the regulatory response to the 2008 financial crisis, and, in the case of the Financial Stability Board established in the wake of that crisis as a successor to the Financial Stability Forum, served an important function in the COVID-19 turmoil. It provided an established mechanism of international cooperation already in place for information exchange and for appropriate response. For instance, we at the CFTC were undertaking frequent coordination efforts, and I would note the Treasury Department was coordinating similarly among U.S. financial regulators. International bodies were holding frequent coordination calls drawing upon the deep and varied insights of their members.

The International Organization of Securities Commissions, or IOSCO, played an important role in information sharing among securities and derivatives markets authorities globally, recognizing that continued functioning of financial markets supports the real economy's efforts in adapting to the impacts of COVID-19 through the ability to hedge risk and access funding. I also noted that financial market regulators have focused on the operational and financial resilience of market infrastructures, the operational capability of market users, and the continued flow of information to markets, as well as appropriate regulatory flexibility.

During the COVID-19 turmoil and through to the present, the IOSCO Board and the IOSCO Regional Committees have been hosting regular calls to share information and coordinate responses as necessary. Banking and financial market regulators also continue to cooperate in the international arena to promote adequate liquidity and funding options. Financial market regulators have shared, and IOSCO has collected, observations about responsive steps, market dynamics, and developments generally, and, notably, the effects of authorities' responsive steps. IOSCO itself pivoted in its planned work for the year to adapt to the prominence and importance of monitoring and addressing the impacts of coronavirus.

The Financial Stability Board, in whose work the CFTC has participated, similarly played an invaluable role in promoting frequent information sharing among its members, allowing central banks, finance ministries, and market regulators to share insights. This proved especially significant as central banks around the world were undertaking various support measures, sometimes unconventional, in response to challenges in financial markets. The FSB's COVID-19 work included regularly sharing information on evolving financial stability considerations and appropriate responsive policy measures through calls among members and compilations of members' responses, reviewing potential financial risks and vulnerabilities, and, as appropriate, coordinating policy responses to promote global financial stability, keep markets open and functioning, and preserve the financial system's capacity to finance growth.

Moreover, there has been a strong bridge between IOSCO and the FSB, enabling robust collaboration between these two institutions. With the IOSCO's Financial Stability Engagement Group, the CFTC and other financial market regulators in the Americas, U.K., Europe, and Asia Pacific have integrated into work at the FSB and advanced IOSCO's work in furtherance of IOSCO's objective to address systemic risk, which coexists with the objectives of protecting investors and maintaining fair, efficient, and transparent markets.

Indeed, as the FSB observed in its note on the COVID-19 pandemic, and showed stability implications and policy measures taken, COVID-19-related developments have resulted in a surge in volumes cleared in central counterparties along with increased margin calls. One strength is that CCPs and their large clearing members have shown resilience during COVID-19 developments.

The third and last theme I wanted to touch on is some of the actual responses that regulators considered appropriate to help financial market participants weather the COVID-19 turmoil. The CFTC published a series of no-action letters of targeted temporary relief aimed at easing the impact that COVID-19 is having on derivatives markets' participants. Social distancing has created novel hurdles in complying with regulatory requirements that were written with traditional centralized offices in mind. Some no-action letters aim to facilitate physical separation in its personnel in response to the pandemic, targeting swap dealers and members of designated contract markets and swap execution facilities.

The no-action relief addresses the application of certain CFTC regulations where compliance is intended to be -- is anticipated to be particularly challenging, sometimes impossible, because of the displacement of registrants' personnel from their normal business sites. A later no-action letter covers the net capital treatment of loans obtained by futures commission merchants and introducing brokers through the Paycheck Protection Program administered by the Small Business Administration under the CARES Act. In total, there were roughly a dozen no-action letters aimed to assist market participants in dealing with the impacts of COVID-19.

Turning to the international front, as previous speakers have noted, in early April, IOSCO and the Basel Committee on Banking Supervision agreed to a one-year extension of the deadlines for the last two implementation phases of margin requirements for uncleared swaps. There was notable sentiment that, at a time when market participants were spread thin in their resources and using the resources they had to address the impact of coronavirus, these forthcoming deadlines were worthwhile candidates for extension. Agreement was achieved relatively rapidly, and it was equally understood that in order for this relief to be effective, it had to be adopted at an international level. Of course, margin requirements are a key reform, supporting the stability of derivatives markets and our financial system generally. In this case, with an extension that may affect a small percent of the total market, in a time when the market participants themselves are undergoing considerable amounts of strain, this change is worth considering.

Again, it is my pleasure to have this

opportunity to speak with you all, and I would be delighted to address a few questions, and look forward to the remaining meeting. Thank you.

MS. KARNA: Thank you, Mr. Paliwal. The floor is now open for questions and comments on Mr. Paliwal's presentation. As a reminder, if anyone has any questions or comments, please indicate that on the chat feature of Webex. Ms. Belich?

MS. BELICH: Yes, thank you, Angie, and I hope everyone can hear me. I was having some audio connection earlier. Thank you again for this presentation, and thank you as well to Chairman Tarbert, Commissioner Stump, and Angie for leading today's meeting, and putting forth two agenda items that are of critical importance for both regulated swap dealers and its clients.

I'd just like to briefly say in support of some of the items that were just mentioned that it's very important for coordination between U.S. regulators and global regulators to continue, especially during times of stress and uncertainty, as was previously mentioned. It's meetings like the GMAC that allow these critically-important conversations and dialogue to continue so that we can manage and assess new and existing risk associated with the global OTC derivatives markets, and to look for opportunities to appropriately ease the burden for its market participants. So further support and strongly stress, you know, the additional items and areas of relief that the Commissioners may be considering as we move forward through this pandemic. Thank you.

MS. KARNA: Thank you. Does anyone else have any questions or comments?

(No response.)

MS. KARNA: All right. Wonderful. Thank you very much, Mr. Paliwal, for your very comprehensive presentation.

MR. PALIWAL: Thank you.

MS. KARNA: Before our next presentation, I'd like to turn the agenda over to Andree for a roll call update.

MS. GOLDSMITH: Thanks, Angie. I just wanted to note there are a few GMAC members who are present on the phone, but for whatever reason were not able to respond during the roll call. Let me list them out really quickly: Edward Backer, Morgan Stanley; Ashley Belich, RBC Capital Markets; Sunil Cutinho, CME Clearing; Paul Hamill, Citadel Securities; Adam Kansler, IHS Markit; Jessica Sohl, HC Technologies; and Masi Yamada, JP Morgan Securities. Thanks, Angie. Go ahead.

MS. KARNA: Thank you, Andree. The next item on the agenda is a presentation from the GMAC Subcommittee on Margin Requirements for Non-Cleared Swaps. The Subcommittee will present its recommendations to improve scoping and implementation of initial margin requirements for non-cleared swaps. Many thanks to all of the Members of the Subcommittee, including the Subcommittee Chair, Wendy Yun, for the great work on the report and recommendations. We are looking forward to your presentation. Ms. Yun, please go ahead.

MS. YUN: Thank so much, Angie. Before we begin, please let me state that the views I express today are my own and not of my firm's. I am participating on behalf of the Margin Subcommittee as co-head of the SIFMA Asset Management Group's Derivatives Committee, whose member firms serve a wide array of buy-side end users, such as pension funds, institutional investors, corporates, endowments, U.S. mutual funds, UCITS, and private funds.

Now, on behalf of the Margin Subcommittee, we would like to thank Chairman Tarbert, Commissioners Stump, Behnam, Quintenz, and Berkovitz, and members of the Commission staff, and the GMAC Committee for having us here today. In particular, we'd like to extend a special thanks to Commissioner Stump for her continued focus on critical margin issues and their unique impact on the later-phase market participants, such as American retail investors and retirement savers, and for her leadership in creating this Margin Subcommittee to offer recommendations to address those challenges. Additionally, we'd like to acknowledge and thank Warren Gorlick and Carmen Moncada-Terry for all of their time and invaluable contributions throughout the process of preparing the Margin Subcommittee’s report.

First, I'd like to commend the actions that the Commission has taken thus far, such as the codification of a new Phase 5 and, thus, extending the existing $8 billion AANA threshold out to a new Phase 6, when a majority of smaller end users are expected to come into scope. We're also pleased to hear Chairman Tarbert's support of the CFTC's adoption of the one-year extensions recently recommended by BCBS-IOSCO in relation to the COVID pandemic.

However, as end users, asset managers, dealers, custodians, and vendors approach these later phases, we believe that there are still significant scoping and implementation challenges in bringing in such a large and diverse group of market participants into compliance with the CFTC's complex initial margin requirements for non-cleared swaps. Our report is intended to provide recommendations to address such issues in Phases 5, 6, and beyond. Today, we ask the GMAC Committee to endorse these recommendations for action to be taken by the Commission.

Our focus has been to make the CFTC margin rules more workable and efficient for entities subject to the remaining phases without compromising the overall goal of reducing systemic risk. According to

ISDA's initial margin phase-in analysis conducted in 2018, a significant portion of counterparties and relationships brought to scope in Phase 6 are not likely to be required to exchange regulatory initial margin, and those that do will make up a small percentage of the total industry system amounts. Therefore, we strongly believe that there is ample room to reduce the compliance burdens without affecting the regulatory objectives.

As you can see from the executive overview in our report, starting on page 5 for those of you following in the document, we bifurcated our recommendations into immediate-term and later-term asks. Immediate-term recommendations are those encouraged to be actioned by the Commission prior to or as of the Phase 5 compliance date, whereas later-term recommendations are ones urged to be adopted prior to or as of the Phase 6 compliance date.

I'll now turn to the immediate-term recommendations, the first of which is interpretive guidance regarding the application of the margin rules to separately-managed account clients, or SMA clients.

Generally speaking, an SMA client, such as the U.S. pension fund, will invest in different investment strategies through multiple managers in order to diversify its investment perspectives, expertise, and asset allocations, and to mitigate concentration risks. Each manager typically has full investment discretion over its separate mandates for that client, and has no transparency or control over the strategies or trading activities carried out by the client's other managers.

The interpretive guidance is meant to confirm that covered swap entities, or CSEs, may document and split the $50 million regulatory IM threshold across different mandates for a single SMA client, so long as the covered swap entity and client allocate no more than $50 million in the aggregate. To the extent that the covered swap entity were to inadvertently exceed $50 million in uncollaterized IM exposure with that client, the covered swap entity could continue to trade with respect to that client mandate, if, one, it is being traded under regulatory compliant IM documentation, or, two, the covered swap entity and manager for the client mandate have agreed to a regulatory IM sub-threshold, and that manager is trading at or below the agreed sub-threshold.

This is provided that the covered swap entity and managers of any other mandates for that same client are no longer continuing to trade, absent any other relief, and are working to reduce the aggregate uncollateralized IM exposures of that client back to or below $50 million.

When an SMA client comes into scope under the margin rules, it is unlikely that all of the client's mandates will be papered under regulatory IM-compliant documentation at the outset, and given the difficulties for covered swap entities in monitoring IM amounts on an intraday basis across multiple mandates and multiple trading desks at the covered swap entity and its affiliates, it is possible that the $50 million regulatory IM threshold could be inadvertently breached.

Absent regulatory guidance on how covered swap entities should apply the IM threshold requirements to an SMA client's separate investment mandates, the covered swap entity may feel compelled to cease its trading activity with all of the client's managers, even those acting under regulatory IM-compliant documents, or within agreed allocations of the IM threshold. The holding of trading, in turn, could impair the investment activities and harm the underlying client. In order to help illustrate this issue, we've included as Appendix C the application of this interpretive guidance in various scenarios.

Our next request is related to eligible collateral. Our recommendation is to eliminate undue restrictions on the collateral -- the collateral eligibility of money market funds, in particular, the restrictions on money market funds to engage in repos, reverse repos, securities lending, and securities-barring transactions. Under the margin rules, the Commission highlighted that these restrictions were to "ensure consistency with a prohibition under the final rule against custodian r   initial margin collateral." However, under money market funds sweep arrangements, under no circumstances does a pledger's custodian have any right to r   , reuse, or take any other independent actions with respect to the pledged money market fund shares. Any transfer of the money market fund shares into or out of the segregated IM account are instructed by the pledger and agreed to by the secured party. This is to ensure that the secured party always has a perfected first-priority security interest in the pledged money market fund shares.

Additionally, the trading activity of a money market fund is independently executed through its own fiduciary manager. Neither party to a swap nor their custodians have any say in the money market funds' underlying trading activities. Money market funds invest predominantly in treasuries and other high-quality, short-term government securities. Most of them made available to the institutional market today use securities lending or repo arrangements to earn cash -- earn returns on cash and other high-quality assets to avoid cash drag in performance, to diversify its investments, and mitigate its own exposure to its own custodians' insolvencies or any consolidation issues it may have with this cash held at its custodian.

Market participants currently estimate that there are less than a handful of money market funds worldwide that would meet the collateral eligibility requirements under the margin rules, and globally, we are not aware of any single money market fund that was satisfy the CFTC's, the prudential regulators', and the EU margin rules. This severely limits the available use of money market funds as eligible collateral and introduces concentration risks, which, in turn, present a different set of systemic risk concerns.

Our third ask focuses on the consolidation requirements under the margin rules. The Margin Subcommittee recommends that seeded funds be exempt from having to consolidate their AANA or material swap exposure amounts with their sponsors during a limited seeding period, provided that such sponsors do not guarantee the seeded funds' obligations. To clarify, a seeded fund are -- is a -- is an investment fund, in particular, U.S. mutual funds or insurance entities, that are typically seeded for a limited period with capital by a passive sponsor in order to establish a sufficient performance track record, to draw in distributors and third-party investors. Such sponsors do not have any control over the trading or management of the seeded funds, and typically provide no credit support or guarantees of the seeded fund's performance or obligations.

Seeded funds typically would not exceed the AANA or material swap exposure thresholds absent the consolidation requirements with sponsors or other margin affiliates. As a result, the U.S. margin rules put U.S. seeded funds at a disadvantage when compared to non-U.S. seeded funds, such as UCITS funds that are not subject to the same consolidation requirements under other margin regimes. It also potentially puts U.S.-covered swap entities at a disadvantage as non-U.S. seeded funds may intentionally decide not to trade with them to avoid the U.S. consolidation requirements. This relief would be -- would be consistent with the treatment of seeded funds by the Federal Reserve and the Commission under the Volcker Rule.

Our next recommendation is related to small covered swap entities. We ask that the Commission grant no action relief to small covered swap entities to allow them to rely on their covered swap entity counterparties for purposes of calculating regulatory initial margin. Many of the Phases 5 and 6 small covered swap entities coming into compliance with the IM requirements have elected or intend to use the grid method for calculating regulatory IM, whereas a majority of the larger covered swap entities are using is the ISDA SIMM model. Absent the recommended no-action relief, this conflict could create potential barriers to Phases 5 and 6 small covered swap entities from being able to engage in in-scope swap transactions.

Our final immediate-term recommendation is for at least Phases 5 and 6 to grant a one-time, up to six-month's grace period for compliance with the margin rules, starting from the date that the regulatory IM for a relationship has exceeded the $50-million IM threshold. While we acknowledge and appreciate the actions already taken by the Commission and urge their adoption of the one-year extensions of the Phases 5 and 6 compliance phase recently recommended by the BCBS-IOSCO revised margin framework in relation to the

COVID-related pandemic, there are still significant challenges for market participants to complete the necessary documentation and operational setups on a timely basis without -- notwithstanding their best efforts to do so.

For example, it's estimated that for the account opening process, document negotiations, and operational setup, it could take up to 12 to 18 months to complete given the large swell of new market participants and trading relationships coming into scope in Phases 5, 6, and beyond, and the extensive due diligence, and background credit checks, and operational checks that custodians will need to complete on clients with whom they do not have prior relationships. Additionally, with a compressed time frame between the AANA measurement period and the associated compliance dates, some financial end users may not know with any certainty if they're in scope or not until the end of the AANA calculation period, which is potentially just three months before the compliance date. This is especially true for SMA clients who need to source the notional exposure data from all of their asset managers, and then calculate the aggregate AANA or material swap exposures, not only under the U.S. margin rules, but potentially across all other relevant jurisdictions, using different methodologies and calculation periods.

This is especially challenging as some custodians have set deadlines well before the end of the AANA or material swap exposure measurement period for the necessary documentation and operational setups to be complete. And just to be clear, the parties would be expected to begin exchanging initial margin as soon as they're ready to do so during the six-month grace period rather than delaying the exchange of IM until the end of that period. This was intended to strike the right balance between, on the one hand, providing a failsafe for market participants facing hurdles despite their best efforts to comply, and, on the other hand, ensuring the exchange of IM is not unduly deferred.

Having gone through our immediate-term recommendations, I'll now give a brief overview of our later-term recommendations, the first of which is to permit each SMA client to be treated as a -- permit each SMA client mandate to be treated as a distinct entity to which a separate regulatory IM threshold would apply. Or, alternatively, subject to meeting certain conditions, allowing covered swap entities and managers of SMA clients the option, but not the -- the option, but not the obligation, to apply a flat IM threshold of $10 million per mandate.

Just as covered swap entities and managers confronted challenges in 2017 in having to share the total $500,000 minimum transfer amount for a common SMA client, which, by the way, led to the CFTC No-Action Letter 17-12, the same issues exist with having to share and monitor against the aggregate $50 million IM threshold across the managers for a common client due to the same lack of transparency or control among those managers. Absent the recommended relief, each manager will be forced to make cost-benefit decisions as to whether to put in place regulatory IM documentation and custodial arrangements solely based on their silo transactions.

Moreover, to the extent that covered swap entities do not sub-allocate the IM threshold across the various managers for a common SMA client, some managers may be exposed to cliff edge scenarios where they have to immediately stop creating or terminate or novate existing transactions if the client's aggregate regulatory IM inadvertently exceeds $50 million. Such accidental breaches could result from operational constraints for covered swap entities in aggregating and monitoring the regulatory IM on a real-time basis across their consolidated affiliates, or based on receiving end-of-day allocations of bunched orders or block trades for managers.

Our next request is in respect of the material swap exposure calculations and the post-phase-in compliance dates and periods. Here, we recommend that the Commission align the timing and methodology for the material swap exposure calculations and the post-phase-in compliance periods with the BCBS-IOSCO framework and other global regulations. Under the BCBS-IOSCO framework and the rules of all other non-U.S. jurisdictions, the AANA amount is to be calculated during the months of March, April, May, and based on month-end averages, unlike the U.S., which is based on daily averages.

Additionally, under the BCBS-IOSCO framework, the post-phase-in compliance periods remain from September 1st through August 31st of the following calendar year, whereas the U.S., EU, and Switzerland moved to a January 1st to December 1st compliance period. These differences in the U.S. margin regulations create complexity and confusion, and could lead to additional costs and compliance challenges for market participants who will likely be subject to margin requirements in multiple global jurisdictions, based on their own domicile and -- or principal place of business, as well as those of their counterparties.

Next, in relation to the minimum transfer amount, the Margin Subcommittee asks the Commission to codify prior CFTC Staff Letters 17-12 and 19-25, which allowed covered swap entities and managers for SMA clients the option of applying the flat IM and VM MTA of $50,000 per each mandate, and the ability to split the maximum allowable MTA between initial margin and variation margin. As no-action relief can be revoked or expire, codifying these changes would provide certainty to market participants as they negotiate collateral documentation and invest in operational builds. While 17-12 is not time bound, the relief granted under the 19-25 expires on December 31st, 2021.

And finally, in relation to FX, we urge the Commission to continue to reassess the market impact, especially on small financial end users, of requiring -- of requiring deliverable FX forwards and swaps be included in the material swap exposure calculations, and consider an amendment to the margin rules to exclude deliverable FX from such calculations. Although deliverable FX is not subject to the regulatory IM requirements, its inclusion in the material swap exposures calculations will cause a significant number of small financial end users to be scoped into the remaining phases.

According to the CFTC's Office of the Chief Economist, 200 of the 700, or approximately 30 percent, of the financial end users in what are now known as Phases 5 and 6, will have material swap exposures due to deliverable FX. While many of these end users do not pose material systemic risks, and are unlikely to exceed the $50 million regulatory IM thresholds, they still will be subject to the operational compliance burdens of monitoring regulatory IM levels on an ongoing basis. Additionally, while some end users may trade a limited amount of in-scope products in addition to FX, they will likely be de-prioritized by their covered swap entity counterparties in setting up the necessary documentation and custodial arrangements, which, in turn, could negatively impact their performance.

Now, this concludes our list of recommendations outlined in the report. With that, please note that on April 23rd, 2020, the Subcommittee on Margin Requirements for Non-Cleared Swaps voted to adopt the Recommendations to Improve Scoping and Implementation of Initial Margin Requirements for Non-Cleared Swaps, and referred the recommendations to the GMAC Committee for consideration. I thank you again today for your time. I'll stop here for -- to open it up for any questions from the Commission or members from the GMAC Committee.

MS. KARNA: Thank you, Ms. Yun, for the comprehensive presentation and your leadership. And thank you again to all Subcommittee Members for your time, effort, and thoughtful insights that went into your report. Before I open the discussion up, I'd like to turn the agenda over to Warren Gorlick for a Subcommittee roll call update.

MR. GORLICK: Thank you. I just want to note that the following additional people who are Subcommittee members have indicated the presence on the call, who were not present when we did the earlier roll call. And that is Mr. Rosario Chiarenza, Morgan Stanley; Ms. Betsy Cochrane, Barings; Mr. Dominick Falco, BNY Mellon; Ms. Alessandra Riccardi, NFA; Mr. Andrew Smith, Virtu Financial; Mr. Nick Steele, Barclays; Ms. Christine Stevenson, BP Energy; and Mr. Chris Walsh, AcadiaSoft. And with that, I will turn it over to Andree Goldsmith, who has an additional update.

MS. GOLDSMITH: Thanks, Warren. Just two additional GMAC members that I want to note their presence on the call: Gerry Corcoran, R.J. O'Brian and Associates, and Joe Nicosia, Louis Dreyfus Company.

And now, I'll turn it back to Angie. Thank you.

MS. KARNA: Thank you, Andree. At this time, I'd like to open the floor for discussion of some key questions that arise from the Subcommittee's recommendations and the comments already provided today. To start off with, to the extent that the Commission implements the BCBS-IOSCO recommended extension of Phases 5 and 6 to 2021 and 2022, respectively, is there still a need for a grace or forbearance period as referenced in the Subcommittee report, and if so, why?

MS. YUN: Thank you for that question, Ms. Karna. I'll turn it over to my colleague, Betsy Cochrane, from Barings, to see if she would like to provide any initial thoughts. Oh, apologies. I misspoke. I meant Darcy Bradbury from D.E. Shaw.

MS. BRADBURY: Hi, it's Darcy. Can you hear me?

MS. KARNA: Yes, we can Darcy. Thank you.

MS. BRADBURY: Great. It's kind of complicated, the whole chat function, so. Yeah, it was interesting. The Committee spent a lot of time thinking about this, and, over the deliberations, actually narrowed our recommendation. And we really focused on this sort of big crowd, small pipe problem. As Wendy noted in her summary, there's a pretty long lead time in this period when there's so many hundreds, you know, potentially thousands of entities who are going to try to get up and running. And so the custodians, and I don't mean to blame them -- I think they're kind of the people who see the whole process -- have suggested a time period of potentially eight months or more to if -- before the deadline if you want to get in.

And the thing is there's a -- that can change, and because of changing facts, someone might not be in the queue in time to actually make the deadline. So Wendy mentioned the AANA measurement period, particularly I would say for kind of less-engaged entities who may be somewhat surprised or have a complicated process to figure out if they're actually in scope. But you could also have the situation where you get a new mandate should you not be able to do business with a new client for six, or 12, or 18 months waiting to try to get in. You could have -- you want to launch a new fund. If you wanted to launch a new fund starting in June before the September deadline, you would literally not be able to do that and might end up having to wait a full nine or 12 months.

You might have brokers that you currently just do a modest amount of business with that you want to do more business with. Maybe one of your other brokers has a financial instability. You know, we won't wish that on anyone, but, you know, things are changing rapidly. You could have facts that actually change that mean that you weren't in the queue soon enough. And so we think for those situations, as long as the parties are working diligently to get into -- they're in the queue. They're starting the process. They're working hard. But to make them halt all business for potentially a sustained period of time because they weren't in the queue, they didn't anticipate this problem eight to 12 months before the deadline, seems unreasonable, particularly, you know, given the overall kind of risk that any one of these entities posed.

So we do think that the idea that entities have to be working diligently to come into compliance, and as soon as they do, they have to start posting margin, so it's not like they get an automatic six-month extension. So that was really our thinking about this. We are hopeful that after Phase 6 and the sort of, you know, cleanup period after that, that this won't continue to be something that the market needs.

MS. YUN: Thank you, Darcy. I'll also see if -- is Dominick on from BONY? I think he was hoping to add some thoughts from a custodian's perspective as well.

MR. FALCO: Yes, Wendy, I'm on the line. Can you hear me?

MS. YUN: Yes, thanks.

MR. FALCO: Oh, okay. Great. Great. So, yes, I think Darcy's points are all, you know, very important for us to consider. I think from the custodian's perspective, looking back at previous phases, a couple of things, or a couple of facts, came out of the earlier phases where, in fact, we were dealing with fewer counterparties that needed to comply with the regulations. In particular, the KYC process can be long and drawn out, especially with entities that may be in higher-risk jurisdictions as determined by their respective custodians.

Remember in this case that the collateral provider is the one that chooses the custodian. The collateral receiver needs to sign up with a custodian of the collateral provider's choosing, which means in the case of the custodian, it is highly likely, and certainly we've seen this in previous phases, that entities that are brand new to the custodian will come in as a collateral receiver or secured party. That requires the custodian to perform KYC due diligence for that entity, and that can take a fair amount of time.

In addition, because it is, in fact, the collateral provider that chooses the custodian to post, the collateral receiver will need to sign documentation with a variety of custodians outside of their own main operating custodian or custodians. So that means that the collateral receiver in these -- in these pairings, as we call them, may very well need to do KYC on a new custodian that's holding assets on their behalf that have been pledged to them by their -- by their collateral provider or counterparty in the transaction. So there's a fair amount of work on the KYC side from both -- from both parties being the new participant under the regulations in Phase 5 and Phase 6, as well as the custodian.

Also, you know, I think we've added some flows in terms of the required custodial documentation in addition to any account control agreements that are out there where, just as you -- as you deal, say, predominantly with maybe a U.S.-based custodian, once you start to deal with collateral providers, your counterparties that may be using either Brussels-based or Luxembourg-based custodians to provide collateral, there's extra documentation that needs to go into the pack of documents that need to be agreed prior to the exchange of collateral. So it's the combination of the KYC process that could be required on both sides, plus the potentially exhaustive number of documents that need to be exchanged from both the provider side and the receiver side in each pairing because, remember, we do -- we do it on both sides. Those particular items really drag out the process for some entities to get up and running in order to exchange collateral.

You know, with that, if there's any other questions on it, I'd be happy to explain more.

MS. YUN: Thanks, Dominick. It's Wendy Yun again. I would say also for our own proprietary funds, it's easier to know in advance whether or not you think a fund might be close to or exceeding both the AANA thresholds as well as the reg IM thresholds. However, with respect to SMA clients, you really don't have that level of transparency because you don't have any knowledge of the trading activity outside of your own mandates. And so when you do get that information from clients, you're kind of in a scramble to now quickly get the documentation in place. You have to have certain -- additional conversations with the clients about whether or not they want to use their own custodian or using a tri-party collateral agent. And we don't typically, as asset managers, have the authority to negotiate these types of arrangements for clients, so there might be also additional documentation and discussions about amending your authority under your investment management agreements or coming up with all the other necessary setups in order to do -- to engage in the tri-party arrangements on their behalf. And, again, oftentimes you may not be told until very close to the end of the AANA calculation period if they plan to be in or not.

MS. KARNA: Thank you, Wendy and fellow Subcommittee members. Any other thoughts on this before we switch topics?

MR. YAMADA: Hi. This is Masi Yamada from JP Morgan. I just wanted to make a quick comment, but before I do that, I did want to reiterate thanks to Wendy and the other Margin Subcommittee members for all of their -- clearly a lot of work went into the preparation for this meeting. Very frankly, it's extremely reassuring to see that in these unprecedented times, we are stable to -- we're still able to advance the regulatory agenda in a very being-like fashion. So thank you, again, for all the hard work putting into -- that you put into this.

Just one counterpoint to the six-month extension point. My only concern with it is, it's clear that there's a lot of complexity, and we may need more time. It's just that if the CFTC is the only one that grants this extension, and other regulators, both nationally and internationally, do not, we end up having to comply anyway. And actually, in our experience, when these sort of situations occur, when we have split deadlines for the same item, it actually adds operational complexity in the rollout and, frankly, mistakes do happen and things get misclassified. So in many ways, we would definitely support the six-month delay so long as it was coordinated with other agencies and we have that global and, frankly, cross-regulated consistency.

MS. KARNA: Thanks, Mr. Yamada. For the Subcommittee, there's a great deal of focus in your report and in your comments on separately-managed accounts. Can you just step back a minute and highlight what makes separately-managed accounts different from other potential participants in the next two phases, like a large producer or a corporate end user.

MS. YUN: Thanks, Ms. Karna. I'll turn that over to Betsy Cochrane from Barings.

MS. COCHRANE: Hi, this is Betsy. Can you hear me?

MS. KARNA: We can.

MS. COCHRANE: Okay. Good. Thank you, and thank you for that question. So separately-managed accounts are typically utilized by large pension funds and other types of institutional investors investing on behalf of retail clients in order to provide diversity within portfolios for retail investors and for 401(k)s and retirement schemes. But what makes SMAs unique is that it's a type of vehicle set up by investment managers to permit these types of large pension funds to get exposure to particular strategies at reduced fees oftentimes, and also without having to expose their investments to the liquidity risks of other investors so that they can maintain the diversity within their portfolios in a more controlled way.

And these are -- these are valuable instruments for these types of larger pension funds and also other types of retirement accounts where the investment managers are really looking to get diversity across a number of different managers at -- in a way that is economically beneficial to the underlying investors.

MS. YUN: Hi, it's Wendy Yun, too. I would just -- I would agree with everything that Betsy has highlighted. Also, I think as we are approaching Phases 5 and 6, there are more separate accounts that are going to be brought into scope as a result of the drop of the AANA thresholds down to $50 billion and $8 billion. I believe even in the CFTC margin studies, you know, there's discussions about how there are over 7,000 IM relationships that will be brought into scope, you know, 200 in Phase 5 -- 200 new entities in Phase 5 and 500 entities that would be captured in Phase 6.

I think the concern or the difference between corporate end users or large producers is that, in many cases, those type of entities either trade for themselves or may operate through a single or a limited use of asset managers, whereas SMAs, or institutional investors, pension funds, and others for diversification, you know, reasons and otherwise may, you know, hire multiple asset managers. And so having to comply with some of the requirements under the margin rules, such as having a consolidated, you know, IM threshold, a consolidated AANA threshold calculation, those require a lot of coordination and a lot of aggregation by those clients of the different trading activities of their different managers. They themselves don't have that information at hand, and they don't -- they're not usually involved in the actual trading itself.

So, you know, for them, they have to collect the information, aggregate it, and then distribute it back out to their swap counterparties as well as their asset managers. And it's those types of requirements where you're measuring on an aggregate basis under the Margin Rules that make it that much more difficult for the, you know, the separately-managed account clients to comply with.

MS. KARNA: Great.

MS. VEDBRAT: Angie, I have a question regarding the separately-managed accounts.

MS. KARNA: Yes, please, go ahead, Ms. VedBrat.

MS. VEDBRAT: I actually have, you know, a few sub-questions. You know, the two options that, you know, that were suggested, you know, one was to -- one was to consider each SMA client as a distinct, you know, regulatory client, and the other -- the second option was to have a flat $10-million threshold, you know, which was not an obligation. It's an option, but it's not an obligation.

In that second scenario, by giving $10 million flat, you know, how do we differentiate, you know, the creditworthiness or the amount of trading that might be done, you know, with one, you know, asset manager, you know, relative to another, because in many cases, you know, you may be using, you know, swaps as a hedging instrument and rely on the expertise, you know, of one or two asset managers, and not all, you know -- not all the asset managers that you may have an SMA account for.

Then the other thing is, I think, you know, from a, you know, asset management perspective and, you know, trading in general, it is important that you have certainty, you know, of what is to be expected, and, you know, there is continuity of your ability to hedge. So, you know, a concern that I would have in that, you know -- in the second option is that, you know, as Wendy mentioned, that there could be scenarios where there's a cliff, you know, a cliff edge, issue where you for a period of time may not be able to trade because another SMA, you know, entity might have, you know, exceeded the threshold limit, which would stop all entities or all asset managers to trade. So how would we manage that?

And also who -- you know, in these scenarios, who would be the accountable party to make sure that, you know, there is aggregation of the $50 million happening on a timely basis? And, more importantly, also to be making sure that, you know, the various asset managers are aware of that in order to avoid, you know, a certain threshold, you know, a sudden $50-million threshold without having documentation in place? I know I have a few questions in there.

MS. YUN: No. Thank you for that. Maybe if we can try to attempt -- I'll try to attempt to unpack and answer some of those questions and defer to some of my colleagues to also chime in. In terms of the request for the -- either treating each mandate as having its own regulatory IM threshold or the application of a flat $10 million IM threshold per each mandate relationship with a dealer, that came out of the concerns that you highlighted there in terms of the fact that it is very difficult and challenging for the covered swap entity and the managers to be able to monitor the aggregate $50 million, and to do so on a dynamic basis.

Many covered swap entities don't have a single trading entity that trade derivatives or in-scope products, but instead may have many different desks across different divisions that are trading with managers for that same common client. And to be able to aggregate those numbers on a real-time basis throughout the day to make sure that they don't have any kind of inadvertent breach is very difficult. It also could come, as I mentioned earlier, where, you know, in many of the asset managers' trading activities, we trade in large block trades throughout the day, and then only allocate to the individual accounts at end of day. So dealers may be getting that information on an end-of-day basis and then realizing that some of these trades are being allocated to accounts that are already kind of in the danger zone.

So the idea of the flat -- the flat IM threshold of $10 million was really to try to address that to say, similar to the MTA, if you -- that dealers would have the ability, but not the obligation, to agree with managers for a separately-managed account client, to using a flat IM threshold for each one of the -- those relationships. And, therefore, each manager would have the transparency and control of their $10-million sleeve and know when they're getting closer to the danger zone so they could also be monitoring when the -- when the client is getting close to that number or that threshold, as opposed to just --

MS. VEDBRAT: Sorry. In that particular case, wouldn't it be better to, you know, to not give the option? I think that, you know, the dealers should be required to give that information to the manager because I think that's where you -- that's where there's an introduction of, you know, not knowing, or the certainty starts to become a little gray on the asset management side.

MS. YUN: Yep. I think in a perfect world it would be great to have a flat IM threshold or giving some level of certainty for each manager for that particular client as to what its reg IM threshold would be. I guess the concern about making it mandatory for dealers to have to actually provide the flat $10 million IM threshold for each account is that it doesn't offer the flexibility, and, in some circumstances, it may warrant not using that flat IM threshold.

So, for example, you could have a situation where a client doesn't trade a lot of derivatives or in-scope products except for through one single manager out of the bunch. Excuse me. So it could be more efficient for that manager -- for that dealer to agree to allocating a larger sub-allocation of the $50 million to a single manager and not allocating to others, or allocating less to the other managers, therefore keeping everyone below $50 million. So there could be other scenarios where it could warrant something different from having the flat IM of $10 million. Otherwise, you could have --

MS. VEDBRAT: Okay. So you're saying that there -- I might have misunderstood then because, you know, what you're saying is that, you know, you will have certainty of what you're allocated. It just may not be $10 million. It could be $5 million, it could be $15 million, depending on the interpretation of how much business, you know, that asset manager would be doing on behalf of that that -- you know, that end user.

MS. YUN: Under the flat IM threshold of $10 million, you definitely have that certainty. If the dealers and managers do not agree to using the flat IM option, then you would only have certainty if that particular dealer does agree contractually with the -- either all or a subset of the managers as to what their allocation of the IM amount could be. In some cases they could decide to take different approaches with different managers for that same client. It could be for -- you know, five different managers for the same client, they could choose to allocate and document with one and only allocate a sub-IM threshold to another, and for the rest of the managers, not provide any allocation or any transparency as to how much they would -- they can trade up to, and that they would just monitor accordingly to ensure that the account in the aggregate doesn't exceed $50 million.

I'll ask, Sachiyo from BlackRock, would you like to add anything on that?

MS. SAKEMI: Yeah, thank you. It's Sachiyo. So I would say that the flat IA proposal, because of the flexibility, one of the challenges from the asset management side is that we do not know if we'll have the $10 million, but it does allow the dealer to right size the allocation, depending on the strategy of the manager, so there are pros and cons to the flexibility of it. One thing that should be highlighted is that if we were to get the flat IA proposal sanctioned by the Commission, in order for each manager to maintain its separateness in the event that a particular manager happens to breach its threshold, we would still need interpretation or sanctioning from the Commission that the Commission views each separately-managed account relationship as separate, so that in a -- in the event that a particular manager breaches its sub-threshold, it does not impact the activity of the other managers, so as to avoid any cliff-edge events that Wendy mentioned, and that there is continuity in trading for the client.

MS. YUN: Thank you, Sachiyo.

MS. KARNA: Thank you, Wendy, and Supurna, and others for your feedback. Just thinking about this IM -- flat IM threshold a little bit more, I'm curious about whether there was discussion about for SMA clients, whether a flat IM threshold of $10 million per separately-managed account could result in an aggregate uncollateralized regulatory IM going beyond $50 million. In other words, you know, what would mitigate against clients or managers intentionally setting up additional SMAs for the same legal entity to avoid being subject to a $50-million dollar cap?

MS. YUN: Thank you, Ms. Karna. I'll turn that over to Betsy.

MS. COCHRANE: Yeah, sure. That is -- you know, obviously that is a risk. I don't think that any manager would deliberately do that to evade these regulations, and if they were to do that, the anti-evasionary powers that the Commission has and that various regulators have could be brought in to bear. What I -- what I think is important, particularly with the flat IMA, is that it gives, you know, these types of investors, institutional investors, pensions, and that nature, the ability to achieve diversification throughout their portfolio without having to worry about narrowing their options in order to maintain -- of saying that we adopted the $10 million to five investment managers where their clients might be better served by having, you know, six or seven, although I think most SMAs -- most SMA clients typically have somewhere in that ballpark, but, they could potentially have more, and they could potentially have less, so it is a risk.

But the uncollateralized risk is also ring-fenced, although I know that that doesn't give tremendous comfort across that particular entity. But it is -- it is a situation where the risk associated with that account and those trading strategies is ring-fenced for purposes of recourse. But then we do have exposure to other managers in their trading strategies because if they were to breach -- if we weren't to have this flat IM and they were to breach their particular allocation, as both Sachiyo and Wendy rightly pointed out, it would result in a particular manager not being able to engage in appropriate hedging activities based on the actions of others. As a fiduciary, that's a -- that's a very untenable position to be in.

MS. YUN: And it's Wendy Yun. I would agree with everything Betsy highlighted. I also would add that there are some other natural guardrails that exist, so while theoretically you could have a situation where the aggregate does exceed $50 million, if you had separate managers and you allocate a flat IM of $10 million per each, I think one is the costs and burdens of ongoing, keeping a separately-managed account going, is -- would far outweigh this benefit. You not only have to, you know, engage in a new separate investment management agreement negotiation with the manager and pay management fees for that particular account and the trading of that account, as well as the documentation of trading agreements and all of the other activities, and the client would have to allocate separate assets under management, or AUM, to that particular account on a go-forward basis in order to continue trading in an -- in that separately-managed account, you also potentially have requirements for the account to have to register, you know, based on its commodity activities, as a CPO or CTA, as well as, you know, potentially having audited financials and other maintenance to keep it going as a separately-managed account.

You also have, I believe, the credit analysis and the determinations by the dealer counterparties. You know, before even the margin rules have come out, they have also been focused on, you know, making sure to minimize systemic risk, especially, you know, following the 2008 crisis. So they will already require voluntary initial margin from some clients based upon the types of trades they're doing, based on the volatility of the leverage or the composition of that particular strategy. So all of that said, again, it's not obligated for the -- for the dealers to agree to the flat IM, and we believe that there are already natural guardrails that would prevent the client in the -- in the aggregate exceeding $50 million.

MS. KARNA: Great. Go ahead, Betsy.

MS. COCHRANE: I just wanted to add one thing to what Wendy pointed out, too, in terms of the other guardrails that are available, is that these clients will obviously be posting variation margin on a daily basis. So their mark to market exposure will be covered, so there is, you know, substantial risk mitigation in that type of margin being provided.

MS. KARNA: Thank you. And just to go back to a point that Ms. VedBrat raised, who -- under this proposal, who actually is responsible for compliance? Is it the covered swap entity? Is it the client? Is it the asset manager? Who's doing the monitoring?

MS. COCHRANE: Oh, go ahead, Wendy. I'm sorry.

MS. YUN: No, no, no, please go ahead.

MS. COCHRANE: I think it would either have to be the covered swap entity or the client, but I think in this circumstance, it's more appropriate to have it be the covered swap entity since they're the entity over which the Commission has various jurisdictions, and particularly because they're the only ones who have the levels -- well, they and the clients have the level of transparency. But I think that CSEs have the level of transparency in a real-time basis that would permit them to monitor this.

MS. YUN: And this is Wendy. I would agree with Betsy. I think that, one, under the regulation itself, the covered swap entity has a regulatory obligation to do the monitoring. If the managers had the flat IM threshold of $10 million or were allocated contractually some portion of the $50 million, then they would have the transparency and ability to control their own trading activity up to that threshold amount. So they could help with the covered swap entity in monitoring that they, in relation to their mandates, don't exceed that threshold.

It's a lot more difficult for the clients themselves because, again, based on daily trading activities and changes in market to market and market volatility, to have them, you know, consume the data from all of the different managers on a daily basis, and then also be able to monitor and provide information back to the -- to the managers is very untenable, especially on a real-time basis, or a dynamic basis. So, again, I think it's more likely to fall on the shoulders of the covered swap entity, and to the extent that the managers have transparency on them as well.

MS. KARNA: Thank you. Mr. Yamada, since this proposal will potentially fall on your shoulders as a covered swap entity, perhaps you could provide some feedback.

MR. YAMADA: I'm happy to. Yes, the complexities of the problem have been very explicitly and well documented in this report. In particular, the Appendix C illustration very graphically and clearly illustrates the sorts of issues that arise from these information barriers. And, frankly, it's our view that this is a very elegant solution to resolve that in a way that balances both the overall goals of limiting the buildup of unmargined risk, which is the regulatory goal, but also, you know, doing something that, frankly, acknowledges the practical realities of the structure of the market here.

So both the intermediate solution proposed in Section 1, which would kind of require a subdivision, and then kind of, I guess, in some way compartmentalize it, this actually is a better solution long term if it's -- if it's able to be done broadly and embraced broadly. It really -- it makes it much, much more easy to implement on that client-by-client basis. The flip side is if there's concerns about abuse and build up, and, you know, people setting up 10 accounts to try and do evasion, I think -- personally I think, given the friction associated with setup of some of the accounts, those cases will be few and far between. And, frankly, if you -- you know, the CFTC would clearly be monitoring this behavior, and if we see evasion or abuse, it can always be revisited and tweaked. But this really does feel like a very strong -- good compromise that, I think, the dealer community could easily embrace.

MS. YUN: Thank you for that feedback. I would also add that I think dealers would not be -- you know, would not have the appetite of setting up and facing 10 separate, you know, mandates for the same manager if there was not a separate trading strategy or reasons for it. And also for the client, it actually doesn't benefit them, too, because each mandate would be margined separately, and so you will lose the portfolio margin benefits of having to post margin on a -- on a gross basis in relation to each account separate from one another.

MR. YAMADA: Yeah, it's our view -- that's right. Those frictions are very significant, and the practical reality is we don't think this is a real issue. It's kind of an imaginary issue. If we do see it, obviously we can always clamp down on it, but it feels like a very reasonable compromise.

MS. VEDBRAT: Would this solution provide the certainty to the manager based on whatever their allocated amount is, whether it's a flat $10 million or otherwise?

MS. COCHRANE: Yes, it would.

MS. KARNA: Great. Thank you all for your very helpful insights on what is a complex problem. I want to shift us to another one of the report's recommendation relating to small covered swap entities. In particular, how are smaller covered swap entities disadvantaged by the requirement to use a quantitative initial margin model like the ISDA SIMM if they don't elect the grid regulatory schedule? And under the Subcommittee's proposal, which relates to relying on the calculation of their counterparty, would smaller swap dealers have any ability to reconcile or dispute margin calls if they were relying on their counterparties’ SIMM calculations?

MS. YUN: Thank you for that question. I'll turn it over to Christine Stevenson from BP.

MS. STEVENSON: Thanks. Thank you very much. Can you hear me?

MS. KARNA: We can.

MS. STEVENSON: Okay, great. The smaller swap dealers may be disadvantaged overall by being restricted from participating in certain swap transactions. Commercially, being unable to agree on the model to be used in an IM CSA may impact the number of counterparty pairings among swap dealers, which not only potentially impacts liquidity in the swaps market, you know, depending on the size of those various markets by consolidating trades to perhaps some of the only larger swap dealers, it also limits the opportunity of the smaller swap dealers to compete in that space. And I think even if agreed between those who choose SIMM, may not choose to transact with the grid swap dealers in those cases because oftentimes the grid method drives a higher calculation then the SIMM model would, thereby causing some of those SIMM swap counterparties to elect to pair with a different -- with a non-grid participant.

For some Phase 5 and 6 participants, the choice to use grid is a reflection of the diverse nature of their dealing activity and, of course, cost-benefit analysis of implementation. This takes into account their swap portfolio and the nature of their swap counterparties. The upfront requirements of model construction and approval, which it's probably appropriate to note at this point, other jurisdictions, including the EU, do not require the approval for these types of models. But we do, and there -- the upfront requirements to do that are very resource intensive and, of course, must be weighed against the utility for those swap dealers with portfolios consisting potentially primarily of end users. You have examples in some spaces where perhaps 90 percent of the swap dealer's portfolio is end user, and with the 10 percent of dealers or financial end users with which they may have to post or collect IM, potentially they only meet the $50-million-dollar threshold in a handful of cases.

And so it is -- you know, it's a choice of -- a business choice that has to be made, and they're -- you know, therefore, because of the flexibility to enable them to rely on the SIMM counterparties' calculation, would enable them in those circumstances to participate in the market and not be disadvantaged by choosing a model that -- or making an election, I should say -- that suits the vast majority of their business activity.

With regard to reconciling, that is a challenge. We do note that that is a challenge. I think one of the options is that the smaller swap dealer using the reconciliation process by which they ensure completeness of their data set and transactions -- in-scope transactions and material economic terms can provide that, along with indicators that can be developed using various VAR models, which would, you know, give them directional indications, could be used as a close proxy to determine -- to reconcile those calculations.

Potentially, you know, some swap dealers, while the model might not be approved, they have other models that they that -- they used prior to the rule coming into play, which they could use to gauge the reconciliation process.

MS. KARNA: Thank you. Any other questions or feedback on this recommendation?

(No response.)

MS. KARNA: Okay. Switching to, you've made a recommendation relating to seeded funds. So if the Commission were to exempt seeded funds from consolidating their AANA thresholds with their sponsors, is there any concern that market participants might trade through seeded funds to avoid aggregating their AANA thresholds?

MS. YUN: Thank you. I'll turn that over to Betsy.

MS. COCHRANE: Hi. Yes, thank you. I think much like the SMAs, the likelihood of that happening is very low given the expense of setting up a seeded fund and maintaining it and establishing all that documentation. Even if one market participant were to be acting nefariously, that really, I think, is very highly unlikely to happen because these types of funds are set up to allow U.S. fund sponsors to develop new products and to establish track records in order to be able to market the -- and distribute those products to the market. And so these seeded funds serve a, you know, very important function within the investment management community to be able to innovate and develop new markets, and react to what's going on in the world.

MS. KARNA: Thanks.

MS. COCHRANE: And there are also -- oh, I'm so sorry. I just wanted to add that there are also a number of regulatory, and contractual, and fiduciary constraints that would make the likelihood of that happening extremely, extremely low.

MS. KARNA: Great. Thank you very much. As a general matter, would the recommendations being proposed in the report also need to be adopted by the U.S. prudential regulators, and, in some cases, regulators in the EU, to have the desired effect? What would be the market or other implications if the Commission were to adopt the recommendations in this report, but the U.S. prudential regulators, or regulators in the EU, did not undertake consistent actions? Would there be concerns of a lack of domestic and, frankly, international harmonization?

MS. YUN: Thank you, Ms. Karna, for that question. It's something that was largely debated by the Subcommittee. I'll turn it over to my colleague, Tara Kruse, from ISDA, to respond.

MS. KRUSE: Thank you, Wendy. The answer here really varies depending on the recommendation. In the case of codifying the MTA relief, for instance, it would be beneficial for the CFTC to act alone since it's already done so by issuing that relief, although we would certainly welcome conforming amendments by the USPRs. For other recommendations, the U.S. is the global outlier, and, therefore, it can act alone, but it would be very useful if at least the CFTC and USPRs are aligned. That applies to recommendations regarding the timing and methodology for material swap exposure calculations, money market funds, seeded funds, and the small swap dealer model requirements. Guidance or forbearance on separately-managed accounts could also be useful from the U.S. regardless of whether it might be echoed from other jurisdictions.

For other changes, like global -- for other changes, global alignment would be important, such as the post-phase-in compliance periods for which it's preferable that both the U.S. and EU align with the BCBS-IOSCO standard.

MS. KARNA: Thank you, Tara. Commissioner Stump?

COMMISSIONER STUMP: Thank you, Angie. I think this is the appropriate time, given that we are talking about the international application of some of these rules, and, in some cases, the divergence from international standards. In the context of seeded investment funds, I was hoping that someone might address the manner in which the standard -- the BCBS-IOSCO standard, apply in this context.

MS. COCHRANE: Sure. I'm happy to take that. This is Betsy Cochrane. So BCBS-IOSCO has exempted all investment funds from having to be consolidated with their sponsors, absent recourse against the sponsors. So if the sponsor or investment manager guarantees that particular fund, they are still going to be consolidated. But absent that, all investment funds, regardless of where they are in their seeding cycle, would be exempt. And our recommendation is not as broad as that, and that recommendation from BCBS-IOSCO has been adopted by most of the major global jurisdictions that we typically think about in this context, such as the EU, Japan, Canada, Australia, et cetera.

And we just essentially took the language from BCBS-IOSCO and added on a simple phrase saying from a three- -- for a three-year period following the commencement of trading by that investment vehicle, to capture what is the sort of standard seeding period for investment firms in the industry, which is about three years. So our recommendation is narrower than what our global counterparts have actually adopted, recognizing that there may not be appetite within the Commission or other regulators to grant that broad -- the breadth of what our global counterparts have done. But the -- both the CFTC and the prudential regulators have granted this type of relief for seeded funds, as Wendy pointed out, in the Volcker -- under their adopting releases for the Volcker Rule -- sorry -- where they recognize that for a period of three years -- the prudential regulators and the Commission both recognize that for a period of three years, that Volcker rule requirements wouldn't apply to a seeded fund.

And also in the material swap participant testing adopting release, the CFTC also recognized that investment funds and subsidiaries should not be considered when calculating a particular entity's MSP exposure. So that is where our recommendation came from was directly from the BCBS-IOSCO recommendation, but we narrowed it to that three-year seeding period.

MS. YUN: It's Wendy. I'd also add that and under some of the other jurisdictions, such as the EU, EU-regulated funds are not subject to such consolidation requirements when they are seeded as well. Many people have decided for prior phases to actually limit the counterparties with whom those EU--regulated funds would face to only other EU or non-U.S. dealers so that they could take advantage of that de-consolidation for the fear of facing U.S. dealers and then being subject to the rules. So you might see liquidity shift if there is still that disparity between the U.S. and European or other jurisdictional rules related to seeded funds.

MS. KARNA: Thank you.

MS. BRADBURY: Hey, Wendy, this is Darcy Bradbury. I had -- I think the question was in part a little broader, which is about activity from other regulators, and certainly there are a number of these recommendations that we would -- we would encourage the U.S. regulators more broadly to consider. And we're hopeful that the CFTC would act, in their leadership capacity, to begin this debate and discussion among the regulatory community, who have worked through so many of these issues on a harmonized basis.

In some cases, as Wendy has noted one, they -- our suggestion would actually bring the U.S. -- if it were adopted by all the U.S. regulators, would bring us into harmonization with the rest of the world. So the eligible collateral point, for example, is one where Europe and their regulations already have this included, and it was the U.S. regulators who deviated from the kind of global consensus in terms of constraining the types of money market funds that could be used. In each case, both jurisdictions want you to use local brands. So Europe wants you to use UCITS money market funds, and the U.S. wants you to use U.S. money market funds, but U.S. went away from the global consensus in terms of the particular constraints on the type of funds. So that would be an example where the move would actually be bringing the U.S. closer to the global consensus.

MS. KARNA: Great. Thank you all. Ms. Belich, did you have some thoughts on this question?

MS. BELICH: Yes. Thank you, Angie. So bringing it back to your original question on coordination between the CFTC and the U.S. prudential regulators as well as the global regulators, it just kind of bears noting as well that as a non-U.S. bank, firms like Royal Bank of Canada are in that unique position of navigating multiple sets of rules at the same time. So, for example, the oversight and regulatory requirements of prudential regulators in our home jurisdictions, including those for uncleared margin requirements, swap dealer regulations promulgated by the Commission, and U.S. prudential regulations for uncleared margin requirements as we have a wholly-owned subsidiary bank here in the US, as well as any other jurisdictional requirements that may be applicable to a firm's client and/or the trading relationship. So, you know, it bears noting again that this type of coordination is critically important, and having that clarity and consistency between U.S. regulators and global regulators is vital for non-U.S. firms like ours to continue business and expand business in the U.S., well as, more importantly, to ensure compliance with U.S. regulations.

I'd like to bring it back to, as well, one of the comments that was made at the top of the meeting around operational risk considerations. Again, from the large dealer perspective, this is critically important as we think about some of the recommendations contained in the GMAC Subcommittee's report. You know, absent agency action on a number of these items, the complex and overly burdensome regulatory and operational issues will create obstacles for large dealers as well as their clients, increasing costs and decreasing liquidity. Again, as was mentioned, a number of the regulatory obligations actually sit with the dealer for these items, and so bringing that back again to a forbearance period or six-month grace period is critically important from a dealer perspective, given that we do carry much of the regulatory obligation and burden around these areas and these recommendations contained in the report.

MS. KARNA: Thank you, Ms. Belich. I'd like to open it up for any further questions or comments on the Subcommittee's recommendations. I'll remind you, you have a chat feature at the bottom of Webex, so if you'd like to speak up, please let me know. And I'll also apologize if I missed any questions earlier on. I must tell you, between two screens, a paper script, a mute button on my phone, I think I may have missed one or two. So now is a great time to speak up again.

MS. YUN: It's Wendy Yun again. I would like to echo the thoughts that were just expressed about the dealer's obligations and the operational risks. I think that also does, though, also translate to additional challenges for asset managers in having to comply with rules, especially since we face a lot of dealers who are now dual headed, whether it be because they may be European domiciled, but also registered as covered swap entities with the CFTC. You may have now a delineation or bifurcation of different rules that they may apply in trading with different types of clients.

One of the concerns that we have is, as we trade in block trades and we don't delineate or don't bifurcate our client base, but we trade them in blocks based on common trading strategies, we could be trading for U.S. and non-U.S. accounts at the same time with any dealer counterparty. One concern is if dealers don't have the ability to apply consistency across the rule sets that apply to those trading relationships, you could see situations whereby they would apply the EU rules, for example, in relation to trading with European clients and the U.S. rules in applying -- in trading with U.S. persons. That would then cause potential fragmentation of block trades, to have to price them differently, trade them separately, margin them differently, especially if there are still these discrepancies or inconsistencies across some of the regulations of different jurisdictions, especially in terms of the types of eligible collateral, the timing of the methodology used in determining the AANA calculations, material swap exposures. So that does also present, you know, risks to the end users as well as asset managers acting on their behalf.

MS. KARNA: Thank you, Wendy. Ms. VedBrat?

MS. VEDBRAT: Yes, I have a question on, you know, collateral. Give that there is going to be, you know, an increase in the need for high-quality collateral, you know, at the back of this rule, but, you know, also in general, is there any concern that we may have a shortage of high-quality collateral, and, you know, would money market funds be able to, you know, help alleviate some of that pressure if it -- if they were eligible to post as collateral?

MS. YUN: Thanks for that question. Darcy, did you want to take a stab at that, or I'm happy to.

MS. BRADBURY: Sure. I guess, one, market funds are pretty widely used for this service now. I don't have the numbers in front of me. Tara is kind of the expert on these, but, you know, billions of dollars are already pledged through these collateral arrangements for uncleared swaps that are not mandated by regulation. And most common thing people do when you're an asset manager in that "voluntary IM situation" is money market funds, and it's exceptionally valuable as a tool to use. The report details some of the benefits in terms of reduced counterparty risk and ease, and it's a widely-used tool now.

So we were -- you can imagine our kind of surprise and disappointment when we learned that there really weren't very many funds that currently fit under the new rules. One custodial bank at a conference I was at, back when one could go to conferences, said they had done a comprehensive review of the documents of hundreds of -- you know, the high-quality money market funds that are eligible, and they could find only, I think the number was three, at the time that would qualify under these new, much more restrictive rules.

And I also just think when you think about all of the recent dislocations in the repo markets and the Treasury markets, having access to a broader set of money market funds that are -- have a long track record and that we can feel comfortable with, we can do due diligence on, will make us more comfortable. So I'm not sure I addressed all the aspects of your question, but it is a very established practice now. There's a wide, you know, array of funds that asset managers can research and choose from if the eligibility rules were expanded to match the European rules, and we think it would be a valuable tool. Some people may continue to want to post Treasury securities directly if they have them or other forms of cash, but I think this would be widely adopted if it was available.

MS. VEDBRAT: Yeah, you did address it. My question was actually at the back of, you know, in the presentation, and I heard that most of the money market funds would not be eligible as collateral under the current rules. So, you know, it was more like we actually should -- you know, we should, you know, propose changes so that the money market funds could be used because they are used today. And given the increase in collateral, you know, I think we should consider them to be essential as eligible collateral in this space.

MR. FALCO: It's Dominick Falco here from being BNY Mellon, and I completely agree with what Darcy has said. I think, you know, from our experience in the non-regulated IA market, substantially, you know, money market funds account for, you know, much of the collateral that's being segregated today. I would also add that in terms of the Phase 5 clients that are readying themselves for, you know, next year, there is a substantial request for the use of money market funds as they look at not only other forms of collateral, but potentially simpler forms of collateral to mobilize, you know, at cash collateral in their -- in their bilateral world today.

And so, you know, it's a simple process to simply move from cash to money funds and then post that into the requirements for the regulated collateral. So I would say that, yes, it would go a long way to fulfilling any shortfall of available collateral that's out there, and it's also a form of collateral that many clients in the Phase 5 time frame are looking to employ as soon as possible.

MS. YUN: This is Wendy Yun. I would echo everything that has been raised thus far. I think that, as many of you know, variation margin, most of the buy-side community -- I think it's over 75 percent -- are still using cash as eligible margin for variation margin in relation to voluntary initial margin before the margin rules were ever promulgated in any jurisdiction. Many people who are posting voluntary initial margin in setting up, you know, voluntary IM segregation arrangements were taking advantage of the money market fund sweep arrangements so that they could still continue to use cash and to meet margin deadlines on a timely basis, especially as those deadlines continued to contract under regulations.

That afforded us the ability to use collateral management operations personnel to, you know, to transfer the cash on a timely basis, avoid any kind of settlement issues, avoid any odd lot sizes, and avoid having to use traders to go and buy and sell treasuries and other types of -- other forms of non-cash collateral to meet the IM requirements. Here, that's what we're -- that's what the current practice has been for voluntary initial margin. If we were to severely limit the eligibility of money market funds in relation to regulatory initial margin, now you have a bifurcation between what was posted for voluntary initial margin versus what's required for mandatory initial margin. You could see that causing some friction.

And also, again, the idea of managers and end users having to now go out and buy the other forms of non-cash collateral to hold them, even though they may not be part of the investment strategy of the particular fund or client, it could also, you know, result in any kind of tracking errors with benchmark strategies. It could, you know, result in drag and performance and other errors. So we would think that the ability to use money market funds, continue to post cash and have it swept into money market funds that we have agreed to with the secured parties or the dealer counterparties, would provide us with the most efficiency and ability, you know, to diversify the types of eligible collateral that we can select from.

MS. KARNA: Thank you very much. Does anyone else have any further questions or comments on the Subcommittee's recommendations?

COMMISSIONER STUMP: Angie, this is Commissioner Stump again. I had a question. It's probably more technical than substantive. But with regard to the material swap exposure calculations and the calculation -- the period of calculation and the method of calculation, as I understand it, the U.S. and Europe have taken a different approach from that that's outlined in BCBS-IOSCO's framework. In order to correct the situation, it is possible that we would all be going at different times and seeking to make this better.

In doing so, practically, I'm curious what sorts of things we can anticipate. The report speaks to, you know, entities not being able to take advantage of substituted compliance, for example. But I was just wondering if someone could lay out -- this seems like a fairly difficult thing to effectuate given the number of different regulators that would need to respond. So I want to make certain that if this is submitted as a recommendation and the Commission takes it up, that we fully appreciate that the report has given, I think, a number of different manners in which we could handle this, depending upon the activity of our other fellow regulators. So I was hoping someone could just speak more generally to the practical challenges, such as substituted compliance, operational challenges.

You know, one the things mentioned in the report that seems quite alarming to me is that this could result in disputes with regard to IM amounts, and we certainly want to consider all of that given that the markets are global. So I was just hoping someone could elaborate a bit more on some of those more practical challenges with regard to these different calculation periods and methods.

MS. KRUSE: Commissioner Stump, it's Tara Kruse from ISDA, and I'm happy to speak to that. Well, so to be clear, there are sort of two aspects here. One is the material swap exposure calculation for which the U.S. is the outlier globally. The EU doesn't align with the U.S. on this front in terms of the timing and methodology, right? So the U.S., once we -- you know, once we move forward to Phase 6, uses the June to August time period for that calculation. Also requires a daily averaging, whereas BCBS-IOSCO and all other major jurisdictions use the March to May period and use a month-end averaging.

So for this calculation, what it means is that on a forever-going-forward basis, market participants who are, you know, near towards the bottom threshold of $8 billion, and there's many of them, right, will have to, you know, every year, to the extent they're caught by more than one regulation, have to run multiple separate calculations at different time periods, and using different methodologies, and do separate notifications to their dealer counterparties regarding any change to their status, whether that be if they come into scope or they fall out of scope.

And then the other aspect that makes it complicated is the bifurcation around post-phase-in compliance dates. So under the BCBS-IOSCO framework, once we get past Phase 6, every year the reassessment regarding a party's AANA calculation, or MSE in the U.S., happens at -- would become effective each September. So any changes would happen each September, so you keep the cycle that we've been doing now from September 1st to August 31st. But the U.S. and the EU and Switzerland shift after the phase-in period to a calendar year compliant cycle. Other jurisdictions do not.

So when it comes to the application of a change to somebody's status, you could have that change apply at different times in different jurisdictions, which means the subset of transactions subject to regulatory margin in one jurisdiction might be different from the subset of transactions eligible --

subject to regulatory IM in another jurisdiction. This prospect of tracking those separate jurisdictional differences on the netting sets is probably going to be difficult for some counterparties, and is an opportunity for parties to misalign the transactions that they include in a calculation, and could lead to disputes. And, as you mentioned a moment ago, there's also this question of whether it also could interfere with the ability for you to apply substituted compliance because you might be coming into scope of the initial margin requirements in one jurisdiction, four months differently time frame-wise from another jurisdiction.

So hopefully the U.S. will consider aligning with the BCBS-IOSCO framework on the compliant states, and we would want the EU and Switzerland to do that as well. That will make it much more streamlined for market participants to monitor any changes to those transactions and parties which are in scope for initial margin. If for some reason the U.S. and EU don't align with the compliance periods, then at least we would ask that the U.S. align with the EU and Switzerland in terms of the date for the first post-phase-in compliance periods, meaning Phase 6 commences September 1st, which means if you switch to a January 1st date in the U.S., it's only four months later that you now potentially have a shift again for parties coming in or out of scope after only four months, whereas in the EU and Switzerland, they are going to bump that, right? Their perspective is it that that would not happen until the following year, so, essentially, you have a 16-month Phase 6 before you would apply changes. So it would be very beneficial to have this be aligned at least across the EU, Switzerland, and U.S. to the extent the compliance periods cannot be aligned.

COMMISSIONER STUMP: Thank you.

MS. KRUSE: My pleasure.

MS. KARNA: Thank you. Does anyone else have any further questions or comments on this topic?

(No response.)

MS. KARNA: All right. GMAC Members, since there are no further questions or comments, is there a motion for the GMAC to adopt the Subcommittee's report and recommend to the Commission that it consider adopting the report's recommendations?

MR. TWIGGS: This is Thane Twiggs from Cargill. I'd like to thank the Subcommittee for their work and their report. And I would move that the GMAC adopt the Subcommittee report, and respectfully recommend to the Commission that it considers adopting the recommendations as well.

MS. KARNA: Thank you, Thane. Any second to that motion?

MS. BRADBURY: This is Darcy Bradbury. I'd like to second the motion, and also kind of second the sentiments that have been expressed, which is that I had the privilege as a GMAC member to serve on the Subcommittee, and it was very different than any other kind of comment period or similar sort of effort I've been involved in. There was a terrific diversity of perspectives on the panel, and I think Commissioner Stump and her team did a really good job of making sure that people at firms that represent all different parts of this industry -- from technology providers, brokers, asset managers, end users, custodians, and others -- were there, and we learned from each other. And I was very impressed also how the recommendations actually changed and improved over the period of deliberations. And so I commend them to the full Committee for consideration and approval today.

MS. KARNA: Thank you, Darcy and Thane. It has been moved and properly seconded that the GMAC adopt the Subcommittee's report, and recommend to the Commission that it consider adopting the report's recommendations.

We will now take a vote on the motion. As a point of order, a simple majority vote is necessary for the motion to pass.

I will turn it over to Andree to conduct a roll call vote.

MS. GOLDSMITH: Thank you, Angie. GMAC members, when I call your name, please indicate your agreement with the motion with "aye," disagreement with "nay," or indicate "abstain" if you are abstaining from the vote. Please remember to unmute your line to indicate your vote and to re-mute your line once you have finished voting.

I'll now conduct the roll call.

Chris Allen?

MR. ALLEN: Aye.

MS. GOLDSMITH: Edward Backer?

(No response.)

MS. GOLDSMITH: Ashley Belich?

MS. BELICH: Aye.

MS. GOLDSMITH: Shawn Bernardo?

(No response.)

MS. GOLDSMITH: Darcy Bradbury?

MS. BRADBURY: Aye.

MS. GOLDSMITH: Maria Chiodi?

MS. CHIODI: Aye.

MS. GOLDSMITH: Joe Cisewski?

MR. CISEWSKI: I'm a no, but I appreciate everybody's great presentations and the hard work of the Subcommittee.

MS. GOLDSMITH: Jim Colby?

(No response.)

MS. GOLDSMITH: Gerry Corcoran?

MR. CORCORAN: Aye.

MS. GOLDSMITH: Sunil Cutinho?

MR. CUTINHO: Aye.

MS. GOLDSMITH: Paul Hamill?
MR. HAMILL: Abstain.
MS. GOLDSMITH: Amy Hong?
MS. HONG: Aye.
MS. GOLDSMITH: John Horkan?
MR. HORKAN: Aye.
MS. GOLDSMITH: Adam Kansler?
MR. KANSLER: Abstain.
MS. GOLDSMITH: Angie Karna?
MS. KARNA: Aye.
MS. GOLDSMITH: Robert Klein?
MR. KLEIN: Aye.
MS. GOLDSMITH: Agnes Koh?
MS. KOH: Aye.
MS. GOLDSMITH: Ben MacDonald?
MR. MACDONALD: Abstain.
MS. GOLDSMITH: Joe Nicosia?
MR. NICOSIA: Aye.
MS. GOLDSMITH: Murray Pozmanter?
MR. POZMANTER: Aye.
MS. GOLDSMITH: Tom Sexton?
MR. SEXTON: Abstain.

MS. GOLDSMITH: Jessica Sohl?

MS. SOHL: Aye.

MS. GOLDSMITH: Thane Twiggs?

MR. TWIGGS: Aye.

MS. GOLDSMITH: Supurna VedBrat?

MS. VEDBRAT: Aye.

MS. GOLDSMITH: Masi Yamada?

MR. YAMADA: Aye.

MS. GOLDSMITH: Thank you, everyone. There were 17 yes votes, one no vote, and four abstains.

MS. KARNA: Thank you, everyone. The ayes have it, and the motion has passed. The report of the Subcommittee on Margin Requirements for Non-Cleared Swaps has been adopted by the GMAC, and the GMAC recommends to the Commission that it consider adopting the report's recommendations.

Chairman, Commissioner Stump, fellow Commissioners, Andree, Warren, CFTC staff, and others, I really want to thank the CFTC for continuing with its important regulatory mandate, including by holding this meeting given the challenging 100-percent remote scenario that you're operating under. Your mandate is incredibly important in these markets in these very challenging times. GMAC members, speakers, Subcommittee members, thank you all for your active participation and valuable insights, especially given the fact that this is a phone meeting versus the much easier in-person meeting that we may be longing for. I will now turn it over to Andree to finish out the day's agenda.

MS. GOLDSMITH: Thank you, Angie, and I'm going to turn it over to the Commissioners for any closing remarks, starting with Chairman Tarbert.

CHAIRMAN TARBERT: Thank you so much. No closing remarks for me other than to simply say that I found this incredibly helpful, beneficial, and really appreciate your viewpoints. And in the coming months, we'll be obviously taking a very close look at the report that you've adopted today to determine which, if any, recommendations the Commission may proceed on. So thank you so much.

MS. GOLDSMITH: Thank you, Chairman Tarbert. Commissioner Quintenz?

(No response.)

MS. GOLDSMITH: Commissioner Behnam?

COMMISSIONER BEHNAM: Thanks, Andree, and a quick thank you to everyone for their hard work. This is a tremendously important meeting for us to listen to. And like the Chairman said, look forward to reviewing the recommendations in depth over the coming days and weeks, and taking up what we think is necessary and appropriate to stay within obviously the mandate of the CFTC, but working with all of our regulatees in the market to ensure safe and transparent markets. Also, I'd like to just thank Commissioner Stump for her leadership again and all those involved in putting today's meeting together.

A great example of the importance of the CFTC's advisory committees and the role it plays certainly within the context of the CFTC's mandate. But, of course, you know, with financial markets being global in nature and very interconnected, these reports have a much greater impact and effect on regulators, both domestic and international. So certainly look forward to reviewing them within the context of the Commodity Exchange Act, but I'm sure others around

D.C., the country, and the world will benefit from this report as well. Thank you.

MS. GOLDSMITH: Thank you, Commissioner Behnam. Commissioner Berkovitz?

COMMISSIONER BERKOVITZ: Thank you, and thanks, everybody, Commissioner Stump, and Andree, and Angie, and everybody who worked hard to prepare the report and have a very informative session today. I look forward to studying the report in more detail informed by today's discussion. Again, I'm sorry we couldn't meet in person. In the absence of an open-door policy, I have an open-phone policy, so I -- if there's anybody who is interested in discussing this further with me and my office, to give us a call, and we look forward to speaking with you. And thank you, everybody, again for an informative session.

MS. GOLDSMITH: Thank you, Commissioner Berkovitz. Commissioner Stump?

COMMISSIONER STUMP: Thank you, Andree, and thanks to all the Commissioners, and the Chairman, and the members, and the Subcommittee members, for your participation. Again, we wish we were all together in person, but I think that the meeting went remarkably well considering the circumstances. I feel as though it's even more apparent now that after our September meeting, we determined that there was a need to further explore the complex and unique challenges for Phase 5 and Phase 6 entities in the context of the margin rules. And I appreciate the hard work of the Subcommittee and their really expedited attention to the matters here. The Subcommittee only met for the first time in January, so they've done a remarkable job of pulling this together in a really short period of time.

I also appreciate that this subject matter -- the subject matter of this report is more relevant to certain of the Committee members than others, and I appreciate that all of the members devoted time and attention to the information. You know, previous meetings and future meetings we've devoted to matters such as clearing and swap data, and we will continue to do so in hopes that the diverse -- the diversity of the Committee is well utilized.

As we look at the lessons learned from the recent market activities and the work of this Committee, it is -- it is critically important, and I think it's quite obvious that, based upon what Suyash discussed in the first presentation, that we will have lessons learned from the more recent market volatility and the pandemic. And I know that the members of this Committee stand ready and willing to assist the Commission as we evaluate those going forward, and we look forward to discussing those perhaps at the next meeting.

So with that, I just, again, thank everyone. I thank Andree, and Warren, and Carmen most especially for their diligence in trying to get all of this pulled together. And I also want to thank Suyash and Wendy for their participation. Thank you very much.

MS. GOLDSMITH: Thank you, Commissioner Stump. I also want to thank everyone for attending today's GMAC meeting. This meeting is now adjourned.

MINUTES OF THE MEETING OF THE
U.S. COMMODITY FUTURES TRADING COMMISSION'S
GLOBAL MARKETS ADVISORY COMMITTEE
APRIL 15, 2019

The Global Markets Advisory Committee ("GMAC" or "Committee") convened for a public meeting on Tuesday, April 15, 2019, at 10:00 a.m., at the U.S. Commodity Futures Trading Commission's ("CFTC" or "Commission") Headquarters Conference Center, located at Three Lafayette Centre, 1155 21st St., NW, Washington, DC. The meeting consisted of five panels. Panel 1 provided an overview of financial system issues for the 2019 G20 Japan Presidency. Panel 2 examined regulatory-driven market fragmentation. Panel 3 discussed trading on exchanges or electronic trading platforms and clearing through central counterparties. Panel 4 discussed initial margin for non-centrally cleared derivatives contracts. Panel 5 discussed over-the-counter ("OTC") derivatives reporting to trade repositories.

<u>GMAC Members in Attendance</u>
Angie Karna ("GMAC Chair"), Managing Director, Head of Global Markets Legal, Americas, Nomura Securities International, Inc.
Chris Allen, General Counsel, Clients & Products, Standard Chartered Bank
Ted Backer, Global Head of Listed Derivatives Execution, Morgan Stanley
Ashley Belich, Head of Global OTC Derivatives & Dodd-Frank Advisory, RBC Capital Markets
Shawn Bernardo, Chief Executive Officer, TP ICAP SEF
Darcy Bradbury, Managing Director, D.E. Shaw & Co., L.P.
Clive Christison, Senior Vice President Pipelines, Supply & Optimization for Fuels North America, BP
Joseph Cisewski, Consultant, Better Markets
Jim Colby, Representative, Coalition for Derivatives End-Users
Gerry Corcoran, Chairman of the Board and Chief Executive Officer, R.J. O'Brien & Associates, LLC
Sunil Cutinho, President, CME Clearing
David Goone, Chief Strategy Officer, Intercontinental Exchange, Inc.
Alexandra Guest, Chief Compliance Officer, Cargill Risk Management
Paul Hamill, Global Head of Fixed Income, Currencies and Commodities, Citadel Securities
Amy Hong, Head of Market Structure Strategy, Goldman Sachs
Adam Kansler, President – Financial Services, IHS Markit
Robert Klein, Managing Director & General Counsel, Citigroup Global Markets
Stephen Li, Managing Director & Head of U.S. Agency Derivative Services, Barclays
Erik Tim Müller, Chief Executive Officer, Eurex Clearing AG ("Eurex")
Joseph Nicosia, Global Platform Head of Cotton, Louis Dreyfus Company
Christopher Nikkel, Senior Director – Global Risk Trading, Bunge Global Agribusiness
Muthukrishnan Ramaswami, President, Singapore Exchange Limited
Thomas Sexton, President & Chief Executive Officer, National Futures Association
Jessica Sohl, Partner & President, HC Technologies
Supurna VedBrat (Via Telephone), Managing Director & Global Head of Trading, BlackRock
Mark Wetjen, Managing Director, Head of Global Public Policy, Depository Trust & Clearing Corporation ("DTCC")
Masahiro Yamada, Managing Director & Head of America's Cross Asset Structuring, JP Morgan Securities LLC

Speakers in Attendance
Shunsuke Shirakawa, Vice Commissioner for International Affairs, Japan Financial Services Agency (Panel 1)
Steven Kennedy, Global Head of Public Policy, International Swaps and Derivatives Association ("ISDA") (Panel 2)
Nicolette Cone, Counsel and Director, ISDA (Panel 3)
Colin Lloyd, Partner, Cleary Gottlieb Steen & Hamilton LLP (Panel 3)
Rafael Martinez, Senior Financial Risk Analyst, CFTC, Division of Swap Dealer and Intermediary Oversight ("DSIO") (Panel 4)
Richard Haynes, Supervisory Research Analyst, Office of the Chief Economist ("OCE"), CFTC (Panel 4)
David Aron, Special Counsel, CFTC, Division of Market Oversight ("DMO"), CFTC (Panel 5)
Kate Delp, Executive Director and General Manager, GTR Americas, DTCC (Panel 5)

CFTC Commissioners and Staff in Attendance
Commissioner Dawn D. Stump, GMAC Sponsor
Chairman J. Christopher Giancarlo
Commissioner Rostin Behnam
Commissioner Dan Berkovitz
Commissioner Brian D. Quintenz
Andrée Goldsmith, Special Counsel, CFTC, Division of Clearing and Risk, GMAC Designated Federal Officer

I. Opening Remarks

Ms. Goldsmith, the Designated Federal Officer for GMAC, called the meeting to order.

In her opening statement, Commissioner Stump discussed the objectives of the GMAC, including helping the Commission determine how it can avoid unnecessary regulatory and operational impediments to global business while still preserving core protections for customers and other market participants. She stated that another objective is to assist the Commission in assessing the impact on U.S. markets and firms of the Commission's international efforts and the initiatives of foreign regulators and market authorities. Turning to the agenda, she noted that it revolves around the sometimes-overlooked component of the G-20 agreement in 2009 in Pittsburgh, which stipulates that regulators should "assess regularly implementation and whether it is sufficient to improve transparency in the derivatives markets, mitigate systemic risk, and protect against market abuse." She then gave an overview of the scheduled presentations for the meeting.

Chairman Giancarlo provided his opening remarks next. He stated that the meeting will discuss how regulators are implementing the 2009 G-20 directive regarding the OTC derivatives market at the G-20 nation state level in a fashion that is consistent, though not identical. He highlighted a concern regarding whether disparate implementation of the reforms is causing undue market fragmentation, increasing market fragility, and leading to smaller disconnected liquidity pools and less efficient and more volatile pricing. Chairman Giancarlo stated that the issue is how to conduct reform implementation in ways that are well calibrated to systemic risk mitigation while balancing undue market fragmentation. He noted that a "Follow-Up Group" formed by the International Organization of Securities Commissions ("IOSCO") is revisiting the work of the Cross-Border Task Force set up in 2013. One of the group's tasks is the examination of instances of market fragmentation in securities and derivatives markets and the potential reasons why fragmentation has developed. The group is also tasked with building a central repository of supervisory memoranda of understanding to strengthen collaboration and cooperation between IOSCO regulators. The group has been reaching out to IOSCO members, the industry, and other stakeholders, and will present its observations at the IOSCO meeting next month in Sydney.

Commissioner Quintenz stated that he was looking forward to hearing all of the distinguished members' and panelists' thoughts on the robust meeting agenda. He welcomed Vice Commissioner Shirakawa, who served on a panel with him at EUROFI two weeks before, where all of these issues were discussed at a very high level. He stated that it is important to repeat that there was language in the G-20 agreement that reflected all the leaders' commitments to insuring against protectionism and the fragmentation of markets and regulatory arbitrage.

Commissioner Behnam also welcomed Vice Commissioner Shirakawa, whom he saw the previous week. He stated that it is the right time to revisit the G-20 reforms, and the Commission should also let the past inform the future as we reflect on the crisis and how we can shape new policy to make sure that systemic risk is eliminated and that we have a robust, transparent, global marketplace. He welcomed everyone and said he was looking forward to the work of GMAC in the future.

Commissioner Berkovitz welcomed Angie Karna as the new Chair. He noted that the CFTC has been focused lately on collaborating with its international counterparts to harmonize regulations for derivatives trading. He also stated that as other countries are finalizing their rules, the CFTC's cross-border guidance and approach has provided it with a flexible framework to streamline access to international derivatives markets while minimizing risks that could come back to the United States. He stated that he was looking forward to hearing from all of the panelists and to the discussion.

II. Panel 1: Overview of Financial System Issues for the 2019 G20 Japan Presidency

The presenter for Panel 1 was Vice Commissioner Shirakawa. He focused on three priorities of Japan's G-20 presidency: (1) market fragmentation, (2) technological innovation, and (3) aging.

First, Vice Commissioner Shirakawa discussed ways to address market fragmentation. He explained that the Financial Stability Board ("FSB") and IOSCO have launched an initiative to identify the sources of harmful market fragmentation and to explore ways to address any financial stability risks. Vice Commissioner Shirakawa stated that potential sources of market fragmentation driven by regulatory and supervisory measures can be broadly classified into three categories: (1) inconsistencies in the implementation of international standards; (2) extraterritorial application of market regulation, or location policies requiring certain activities to be conducted in a specific jurisdiction; and (3) incompatibilities between domestic and foreign requirements. Vice Commissioner Shirakawa suggested that it may be useful to design processes and approaches fitted to the various phases of regulations: the development of international standards, national rulemaking, deference and/or recognition of foreign regulatory frameworks, and daily supervisory activities. He stated that we need to explore how supervisory cooperation could be improved for mitigating fragmentation, as insufficient cooperation often leads to excessive conservatism in comparability assessments of foreign regulatory frameworks.

Vice Commissioner Shirakawa then discussed technological innovation in the financial sector. One immediate need is to mitigate the risks posed by crypto-assets. Since multilateral responses are needed given their borderless nature, standard-setting bodies are working on addressing crypto-asset issues in line with their mandates. On AML/CFT, the Financial Action Task Force ("FATF") is expected to submit a new Interpretive Note to the G-20 in June. Additionally, the FSB published a directory of crypto-regulators, as a basis for cross-border supervisory cooperation. The FSB is also exploring the underlying decentralized financial technologies and their implications for financial stability, regulation and governance. Vice Commissioner Shirakawa also noted that IOSCO is preparing a report on crypto-asset trading platforms.

Vice Commissioner Shirakawa noted that in collaboration with the Ministry of Finance and Bank of Japan, JFSA will examine the implications of aging for fiscal and monetary policy and the financial sector. JFSA's focus is on financial inclusion in an aging society. Aging is a global phenomenon, and both developed and developing countries are experiencing growth in the number and proportion of older people. Aging is particularly challenging for less developed economies with limited financial infrastructure. Vice Commissioner Shirakawa also discussed statistics related to dementia, which make it harder for older people to make financial decisions; the failure of wealth to keep pace with increased longevity; and the projected estimated retirement savings gap of 400 trillion U.S. dollars by 2050 for the eight advanced economies. Japan will chair the Global Partnership for Financial Inclusion ("GPFI") and identify emerging issues and potential policy responses. The GPFI will submit a report at the Ministers' and Governors' meeting in Fukuoka in June. He finally noted that Japan will also host a high-level symposium in Tokyo in June.

Chairwoman Karna thanked Vice Commissioner Shirakawa for his very informative presentation, and there was no panel discussion.

(Break)

III. Panel 2: Regulatory-Driven Market Fragmentation

Following the break, Chairwoman Karna introduced the second panel.

Mr. Kennedy addressed regulatory-driven market fragmentation. He noted that market fragmentation can trap capital, liquidity and risk in local markets, making the financial system and financial firms less efficient. The derivatives market is especially sensitive to market fragmentation issues because it has historically been the most global. In addition, barriers to entry or to competition within markets can make it more expensive for end-users to hedge their risk.

Mr. Kennedy noted that regulations are a source of some of the risk in the markets. ISDA published a paper earlier this year giving specific examples of regulatory driven market fragmentation. He noted that extraterritoriality, substituted compliance, and deference are all big issues, but there seems to be willingness among policymakers to cooperate. With respect to capital, there's a fundamental apprehension between participants in the EU and participants in the U.S. about the implementation of the new market risk capital rules. Mr. Kennedy discussed differences in the approaches taken by jurisdictions related to the net stable funding ratio, the credit valuation adjustment, and leverage ratio. He also noted jurisdictional inconsistencies with respect to initial margin for non-cleared swaps, timeframes for posting margin, collateral eligibility requirements, the posting of initial margin for inter-affiliate transactions, initial margin modeling, and back-testing. In the clearing area, he discussed clearing location policies, client clearing requirements, and requirements for margin period of risk. Other jurisdictional inconsistencies relate to trade execution, trading location policies and policies for trading personnel location; reporting requirements for trades and different definitions for data required to be reported; eligible counterparties and transactions covered by netting; and benchmarks. He mentioned that a new EU benchmark regulation will be effective in two years.

ISDA's paper articulated potential solutions, which Mr. Kennedy briefly described. First, he noted that it is important for policymakers to articulate the benefits of global markets and the dangers of market fragmentation. Second, he noted that, when policymakers meet to discuss global standards, it is important that they consult with other national regulators to make sure that it is possible to implement those standards. Many times there is agreement on a global level, but no agreement on a local level, which leads to regulatory arbitrage and market fragmentation. He suggested that it may not be appropriate for smaller jurisdictions to implement global standards where there's a *de minimis* amount of derivatives activity. He noted that everyone would agree that a line-by-line analysis is not going to work for regime comparability, and that ISDA's suggestion is for a risk-based framework for regime comparability. Third, he noted the importance of policymakers periodically taking a look at the regulations they have in place.

Chairwoman Kama started off the discussion session by asking committee members why market fragmentation has come to the forefront as a key priority, and what concerns committee members have that impact their organizations and are driving why market fragmentation is a key priority. Mr. Colby expressed concern that many benefits that the CFTC has provided to end-users are undermined by the lack of coordination between jurisdictions globally and lack of coordination between some of the regulators in the United States.

Chairwoman Kama asked which areas the CFTC should prioritize. Mr. Hamill stressed the importance of trading execution and clearing rules and trading venues that allow customers to access pools of liquidity without fragmentation. Mr. Cutinho encouraged global regulators to build a foundation of deference and risk-based evaluation, and praised the CFTC's white paper.

Chairman Giancarlo noted that bank capital rules are largely set by bank prudential regulators and central banks. Therefore, it is difficult for the CFTC to influence dealer capital issues, which have a large impact on the markets the CFTC regulates. The CFTC has been vocal in areas like the Supplementary Leverage Ratio ("SLR"), but it's difficult to prevail because prudential and bank regulators look at the world not from a market's point of view, but from the perspective of a bank's balance sheet. Many of the capital rules are biased against derivatives and clearing, yet clearing was one of the core mandates of the G-20.

Ms. Bradbury emphasized that regulators and the markets need better data. Mr. Müller stated that fragmentation that is harmful to the markets should not be confused with CCP fragmentation. According to Mr. Müller, in the CCP world, his firm Eurex has concentration rather than fragmentation. Some of the major asset classes have essentially ended up in one CCP. Mr. Müller has observed a CCP retreating from offering credit default swaps and another CCP not offering interest rate swaps clearing anymore. Therefore, Eurex is promoting competition in the field as choice and optionality are important for CCPs.

Chairwoman Karna then asked about the potential solutions which Mr. Kennedy had highlighted, and in particular which is most important and whether there are other potential solutions. Ms. Hong agreed with ISDA's recommendation for an ongoing regulatory review process, on a global basis and across all regulators. Ms. Belich described the difficulty for Canadian banks in pivoting between various regulators, and encouraged regulators to take the same approach in implementing substituted compliance and equivalency. Mr. Colby stated that you cannot prioritize substituted compliance and equivalency over implementing a risk-based framework.

Chairman Giancarlo stated that he agreed with the importance of moving to more risk-based approaches to data, and he commended the Chief Economist's office under Bruce Tuckman for their groundbreaking work on entity netted notionals as a new way of measuring the size of markets, which he characterized as a more risk-based approach than the traditional approach of using gross notional amounts.

(Lunch)

III. Panel 3: Trading on Exchanges or Electronic Trading Platforms and Clearing Through Central Counterparties

Ms. Cone began the next panel by discussing global trading on exchanges. First, she discussed the historical issues of cross-border centralized derivatives trading. Historically, there have been three key issues with the CFTC SEF and trading rules in the context of cross-border trading. First, liquidity is being fragmented across pools, across platforms, and across border lines resulting in separate liquidity pools for similar transactions. Second, "footnote 88" in the SEF release requires a facility to register as a SEF or obtain an exemption if it meets the SEF definition, even though it is not listing swaps that are subject to U.S. mandatory trading rules. This has led to non-U.S. trading platforms denying access to U.S. persons for fear of being captured by the SEF registration regime. Third, there is a potential for firms operating globally to face overlapping trading mandates, and now that the other jurisdictions have caught up with the U.S., firms can be forced with the decision to execute the same trade, but with different requirements on different platforms.

Ms. Cone then noted that there have been positive achievements. For the first time ever, the CFTC has achieved trading venue recognition with the EU and Singapore. Hopefully, the

CFTC will continue working with foreign regulators to achieve trading venue recognition in other non-U.S. jurisdictions.

Ms. Cone then presented ISDA's paper which analyzes the effect of mutual recognition on the order flow of trades executed on US/EU recognized trading venues. Ms. Cone presented diagrams of clearing and trade reporting flows on recognized Multilateral Trading Facilities ("MTFs"), Organised Trading Facilities ("OTFs") and Swap Execution Facilities ("SEFs") involving U.S. and EU counterparties under various scenarios. ISDA found that (1) trading venue recognition has had a positive effect on cross-border centralized trading, but the overall lack of global harmonization still poses challenges, and (2) granting recognition for certain rulesets, but not others, introduces complexity to cross-border trading. ISDA encourages regulators to issue wholesale, holistic comparability determinations using ISDA's risk-centered, outcomes-based approach. ISDA supports a de minimis trading activity exception for emerging markets.

Next, Mr. Lloyd presented on a December 2017 white paper by the Futures Industry Association ("FIA") and the Securities Industry and Financial Markets Association ("SIFMA") on reverse fragmentation. He noted that once swaps are subject to centralized trading and central clearing, they start to behave in many ways consistently with the futures markets. The futures markets are not fragmented in large part due to the CFTC's Part 30 regulations, which greatly contribute to the ability of U.S. firms to participate in foreign markets and set an excellent precedent. The U.S. and Europe have taken a number of very positive steps to facilitate cross-border trading in swaps, but markets in Asia, Latin America, and other non-U.S. jurisdictions should not be forgotten. He noted that the expansion of initial margin requirements for uncleared swaps will increase demand for U.S. access to non-U.S. CCPs.

Mr. Lloyd then explained the current framework for a U.S. customer to access non-U.S. CCPs, which under the CFTC's regime is bifurcated between customer clearing and proprietary clearing. In order for a U.S. customer to access a foreign CCP, the U.S. customer must clear swaps solely through a registered FCM and that registered FCM must clear at a registered DCO. To provide access to the five registered non-U.S. DCOs, a U.S. firm typically must have both a U.S. FCM affiliate that clears U.S. customer business and a non-U.S. affiliate that clears non-U.S. customer business. This structure directly exposes the U.S. FCM to the non-U.S. CCP's risk mutualization framework and can increase the overall firm's liquidity/funding risk. The non-U.S. CCP must directly satisfy U.S. customer protection requirements, which may not be consistent with local equivalents and in some cases has necessitated relief from the CFTC.

Mr. Lloyd then discussed the FIA/SIFMA proposal that the CFTC adopt an approach to foreign cleared swaps modeled on Part 30's approach to foreign futures. Under the proposal, a U.S. customer could access a non-U.S. swaps CCP either: (1) indirectly through a correspondent clearing structure involving the U.S. customer clearing through a U.S. FCM that in turn clears through an omnibus account carried by a non-U.S. clearing member of the non-U.S. CCP (similar to CFTC Rule 30.7); or (2) directly through an account carried by a comparably regulated non-U.S. clearing member of the non-U.S. CCP (similar to CFTC Rule 30.10). Mr. Lloyd stated that the Commission has adequate legal authority to do this, though he noted that there are questions in relation to the U.S. Bankruptcy Code for at least the indirect access model.

Mr. Lloyd then discussed Chairman Giancarlo's Cross-Border 2.0 white paper that addresses certain aspects of FIA/SIFMA's proposal. The white paper proposed to permit U.S. customers to access non-U.S. swaps CCPs in comparable jurisdictions through a comparably regulated non-U.S. clearing member. However, the white paper did not address the indirect access model. According to Mr. Lloyd, this is an important difference as he believes a number of U.S. customers will strongly prefer the indirect model because it will allow them to maintain their positions with a U.S. FCM.

Mr. Lloyd's presentation was followed by a discussion by the members. Issues discussed included implementation of the cross-border guidance; the Chairman's white paper on cross-border issues; the current regulatory environment for foreign CCPs and their ability to serve U.S. customers; comparability assessments; the concern that it is not cost-effective to be a clearing member; the importance for end users of facilitating impartial access to trading venues around the world; and lack of access by international CCPs to central bank accounts. One member asserted that U.S. law should be applied strictly to encourage a race to the top rather than deferentially which could impose risks on the U.S. financial system. Other members disagreed, arguing that the whole suite of European regulations are just as comprehensive and rigorous as the regulatory framework in the U.S., and that market fragmentation and fragmentation of liquidity are not positive for end-users and the markets.

Commissioner Berkovitz asked whether the CFTC's approach is a risk-centered outcomes-based approach that is consistent with ISDA's recommendations. A participant stated that he believes the CFTC is acting consistently with the recommendations, but more needs to be done. For example, footnote 88 remains an issue. The recognition of trading venues in the EU and Singapore has ameliorated market fragmentation, but hasn't eliminated the problem. For instance, there are minor technical disconnects in items like the trade reporting rules.

IV. Panel 4: Initial Margin for Non-Centrally Cleared Derivatives Contracts

Mr. Martinez presented on the development of international standards on margin on uncleared swaps. In 2011, the G-20 added margin requirements for uncleared derivatives to the post-crisis reform agenda. The same year, the Basel Committee on Banking Supervision ("BCBS") and the International Organization of Securities Commissions ("IOSCO") jointly created the working group on margin requirements ("WGMR") that included representatives from 25 regulatory authorities. In 2013, the WGMR published a framework that established minimum standards for margin requirements for non-centrally cleared derivatives. At the end of 2015, the prudential regulators and the CFTC voted on final rules.

For initial margin, there were five phases of compliance, with larger entities having to comply in 2016, and grace periods for smaller entities in each of the five stages. The third phase was in September 2018, and there are two more phases to go. The CFTC tried to obtain industry information through a survey of nine firms before adopting the rules, but had limited data in calibrating the requirements as it only received a response from one firm. Unfortunately very few entities come under the rule in the second and third phases. ISDA estimated that 1,100 entities will be coming into scope in the coming phases, and that the majority will come into scope in phase five. However, the lion's share of initial margin was captured in the first three phases, since those are the phases in which larger entities came into scope. While the industry has been developing supporting practices, processes, and infrastructure, the CFTC doesn't know whether those 1,100 entities will be ready to comply.

Mr. Haynes discussed a paper that the CFTC's Office of the Chief Economist ("OCE") released in October 2018 that focused primarily on phase five. Consistent with ISDA's estimates, OCE found that approximately 704 entities would come into scope in 2020 during phase five. The paper concluded that most (75%) of the Phase 5 entities have less than $50 billion average aggregate notional amounts ("AANAs"), comprising just 30% of cumulative AANA. Phase five entities are concentrated around the low end of the threshold (especially non-financials). OCE also examined a proposed exemption for physical FX trades from AANA, which would reduce the number of covered entities by about 200 in phase five, particularly at the low end of the notional range.

The members then discussed some of the issues raised by Panel 4, including challenges that smaller entities face in complying with phase five; the effect of the proposed exemption for physical FX products; the challenges presented by implementation of phase five more generally; whether the implementation schedule should be delayed; and whether there are more meaningful measures than notional thresholds in terms of risk-weighting and determining which parties and asset classes should be subject to initial margin requirements. Mr. Martinez noted that BCBS-IOSCO recently clarified that documentation is not required until an entity crosses the $50 million threshold. He stated that regulators need to clarify expectations regarding what firms need to do as they approach the $50 million threshold. He noted that regulators had mistakenly assumed that people under $8 billion notional will never cross the $50 million threshold. He also noted that the CFTC is aware of issues related to asset managers. One member suggested that the CFTC issue guidance this summer if they believe those with less than $50 million exposure should not have to be subject to all of the requirements. Chairman Giancarlo said that the CFTC is very aware of this issue.

(Break)

V. Panel 5: OTC Derivatives Reporting to Trade Repositories

Following the break, Chairwoman Karna introduced the fifth panel.

Mr. Aron began the session by presenting an update on the Division of Market Oversight's ("DMO's") swap data roadmap implementation. He gave updates on proposals under parts 43, 45 and 49 of the Commission's regulations which are being drafted in response to DMO's roadmap review.

Mr. Aron also discussed DMO's international harmonization work. In April 2018, the CPMI-IOSCO Working Group for the Harmonization of Critical OTC Derivative Data Elements ("CDEs") published definitions, formats, and allowable values of CDEs to give authorities a comprehensive view of OTC derivatives. In the draft part 43 and 45 rulemakings, CFTC staff is proposing replacing existing required swap data fields with a standardized streamlined set that is harmonized with the CDEs where possible and that can be issued and updated by staff as needed. Mr. Aron then provided an update on the CFTC's global harmonization work with respect to Legal Entity Identifiers ("LEIs"), Unique Transaction Identifiers ("UTIs'), and Unique Product Identifiers ("UPIs").

Next, Ms. Delp provided DTCC's perspective on progress made to date and where DTCC believes OTC derivatives reporting is headed. She gave background on the creations of DTCC's global trade repository service. She noted that, rather than follow DTCC's global approach to standardization, national legislators and regulators responded to G-20 commitments by first prioritizing domestic compliance. The result was a fragmented global reporting environment in which a firm regulated in multiple jurisdictions might have to report the same OTC derivatives transaction to multiple trade repositories, each one then applying different identifiers, reporting rules, data fields, terms and formats. Despite this fragmentation, she described the current state of reporting as a success. New industry-wide processes and procedures have been implemented to ensure that transactions across the multi-asset class, OTC derivatives universe can be reported in an accurate and timely fashion. Collaboration has continued to increase and trade repositories have acted as a valuable bridge between regulators, regulated firms, and industry bodies. Key industry bodies are establishing global data and processing standards for OTC derivatives, and work continues toward the removal of barriers to data sharing and third-party access to that data.

Ms. Delp noted that future, increased coordination by industry players including regulators will narrow differences across jurisdictions in reporting policies and practices for OTC derivatives. A global reporting framework built through collaboration and potentially enhanced through new technologies such as distributed ledger technology can enable trade repositories to better achieve their fundamental purpose, which is to provide regulators with the data they need to quickly identify and analyze systemic risks triggered by OTC derivatives trading.

The presentations by Mr. Aron and Ms. Delp were followed by a general discussion by members. In response to Chairwoman Karna's question regarding how transparency with respect to swap data has impacted business and trading strategies, members discussed the importance of transparency, as well as the need to protect confidential information. One member said anything the CFTC can do to streamline and simplify is extremely helpful, as it can be difficult to figure out how to report unique bespoke products. Ms. Delp noted that market fragmentation has led some participants to bifurcate internal processes on the trade repository side, as they may no longer be able to send a single message to multiple regulators, resulting in an increased cost burden. Some participants noted that duplication and fragmentation in the market can disproportionately affect small and medium-sized banks, which have fewer resources. Mr. Aron said that UTI differences can impede the CFTC's ability to get a global view of a participant's risk exposure. Chairman Giancarlo expressed his disappointment with the lack of progress being made by some global bodies, as a number of key regulators do not have a mandate to implement global standards the way the CFTC does. Ms. Delp's advice to global regulators was to follow in the CFTC's footsteps; adopt CDE and do not make changes to what CDE has proposed, unless everyone is going to make the same changes; and adopt UTI and UPI, in coordination, at the same time.

VII. Closing Remarks

In closing, the Chairman and Commissioners expressed their thanks to Commissioner Stump, her staff, and Ms. Karna for an excellent meeting discussing the challenges and different perspectives concerning global market issues.

Ms. Goldsmith adjourned the meeting at 4:13 p.m.

I hereby certify that the foregoing minutes are accurate.

Angie Karna
Chair, Global Markets Advisory Committee

November 21, 2019
Date

MINUTES OF THE
U.S. COMMODITY FUTURES TRADING COMMISSION'S
GLOBAL MARKETS ADVISORY COMMITTEE
SEPTEMBER 24, 2019

The Global Markets Advisory Committee ("GMAC") convened for a public meeting on Tuesday, September 24, 2019, at 9:30 a.m., at the U.S. Commodity Futures Trading Commission's ("CFTC" or "Commission") Headquarters Conference Center, located at Three Lafayette Centre, 1155 21st St., NW, Washington, DC. The meeting consisted of five panels. Panel 1 included an update on the implementation of uncleared swaps margin rules. Panel 2 discussed the buy-side perspective on the implementation of uncleared swaps margin rules. Panel 3 discussed the custody bank perspective on the implementation of uncleared swaps margin rules. Panel 4 discussed the cross-jurisdictional issues involved in the implementation of the uncleared margin rules. Panel 5 examined EMIR 2.2 and the ESMA consultation.

GMAC Members in Attendance

Angie Karna (GMAC Chair), Managing Director, Legal Department and Head of Legal for Global Markets, Americas, Nomura Securities International, Inc.
Chris Allen, General Counsel, Clients & Products, Standard Chartered Bank
Ashley Belich, Head of Global OTC Derivatives & Dodd-Frank Advisory, RBC Capital Markets
Darcy Bradbury, Managing Director, D.E. Shaw & Co., L.P.
Clive Christison (Via Telephone), Senior Vice President Pipelines, Supply & Optimization for Fuels North America, BP
Joseph Cisewski, Consultant, Better Markets
Jim Colby, Representative, Coalition for Derivatives End-Users
Gerry Corcoran (Via Telephone), Chairman of the Board and Chief Executive Officer, R.J. O'Brien & Associates, LLC
Sunil Cutinho, President, CME Clearing
David Goone, Chief Strategy Officer, Intercontinental Exchange, Inc.
Alexandra Guest, Chief Compliance Officer, Cargill Risk Management
Paul Hamill, Global Head of Fixed Income, Currencies and Commodities, Citadel Securities
Amy Hong (Via Telephone), Head of Market Structure Strategy, Goldman Sachs
John Horkan, Group Chief Operating Officer and Head of North America, LCH Group
Adam Kansler, President – Financial Services, IHS Markit
Robert Klein, Managing Director & General Counsel, Citigroup Global Markets
Ben MacDonald, Global Head of Enterprise Products & President of Bloomberg's SEF, Bloomberg LP
Erik Tim Müller, Chief Executive Officer, Eurex Clearing AG
Joseph Nicosia (Via Telephone), Global Platform Head of Cotton, Louis Dreyfus Company
Thomas Sexton, President & Chief Executive Officer, National Futures Association
Jessica Sohl (Via Telephone), Partner & President, HC Technologies
Supurna VedBrat, Managing Director & Global Head of Trading, BlackRock
Mark Wetjen, Managing Director, Head of Global Public Policy, Depository Trust & Clearing Corporation
Masahiro Yamada, Managing Director & Head of America's Cross Asset Structuring, JP Morgan Securities LLC

Invited Speakers and Panelists in Attendance

Michael Gibson, Director, Division of Supervision and Regulation, Board of Governors of the Federal Reserve System (Panel 1)

Rafael Martinez, Senior Financial Risk Analyst, Division of Swap Dealer and Intermediary Oversight ("DSIO"), CFTC (Panel 1)

Richard Grant, Global Head of Regulatory and Government Affairs, Associate General Counsel, AQR Capital Management, LLC (Panel 2)

Wendy Yun, Managing Director & Associate General Counsel, Goldman Sachs Asset Management (Panel 2)

Judson Baker, Head of Product Development for Derivatives and Collateral Services, Northern Trust (Panel 3)

Dominick Falco, Managing Director, Head of Segregation, BNY Mellon (Panel 3)

Tara Kruse, Global Head of Infrastructure, Data and Non-Cleared Margin, International and Derivatives Association ("ISDA") (Panel 4)

Sean Downey, Executive Director, Global Clearing & Risk Policy, CME Group (Panel 5)

Jacqueline Mesa, Chief Operating Officer & Senior Vice President of Global Policy, Futures Industry Association ("FIA") (Panel 5)

Carolyn Van den Daelen, Head of Regulation & Compliance, ICE Clear Europe (Panel 5)

CFTC Commissioners and CFTC Staff in Attendance

Heath P. Tarbert, Chairman, CFTC

Dawn D. Stump, Commissioner and GMAC Sponsor

Rostin Behnam, Commissioner

Dan Berkovitz, Commissioner (via teleconference)

Brian D. Quintenz, Commissioner

Andrée Goldsmith, Special Counsel, CFTC, Division of Clearing and Risk, GMAC Designated Federal Officer

I. Opening Remarks

Ms. Goldsmith, the Designated Federal Officer for GMAC, called the meeting to order. In her opening statement, Commissioner Stump welcomed Chairman Tarbert to the second GMAC meeting of 2019. Turning to the agenda, she noted that the presentations of today's meeting will delve deeper into two specific topics touched upon at the first GMAC meeting held in April of this year: first, the global process applied to implementing initial margin for non-centrally cleared derivatives and how phasing of such has progressed; and second, how clearing through central counterparties has evolved since the crisis. She then gave an overview of the scheduled presentations for the meeting.

Chairman Tarbert made his opening remarks and noted that the meeting will address the implementation of the uncleared swaps margin rules (including cross-jurisdictional issues) and the potential effects of EMIR 2.2. He also noted the operational difficulties of the upcoming Phase 5 implementation of the uncleared margin rules, in which the number of covered entities is expected to increase from 40 to 700 with approximately 7,000 relationships institutionalized. He also stated that because of the potential for congestion at or near the deadline for Phase 5, federal banking regulators have extended the compliance period for one year. Chairman Tarbert ended his remarks noting that the Commission has been meeting with European regulators and expects to engage in continuing talks relating to European oversight of non-European Union ("EU") Central Counterparties ("CCPs"). Commissioner Quintenz remarked that in connection with uncleared margin requirements, there is a potential issue that risks are not properly calibrated through the use of notional values. Commissioner Benham noted that he looks forward to the deliberations and recommendations of the GMAC.

II. Panel 1: Status Update on Implementation of Uncleared Margin Rules

Mr. Gibson opened the panel with a presentation on the status of the Phase 5 implementation of uncleared swaps margin, noting that the Phase 5 implementation is focused on compliance of smaller entities. He explained the proposed rulemaking by the prudential regulators would amend the uncleared margin rules in several respects. First, the proposal would repeal the requirement for a covered swap entity to collect initial margin from its affiliates, but would retain the requirement that variation margin be exchanged for affiliate transactions. Second, an additional initial margin compliance period for certain smaller counterparties ("CPs") would be added. Third, the proposal would clarify that small entities are not required to have documentation/arrangements in place before reaching the $50 million initial margin threshold. Fourth, the proposal would permit legacy swaps to retain their status if amended to replace existing interest rate provisions based on certain interbank offered rates ("IBORs") and other interest rate benchmarks. Fifth, the proposal would permit legacy swaps to retain their status when swap amendments occur that are caused by certain routine life-cycle activities. Mr. Gibson noted that the Federal Deposit Insurance Corporation has approved the proposal but that it is still in process at the Federal Reserve Board and the Office of the Comptroller of the Currency.

Mr. Martinez presented next and set forth the various initiatives the Commission and other regulators are currently engaged in. In particular, Mr. Martinez noted that the Commission's recent actions in connection with uncleared swaps margin are intended to coincide with prudential regulators so that regulations are harmonized. Mr. Martinez referenced a July 2019 DSIO Advisory explaining the potential for phase-in congestion and the clarification that smaller CPs are not required to have documentation/arrangements in place before reaching the $50 million threshold. He also noted that substituted compliance has been a focus of regulators referencing the recent U.S. Securities and Exchange Commission uncleared margin rule and various initiatives that have been completed with the other major jurisdictions.

The panel then turned to a discussion session. Mr. Cisewski inquired about the reasons for proposing the inter-affiliate exemption for initial margin. Mr. Gibson explained that in a consolidated group there are going to be many legal entities facing different customers, and within the group, transactions among affiliates are often redistributing the risk around the group, which is sometimes centrally managed in one place. In addition, sometimes a customer wants to face a legal entity in a particular jurisdiction, and the firm might prefer to have the risk managed out of London or New York. Mr. Cisewski also asked about margin period of risk and how that relates to initial margin and the potential exposure calculation. Mr. Gibson noted that this is the time period right before a counterparty defaults, or stops making margin payments because it is about to default, and the non-defaulting counterparty is going to be exposed to the risk of market moves. Mr. Cisewski then followed up with questions regarding how the five-day margin period of risk was established for inter-affiliate transactions. Mr. Martinez noted that the starting point was a ten-day period, however, this period was shortened to five days because of the superior knowledge of affiliates within a consolidated group. Mr. Cisewski then asked how to address inter-affiliate risk exposure without initial margin. Mr. Gibson responded that Regulation W applies to affiliate transactions to protect the depository institution. Mr. Klein asserted that a centralized risk management function in consolidated corporate groups manages risks for the purpose of risk reduction. He stated that Regulation W limits the ability of institutions to take on certain risks. Mr. Colby noted that central risk management is used to efficiently manage risk through inter-affiliate transactions, which in turn reduces direct facing trades with swap dealers.

Ms. Bradbury stated that there are several implementation challenges that investment management firms are facing with respect to the initial margin requirements, and encouraged regulators to address these challenges before the asset managers come into scope.

III. Panel 2: Buy-Side Perspective on Implementation of Uncleared Margin Rules

Mr. Grant gave a presentation on the buy-side perspective in connection with the implementation of the uncleared swaps margin rules. In particular, Mr. Grant detailed the tremendous operational challenges that exist for firms to calculate and transfer initial margin resulting from a host of technology and systems issues. He also noted the legal challenges that occur due to a host of new agreements required with each CP. Mr. Grant further stated that "congestion" is likely to occur as numerous firms rush to complete their necessary requirements near the final deadline for the uncleared margin rules. He then explained that in order to ease the potential for congestion, regulators should provide an initial margin threshold extension, address forex transaction impacts, and focus on meaningful swaps exposure rather than notional amounts.

Ms. Yun presented next and stated that her firm supported regulators' efforts to provide an extension to the implementation phase-in schedule, and noted the need for harmonization across jurisdictions. She stated that firms are finding it challenging to implement the margin rules as a result of difficulties in calculating average annual notional amounts ("ANNA") and the initial margin threshold. Ms. Yun also noted that the ability to use money market funds as cash collateral to avoid settlement issues is very important for firms, but that current limitations in the rule prohibiting the use of money market funds if they invest in repurchase or reverse repurchase transactions are impeding their use. Ms. Yun thus noted that regulators need to eliminate the restrictions on the use of money market funds as cash collateral. Lastly, Ms. Yun indicated that end-user clients find developing and implementing their own uncleared margin models to be too costly and burdensome, and therefore, look to third party vendors to manage the process.

Following the presentations by Mr. Grant and Ms. Yun, there was a discussion among the members. Ms. Guest stated that her firm shares the same challenges and especially noted the data challenges that exist due to differing transaction booking systems. Ms. Bradbury noted that the frequency of the AANA calculation depends on the jurisdiction so that it may be preferable to have clients collect the data and perform the calculation. Ms. Bradbury also questioned whether dealers will stop trading swaps for a particular client due to compliance burdens. Both Mr. Grant and Ms. Yun stated that dealers may re-evaluate the effort necessary to service smaller buy-side firms.

(Break)

IV. Panel 3: Custody Bank Perspective on Implementation of Uncleared Margin Rules

Following the break, Chairwomen Kama introduced the third panel.

Mr. Falco presented that the number of accounts set up to comply with the uncleared swaps margin rule has steadily increased from 2016 through 2019. He explained that the process is focused on two documents: (1) the Account Control Agreement ("ACA") and (2) the ISDA Credit Support Annex ("CSA"). Mr. Falco also stated that the current focus of custodians is to reduce bespoke negotiations through automation such as the ISDA Doc Create platform. Mr. Falco expects 2020 to be a busy client on-boarding phase due to the margin rule implementation phase-in deadline.

Mr. Baker presented next and explained that his firm provides collateral management and collateral segregation services for the buy-side. He indicated that the ACA is the starting point for negotiation with clients and that the ISDA legal review will help to make the process more efficient. Mr. Baker also noted that the documentation relief for CPs not meeting the $50 million threshold exposure level is very helpful. He explained that the work flow is still heavily paper-based but expects the process to become increasingly automated in the near term.

Following the presentations, Chairwoman Karna asked members for any comments and questions. There being none, the Chairwoman then introduced the fourth panel.

V. Panel 4: Cross-Jurisdictional Issues in Implementation of Uncleared Margin Rules

Ms. Kruse opened the fourth panel by explaining that differences among jurisdictions in uncleared margin regulations is causing challenges for the industry due to increased complexities and cost. She detailed that these complexities include: (1) AANA calculation, (2) product scope, (3) settlement timing, (4) eligible collateral, (5) inter-affiliate initial margin and (6) initial margin model governance. Ms. Kruse also stated that substituted compliance will be a key concept for regulators to address for efficiently implementing the margin rules across jurisdictions.

Chairwoman Karna opened the discussion portion of the panel by asking the Committee members to identify the challenging aspects of the uncleared margin requirements across jurisdictions and whether they have any suggestions for regulators. Ms. Guest indicated that settlement timing is challenging for firms. Mr. Yamada stated that implementation is very challenging across jurisdictions and would like to see increased harmonization globally through a risk-based priority approach. Ms. Bradbury asked Ms. Kruse how the ISDA SIMM model was developed. Ms. Kruse stated that when the rules were being developed it became clear that having multiple models was not tenable. Therefore, the industry got together and came to ISDA to find a workable solution for calculating initial margin. She emphasized that the model should not be too complex. And to date, the model is being used across the board by almost all market participants that have phased in. Ms. Belich questioned the potential for regulatory arbitrage due to the product scope of the model. Ms. Kruse responded that when ISDA seeks information from parties regarding disputes about the IM amounts, the issue often arises from the trades that each party has put into the portfolio to do the IM calculation. She also stated that ISDA provides guidance where appropriate. She further noted that at the end of the day, there are inconsistencies, and ISDA encourages people to prepare ahead of time and test with counterparties before going live to identify product differences when calculating the initial margin.

(Lunch)

Following lunch, Chairwoman Karna asked Committee members whether a subcommittee consisting of GMAC members and nonmembers should be established for uncleared margin issues. Following a discussion among Committee members in support of establishing a new subcommittee, Ms. Bradbury moved that the Committee recommend to the CFTC the establishment of a subcommittee of the GMAC relating to uncleared margin issues. Ms. Guest seconded the motion. The motion was then approved unanimously by the Committee.

VI. Panel 5: EMIR 2.2 and ESMA Consultation

After the motion was passed, Chairwoman Karna introduced the fifth panel.

The presenters of this panel provided information on this topic both individually and collectively.

Mr. Downey began his presentation by explaining the focus and intent of EMIR 2.2 and the process of implementation for EMIR 2.2. In particular, Mr. Downey detailed the concept of Tier 1 and Tier 2 firms, whereby Tier 1 firms would be subject to current requirements for non-EU CCPs, while a Tier 2 firm would be directly subject to EU laws because they are systemically important to the EU. Ms. Van den Daelen discussed the criteria/indictors for determining whether a firm is Tier 1 or Tier 2. She stated that the indicators are overly broad, and therefore, left to the discretion of regulators. She also indicated that the indicators need to have a nexus to systemic risk in the EU, an element that several of the indicators are currently missing. Ms. Mesa then noted that the EU should prioritize the indicators for Tier 1 and Tier 2 status, indicating that examples from ESMA would help the industry. Mr. Downey then stated that he went through each of the 14 indicators in EMIR 2.2, and found language that did not have an EU nexus and was not a true test or relevant to determining whether a non-EU CCP is of systemic importance in Europe.

Ms. Mesa then detailed how comparable compliance is expected to work under EMIR 2.2. Both Mr. Downey and Ms. Van den Daelen explained that the EU approach for comparable compliance for non-US CCPs that require home country regulation equal or greater than EMIR 2.2 essentially removes comparable compliance from the regulatory regime. Depending on the timing and scope of Brexit, the panelists indicated that U.S. CCPs could be the only ones subject to comparable compliance determinations under EMIR 2.2 in the short term.

Following the presentations, Chairwoman Karna opened the floor for comments and questions. Mr. Cutinho noted that the spirit of EMIR 2.2 is not consistent with comparable or substituted compliance. Mr. Horkan noted that the industry requires clarity related to the tiering requirements and that the comparable compliance requirements in EMIR 2.2 are outcome-based rather than true requirements for comparable compliance by non-US CCPs. Mr. Wetjen also questioned the role of central banks, stating that central banks in EMIR 2.2 have not been thoroughly addressed. Mr. Müller noted that the CCP business is global so that regulators must cooperate noting that there are ways to navigate differences in regulatory regimes. Ms. Van den Daelen noted that the G-20 directive focuses on OTC derivatives and indicated deference to local laws; however, EMIR includes exchange-traded products and does not fully support comparable compliance.

Commissioner Stump asked the panel how a U.S.-based CFTC registered derivatives clearing organization ("DCO") offering commodities would be impacted if it is labeled a Tier 2 firm. Mr. Downey stated that it might impact a firm's ability to use letters of credit as collateral in addition to increasing costs and access.

Chairwoman Karna asked the panel what feedback they have received from clients regarding these proposals. According to Mr. Downey, CME's engagement has been at the association level, primarily FIA and ISDA. The recognition is that regulatory cooperation and reciprocal deference is important to a CCP and to the market from a risk and efficiency perspective. Ms. Mesa added that FIA does not want duplicative regulation anywhere. If it is comparable, that should be enough.

V. Closing Remarks

In closing, Commissioner Stump noted that the reason uncleared margin was initiated was to ensure that the interconnectedness of institutions was addressed outside of the clearing space in the event that clearing was not appropriate or sought after. With regard to clearinghouses and the utility they provide, she emphasized that one of the key reforms was to encourage more clearing without creating a situation where regulatory impediments would make that challenging.

Ms. Goldsmith adjourned the meeting at 3:00 p.m.

I hereby certify that the foregoing minutes are accurate.

Angie Karna
Chair, Global Markets Advisory Committee

November 21, 2019
Date

MINUTES OF THE TWELFTH MEETING OF THE U.S. COMMODITY FUTURES TRADING COMMISSION'S MARKET RISK ADVISORY COMMITTEE
September 9, 2019

The Market Risk Advisory Committee (MRAC) convened for a public meeting, by teleconference, on Monday, September 9, 2019, at 3:01 p.m., at the U.S. Commodity Futures Trading Commission's (CFTC or Commission) Headquarters, located at Three Lafayette Centre, 1155 21st Street, NW, Washington, DC. The meeting included a status report from the Interest Rate Benchmark Reform Subcommittee and its recommendation regarding plain English disclosure materials, which were approved unanimously by all members present. The MRAC also discussed other issues involving the transition from the London Interbank Offered Rate (LIBOR) to risk-free reference (RFR) rates, including central counterparty (CCP) adjustments to discounting/price alignment interest, and the clearing treatment for certain physically-settled swaptions.

<u>MRAC Members in Attendance</u>
Nadia Zakir, MRAC Chair, Pacific Investment Management Company LLC (PIMCO), Executive Vice President and Deputy General Counsel
B. Salman Banaei, Executive Director, Global Head of Clearance and Settlement, IHS Markit
Stephen Berger, Managing Director and Global Head of Government & Regulatory Policy, Citadel
Lee Betsill, Managing Director and Chief Risk Officer, CME Group
Isaac Chang, Managing Director and Co-Head of Trading, AQR Capital Management, LLC
Biswarup Chatterjee, Global Head of Electronic Trading & New Business Development, Credit Markets, Citigroup
Alicia Crighton, Chief Operating Officer, Prime Services, US Clearing, Goldman Sachs, Futures Industry Association (FIA)
Matthias Graulich, Chief Client Officer, Eurex Clearing AG
Frank Hayden, Vice President, Trading Compliance, Calpine Corporation
Lindsay Hopkins, Clearing House Counsel, Minneapolis Grain Exchange
Annette Hunter, Senior Vice President and Director of Accounting Operations, Federal Home & Loan Bank of Atlanta
Vincent B. Johnson, Head of Regulatory & Policy Affairs, BP Products North America
Demetri Karousos, Chief Risk Officer, Nodal Clear LLC, and Managing Director, Market Administration and Surveillance, Nodal Exchange LLC
Derek Kleinbauer, Global Head, Rates and Equity e-Trading, Bloomberg LP and Vice President, Bloomberg SEF LLC
Laura Klimpel, Managing Director, Clearing Agency Services at the Depository Trust & Clearing Corporation (DTCC)
Sebastian Koeling, Principal Traders Group, FIA
Kevin McClear, Chief Risk Officer, Intercontinental Exchange Inc.
Dennis McLaughlin, Group Chief Risk Officer, LCH Group
Craig Messinger, Senior Advisor, Virtu Financial
Dale Michaels, Executive Vice President, Financial Risk Management, The Options Clearing Corporation
John Murphy, Managing Director and Global Head of the Futures Division, Mizuho Americas,

Commodity Markets Council
Christina Norland, Managing Director, Chatham Financial
Sam Priyadarshi, Principal, Head of Portfolio Risk and Derivatives, Vanguard
Jonathan Raiff, Senior Managing Director, Nomura Holdings, Inc.
Marnie Rosenberg, Managing Director and Global Head of Clearinghouse Risk & Strategy, JP Morgan
James Shanahan, Vice President, Financial Regulatory Compliance, CoBank ACB
Lisa Shemie, Associate General Counsel, Cboe's Legal Division, Chief Legal Officer, FX and Cboe SEF
Dr. Betty Simkins, Head of Finance Department, Professor and Williams Companies Chair in Business, Oklahoma State University, Spears School of Business (Special Government Employee)
Tyson Slocum, Director, Energy Program, Public Citizen
Robert Steigerwald, Senior Policy Advisor, Financial Markets, Federal Reserve Bank of Chicago
Janine Tramontana, Senior Counsel and Vice President, Federal Reserve Bank of New York
Kristen Walters, Global Chief Operating Officer of Risk and Quantitative Analysis Group, BlackRock
Suzy White, Chief Risk Officer, Global Banking & Markets and Commercial Banking, Americas, HSBC
Rana Yared, Managing Director Principal Strategic Investments Team, Securities Division, Goldman Sachs
Scott Zucker, Chief Administrative Officer, Tradeweb

Speakers in Attendance
Thomas Wipf, MRAC Interest Rate Benchmark Reform Subcommittee (Subcommittee) Chair and Vice Chairman of Institutional Securities, Morgan Stanley
Ann Battle, Leader of the Subcommittee Disclosure Working Group and Assistant General Counsel, International Swaps and Derivatives Association (ISDA)
Dennis McLaughlin, MRAC Member/Subcommittee Member and Group Chief Risk Officer, LCH Group
Agha Mirza, Subcommittee Member, Managing Director and Global Head of Interest Rate Products, CME Group

CFTC Commissioners and Staff in Attendance
Rostin Behnam, Commissioner, MRAC Sponsor
Dan Berkovitz, Commissioner
Dawn D. Stump, Commissioner
Alicia Lewis, Designated Federal Officer (DFO), Special Counsel, Division of Clearing Clearing and Risk, CFTC

I. Opening Remarks

Ms. Lewis called the meeting to order. Commissioner Behnam began with a brief summary of the topics on the agenda. He thanked the invited speakers and the MRAC leadership, and lauded the Subcommittee for its significant efforts in the larger transition away from LIBOR.

Chairwoman Zakir gave her opening statement by reiterating the Subcommittee's mission, and that it was formed in September 2018 with the objective of providing guidance to the MRAC, and ultimately the Commission on the transition of U.S. derivatives and related contracts from LIBOR to the Secured Overnight Financing Rate (SOFR), and the impact of this transition on the derivatives market. Next, she outlined the three main items on the Committee's agenda: (1) a presentation and the MRAC vote on the Subcommittee's initial recommendation regarding the adoption of plain English disclosures for new derivative contracts referencing LIBOR and other interbank offered rates (IBORs); (2) a discussion of proposals from central counterparties (CCP) regarding adjustments to discounting and price alignment interest; and (3) a discussion of the clearing treatments for certain physically-settled swaptions.

After Chairwoman Zakir's opening statement, Ms. Lewis took roll call of the MRAC members in attendance. Chairwoman Zakir then gave brief logistical instructions for the Q&A portion of the meeting, and introduced Mr. Wipf, who was the first speaker on the agenda.

II. Report from the Interest Rate Benchmark Reform Subcommittee

Mr. Wipf delivered a report from the Subcommittee. He provided an update on key developments regarding the transition away from LIBOR, driven by both regulators and market participants. Mr. Wipf discussed the plain English disclosures draft, stating that the standard set of disclosures can be incorporated into market participants' documents to better inform their clients and counterparties about the implications of using LIBOR and other IBORs. He added that market participants are also encouraged to amend these disclosures to best serve their organizations, as long as such disclosures (or other internally developed disclosures that are substantively similar) are effectively distributed to both clients and counterparties.

Mr. Wipf then highlighted key areas of concern for the CCP discounting and price adjustments proposals, which include timing of the adjustments, the pricing mechanism for cash compensation, and the methodology by which ongoing basis risk would be "compensated." He expressed the Subcommittee's desire for consistency across the clearinghouses in how it approaches this important event. He also noted that in the current construct of the single-step transitions at both clearinghouses, valuation discrepancies may arise in these products. For the swaptions discussion, Mr. Wipf said it was still premature to propose any kind of relief to the MRAC, but would follow the MRAC guidance as to how relief should be addressed. In summary, he expressed the need to continue discussion on the effective coordination of clearinghouse proposals, as well as a timely resolution for the transition to SOFR.

Since there were no questions after Mr. Wipf's presentation, Chairwoman Zakir invited Ms. Battle to present the Subcommittee's recommendation on plain English disclosures. Chairwoman Zakir also indicated that the voting draft of the disclosures could be accessed via the link to the CFTC's MRAC Meeting Agenda.

III. Interest Rate Benchmark Reform Subcommittee Recommendation Regarding Plain English Disclosures

Ms. Battle explained that it would be appropriate for a market participant to use the proposed plain English disclosures, when referencing LIBOR and similar IBORs, if it does not have its own disclosures, or if it prefers to use something that is publicly available and standardized. She indicated that a party's internally-developed disclosures, deemed substantively similar to the proposed disclosures, would satisfy the intent of the Subcommittee if they are shared with all counterparties in an "operationally feasible" manner. In addition, Ms. Battle stated that these disclosures are designed to be helpful to all market participants, regardless of their awareness of benchmark reform, existing fallback provisions in derivatives and other instruments, or other efforts to implement additional fallback language.

Ms. Battle reported that the proposed disclosures have been revised to reflect feedback from the Subcommittee and the MRAC, and accordingly include the following clarifications: (1) that counterparties should consider using the ISDA protocol to add the new fallbacks when they become final, although they would not be required to do so; (2) counterparties could also seek to enter bilateral amendments to add the new fallbacks as an alternative to using a multilateral ISDA protocol; (3) counterparties should consider the tax, accounting and regulatory implications of continuing to enter transactions referencing LIBOR or other IBORs; (4) the recognition that existing derivative transactions do include a process for attempting to determine a fallback rate in case LIBOR or another IBOR is discontinued; and (5) spread adjustments are contemplated in connection with the new fallbacks to address the inherent differences between the IBORs and the risk-free fallback rates.

Ms. Battle emphasized that nothing in the proposed disclosures would amend or supersede the terms of any transaction or any related governing documentation, and that information in the disclosures would remain subject to the terms of the relevant transaction's governing documentation. Ms. Battle noted that these proposed disclosures are separate and distinct from the more comprehensive disclosures that ISDA published in compliance with CFTC Rule 23.431 "Disclosures of Material Information." She said the Subcommittee's Disclosures Working Group has recommended that ISDA consider updating these more comprehensive disclosures at a later date.

Mr. Hayden asked whether these recommendations concerning fallback provision language are specific to a particular type of counterparty. Ms. Battle responded that these disclosures are written for use by all market participants who continue to engage in transactions that reference LIBOR or other IBORs.

Next, Chairwoman Zakir called for a vote on the recommendation from the Interest Rate Benchmark Reform Subcommittee that the MRAC approve the proposed plain English disclosures. The proposal was approved unanimously and submitted to the Commission for consideration.

Following the vote, Chairwoman Zakir announced the next item on the agenda, and gave the floor to Mr. Wipf, who introduced Mr. McLaughlin and Mr. Mirza, who presented their firm's respective proposals for the CCP Adjustments to Discounting and Price Alignment Interest.

IV. Central Counterparty Adjustments to Discounting/Price Alignment Interest Environment

Mr. McLaughlin reported that LCH Group produced a paper to outline its rates transition plan, with a preference for the transition to occur on October 17, 2020. He said LCH's approach is a combination of cash-only trading options and compensation for trading risk through swaps, with a focus on currency markets. Mr. McLaughlin welcomed comments to improve the components of LCH's bi-lateral trade coordination efforts, which will apply to the swaps. He said the main idea is to help facilitate and standardize swap trading as LIBOR is phased out.

Mr. Mirza stated that the goal of the CME plan is to achieve a single-day accounting mechanism with the transition to SOFR. He said CME's proposal would ensure market stability and risk management, with a plan to phase out the old rates by July 17, 2020. Mr. Mirza added that CME's proposal would eliminate value transfer by making a cash adjustment at the individual swap level that is equal and opposite to the change in each cleared swap's net present value specifically attributable to the discounting change. The proposal would also restore swaps at the July 17 closing curve value to mitigate hedging costs. He said that the proposal offers a standardized methodology for swap exercises, and bilateral compensation agreements could also be standardized in the proposal. Mr. Mirza stated that the single-day accounting will help to provide further liquidity in the market.

After the presentations, Mr. Wipf stated that the keys to both proposals are timing, pricing mechanisms, and risk management. He suggested that it would be beneficial for LCH and CME to better align their proposed transition dates and plans to mitigate risk, facilitate consistency, and allay antitrust concerns.

Mr. Chatterjee suggested for both LCH and CME proposals to align their transition dates, and to address present values and compensation mechanisms. Ms. Rosenberg echoed the need to align the transition dates, and recommended the preferred date of October 2020. She also suggested for the proposals to improve compensation mechanisms to mitigate risks. Mr. Berger added that the risks and challenges to address one-way auction flow and counterparty trading should also be considered in the proposals. Ms. Yared recommended the transition date be set to July 2020. In her view, the sooner the transition can take place, the greater support can be provided for SOFR in terms of marketplace liquidity. She indicated a preference for bilateral compensation mechanisms, stating that a one-way auction flow would be challenging with mostly non-direct members opting to forgo the basis swaps option.

Next, Chairwoman Zakir announced the last item on the agenda, and gave the floor to Mr. Wipf.

V. Clearing Treatment for Certain Physically-Settled Swaptions

Mr. Wipf said the Subcommittee has been working on a proposal to address cleared swaps discounted at the federal funds rate, risk management of legacy swaps, cash options, and the transition to swaps contracted with SOFR. He stated that the Subcommittee believes it is premature to endorse any one proposal and that the Subcommittee will have an update in November. Mr. Wipf stated that some of the concerns of the Subcommittee include targeted clearing and factoring calculations, and the Subcommittee would welcome the MRAC's guidance on whether this is an issue that should be a key part of the Subcommittee's work.

Mr. Wipf asked the MRAC two questions. First, does the MRAC view the potential valuation differences that may result in physically settled swaptions vis-à-vis discounting risk to be an issue for its respective firms or clients? Second, does the MRAC think the Subcommittee is an appropriate venue to discuss this issue?

Chairwomen Zakir opened the floor to questions and comments from the membership, which included the following: (1) how risk is calculated on positions at exchanges, and given that LIBOR is dying, what is being done with regard to the basis risk calculation on clearing products that have this legacy IBOR-type index; (2) on the issue of relief from margin on uncleared or legacy swaps, there needs to be more thought and debate before jumping to a regulatory exemption; and (3) examining market experts who trade swaptions in their respective firms, and setting up a subcommittee under the Alternative Reference Rates Committee (ARRC) under the Market Structure Working Group to handle this.

Following the presentation, Chairwomen Zakir asked Mr. Wipf to discuss the Subcommittee's next steps. Mr. Wipf stated that the Subcommittee's work will continue after this meeting, and intends to have another update for the group at the next MRAC meeting. He then summarized the meeting by emphasizing the positive impact of the plain English disclosures, the MRAC's desire for consistency and coordination between the clearinghouses in terms of their single-step plans, but indicated there is more work to be done on the clearing treatment for physically-settled swaptions. He reiterated the need for the MRAC to determine the appropriate forum where thoughtful harmonization among the clearinghouses can be achieved during the transition.

VI. Closing Remarks

In closing, Commissioner Behnam echoed Mr. Wipf's remarks and thanked all Committee and Subcommittee participants. He stated that the work of the Committee and Subcommittee is critical to ensure a seamless transition in 2020. He concluded by stating that CFTC Chairman Tarbert is examining LIBOR extensively, with a plan to respond to some of the regulatory relief that was requested in 2018.

Ms. Lewis thanked Commissioner Behnam and all attendees. She adjourned the meeting at 4:26 p.m.

I hereby certify that the foregoing minutes are accurate.

Nadia Zakir
Chair, Market Risk Advisory Committee

11/26/19
Date

U.S. COMMODITY FUTURES TRADING COMMISSION (CFTC)

TECHNICAL ADVISORY COMMITTEE (TAC)

Wednesday, February 26, 2020

9:58 a.m.

Commodity Futures Trading Commission - CFTC

Three Lafayette Centre

1155 21st Street, N.W.

Washington, D.C. 20581

BEFORE:

Brian D. Quintenz, TAC Sponsor and
Commissioner, CFTC

Richard Gorelick, Chairperson

ALSO PRESENT:

Rostin Behnam, Commissioner, CFTC

Dan M. Berkovitz, Commissioner, CFTC

AGENDA

AGENDA (Continued)

P R O C E E D I N G S

MS. TENTE: Good morning, everyone. As the TAC designated Federal officer, I am happy to call this meeting to order.

Just three logistical items before we begin. First, please turn your microphone on and off to speak. Second, for anybody on the phone line dialing in, please mute your phone until you are ready to speak. And, third, when you are ready to be recognized during a discussion, please flip your name tent so Richard can recognize you and give you the floor.

We have a lot of panels for today. And before we get started, Commissioner Quintenz, sponsor of the TAC, will give his opening remarks.

COMMISSIONER QUINTENZ: Thank you, Meghan. And good morning to everybody. Welcome to our fifth meeting of the Technology Advisory Committee. It is wonderful to have all of you. Again, I would like to thank all of our guest presenters today for their work leading up to this and the valuable information and dialogue that their conversation is going to generate here as well as afterward within the Commission. I would like to thank the members of the committee for being here, members of our subcommittees for traveling in and being with us today, as well as my fellow commissioners. And Commissioner Berkovitz is -- I did receive the sincere regrets of both the chairman and Commissioner Stump, who are traveling overseas today. I know that they would like to be with us.

As Meghan said, we do have a lot of ground to cover. We are going to hear presentations on wide-ranging and timely topics, including audit trail requirements, stablecoins, specific applications of ISDA's common domain model, the latest in cryptocurrency insurance and custody best practices, updates regarding a cryptocurrency self-regulatory organization effort. At the end of the meeting, the Cybersecurity Subcommittee is going to present its recommendation that the CFTC join with other organizations in making a statement of support for the Financial Services Sector Coordinating Council cybersecurity profile. The TAC will then discuss and vote on that recommendation.

So, first, on audit trail requirements, audit trail requirements are designed to provide the Commission with information necessary to reconstruct how a transaction was executed after the fact. These records are critical to the Commission's ability to conduct surveillance inquiries and investigations in order to protect customers and ensure market integrity. However, the Commission's current audit trail requirements are in some respects redundant, placing similar recordkeeping and review obligations on FCMs, exchanges, and exchange members. Those overlapping requirements impose significant costs on market participants and exchanges, which must each store and maintain massive amounts of duplicative transactional data.

To address some of these issues, the FIA formed an audit trail working group. The panel before us today, our first panel, is going to present that working group's recommendations regarding how current audit trail requirements can be streamlined and made more cost-effective.

Our second panel is going to present on the stablecoin landscape. Although the definition of a stablecoin is still evolving and I am not sure it is actually the correct terminology, stablecoins are commonly thought of as a class of digital currencies that seek to offer price stability against another asset, frequently by being backed by that asset in reserve, like fiat currencies or certain physical commodities. In the furtherance of providing such correlated value, stablecoins have the potential through tokenization to function as a viable, liquid medium of exchange and serve as powerful enablers of smart contracts. Stablecoins are early in maturation, and our panel will discuss several developing stablecoins.

First, we are going to hear from Mr. Charles Cascarilla, CEO and founder of Paxos. Mr. Cascarilla will discuss two of Paxos' current stablecoin projects: the Paxos Standard, or PAX, which is a digital dollar, backed one-to-one with the U.S. dollar; and PAX Gold, which is a digital dollar backed by gold.

We will also hear from Eddie Wen, global head of digital markets, about the JPM Coin currently under development. JPM Coin is designed to be a digital representation of U.S. dollars held in designated accounts at JPMorgan Chase. They can be used for instantaneous payment transfers on the blockchain between institutional JPM clients.

Third, Mr. Steven Becker, president and chief operating officer of the MakerDAO Foundation, will provide an overview of decentralized finance, or DeFi, including some of the benefits and misconceptions associated with decentralized protocols, as well as MakerDAO's Dai stablecoin.

And, finally, Mr. Tomasso Mancini-Griffoli, the division chief at the IMF in their Monetary and Capital Markets Department, will provide an overview of some of the public policy considerations implicated by stablecoins: financial stability, monetary policy control, privacy, competition, efficiency, consumer protection, and financial integrity.

Next, on our next panel, Ian Sloyan, a director of market infrastructure and technology at ISDA, will present on some applications of the ISDA common domain model, or CDM. Mr. Sloyan will demonstrate via a live run how a swap trade could be reported using ISDA CDM to satisfy regulatory requirements of the CFTC. By providing market participants with an openly available digital code that they can then implement in their own reporting engines and technology platforms, CDM aims to increase the consistency and integrity of reporting.

Mr. Sloyan is also going to present on how the CDM is being applied to improve efficiencies in collateral management.

Our fourth panel will discuss how insurance underwriting standards are driving best practices for cryptocurrency custody. First, we will hear from James Knox, managing director and technology and communications industry regional practice leader for Aon. Mr. Knox will explain how the need to secure affordable insurance policies for digital assets is leading to an understanding among insurers, intermediaries, and platforms about cryptocurrency custody best practices.

We will also hear from Mr. Itay Malinger, co-founder and CEO of Curv, who will discuss some of the current challenges associated with cryptocurrency custody. Mr. Malinger will discuss how multi-party computations or the ability of multiple parties to jointly perform mathematical computations without any party revealing confidential information to others may assist firms in developing custody solutions.

The presenters on our fifth panel will provide updates on their efforts to create an SRO-like governance structure for the digital asset and cryptocurrency trading marketplace. Given the lack of Federal market regulatory oversight in the digital asset-trading environment, I have long called for and been a vocal proponent of a private sector, multi-platform-based solution to furthering market integrity through an SRO-like organization. Today we will hear from three groups which have made substantial progress in advancing this concept and furthering this dialogue: the Virtual Commodity Association, represented by their president, Mr. Yusuf Hussain; Global Digital Finance, represented by their board member Jeff Bandman; and the Association for Digital Asset Markets, represented by their founding board member Brad Vopni. Each group has their own membership and focus, and I am excited to hear about their progress, their goals, and ongoing challenges in promoting market integrity in the digital asset-trading environment.

And, finally, the Cybersecurity Subcommittee will present a recommendation for consideration to the full TAC that the CFTC should issue a statement of support for the FSSCC cyber profile.

Before concluding, I would, as always, like to recognize Meghan Tente, Jorge Herrada, John Coughlan, Scott Sloan, and Phil Raimondi for their tireless efforts in making today possible and leading all of the dialogue throughout the year that leads up to our meetings. And I would like to express my deep appreciation to Richard Gorelick, the TAC chair, for his leadership, expertise, and willingness to give so generously of his time to this committee's work.

Thank you, Meghan. I will turn it back over to you.

MS. TENTE: Thank you, Commissioner Quintenz.

We will turn it over to Commissioner Behnam for any opening remarks.

COMMISSIONER BEHNAM: Thank you, Meghan.

Good morning, everyone. Great to see everyone here at the CFTC. I don't have any major remarks, but I do want to thank Commissioner Quintenz for his leadership, Meghan and Richard also for your leadership here, certainly a full day, a very interesting day, one that I think we will all benefit from. And, as I say many times at these advisory committees, it cannot be said enough how much the Commission benefits from this dialogue, from your engagement, and us learning from you about what is going on in the marketplace and how we need to be flexible and also need to adjust on the fly, really, in order to keep up with the market and the evolution of technology.

So looking forward to today's discussion and certainly looking forward to future engagement. Thank you again.

MS. TENTE: Thank you.

And now Commissioner Berkovitz for anyopening remarks.

COMMISSIONER BERKOVITZ: Thank you, Meghan. And thank you, Commissioner Quintenz, for sponsoring this meeting. Meghan, I hope you got some sleep in the past few days. This is out of the frying pan into the fire. And thank you also, Richard, for your work on this committee. And thanks, of course, to all of the committee members and the presenters today for the work you put into this. It is absolutely critical, in particular with respect to technology, obviously with respect to areas, too, but technology and some of the topics that we are going to be discussing today are so fast-moving. And for us to keep up with it, it is really critical that we have the most up-to-date information from the most knowledgeable people. So we really do appreciate the time and the volunteer effort you put into making these presentations.

I think many of the topics here are extraordinary, timely. And, Commissioner Quintenz, I want to thank you for setting forth an agenda full of things that would be very informative. Obviously many developments we read about every day regarding a stablecoin and other developments in cryptocurrency issues, self-regulatory organizations. So these are very timely topics.

And, coming on the heels of our meeting last week with respect to data standardization and reporting, several of the other topics here are also in my view extremely important with respect to improving audit trail data, making sure that we collect the best data in the most useful and efficient manner for the market participants. Also, I am very interested in hearing about the ISDA common domain model and standardization on the backend processes and how that can help industry participants and maybe foster compliance in our ability to oversee these markets.

So I think these are all very timely topics. I strongly support many of these initiatives. And I am looking forward to the discussion today. Thank you all again.

MS. TENTE: Thank you, Commissioner Berkovitz.

Now we will turn the meeting over to TAC Chair Richard Gorelick.

CHAIR GORELICK: Thank you, Meghan. Thank you, Commissioner Quintenz and Commissioners Behnam and Berkovitz and everyone participating today. We have an interesting lineup. And I would like to get right to it and get the meeting started with the first panel.

Our first panel, as Commissioner Quintenz mentioned, is a presentation from the Futures Industry Association on an overview of their recommendation to streamline existing CFTC audit trail requirements. From the FIA, we have Natalie Tynan, associate general counsel and head of technology documentation strategy; Tammy Botsford, the executive director and assistant general counsel at JPMorgan; Mark Fabian, the vice president for market regulation for ICE Futures U.S.; Jeff Ramsey, the managing director and general counsel at Geneva Trading; and Andrew Vrabel, executive director and global head of investigations at the CME Group.

And, with that, I will turn the meeting over to the panel.

MS. TYNAN: Thank you. Thanks to the TAC, Commissioner Quintenz, and CFTC staff in general for having us today.

I will skip introductions since we just ran through that and get right to a little bit of the background about FIA's audit trial working group.

So our working group is comprised of representatives from FCMs, DCMs, and principal trading firms.

In October of 2018, representatives from our group met with Commissioner Quintenz as sponsor of the TAC as well as senior members of CFTC staff in the Division of Enforcement and Division of Market Oversight to share our concerns about audit trail recordkeeping as it currently stands and, you know, offer some recommendations.

Since then, we have continued to work on those recommendations internally. And in January of 2020, we submitted a letter to the CFTC, to Commissioner Quintenz, as well as the directors of DSIO, DMO, and DCR laying out our recommendations. And that is what we will walk through with you here today.

So as a brief overview, I guess I would say there are a few high-level thematic points. Right? One is that we are interested in trying to streamline the audit trail requirements generally. That involves making things more efficient and eliminating redundancies. And we have four primary recommendations in that regard.

The first is to amend regulation 38.553 to eliminate the requirement that DCMs conduct annual audit trail reviews. The second is to amend regulation 38.552 to remove specific elements of an adequate transaction database. The third is to confirm that DCMs may maintain records of tier 1 data on behalf of FCMs and other trading participants. And the fourth is to recommend that DCMs should amend their rules to confirm that clearing FCMs don't have to maintain records of orders that are transmitted directly into the DCM trading system by direct-access customers.

It is important to note at the outset that we are proposing modifications to Part 38, but we are not proposing changes to the existing recordkeeping requirements under regulations 1.31 and 1.35. And we will walk through that in a little more detail.

I am going to turn it over to Mark now to walk through our current regulatory requirements and kind of give us the lay of the land.

MR. FABIAN: Thank you, Natalie.

So our next slide talks about the existing requirements. Currently Commission rule 1.31 and 1.35 require the retention and maintenance of records required to be made and kept in accordance with the CEA for a period of no less than five years, including order message and transaction data. All FCMs, retail foreign exchange dealers and certain introducing brokers and members of DCMs are still required to maintain their respective audit trail records in accordance with regs 1.31 and 1.35.

Regulations 38.551 through 553 pertain to the audit trail requirements specific to DCMs. So that is the key point here today. We are not looking to make any changes to 131 or 135. The specific target here is the regulations under Part 38 and specifically Part 38.552 and 553. We are not recommending any change to 551, which basically requires DCMs to keep and maintain an audit trail that is sufficient to conduct their regulatory requirements under the act in conducting investigations and thorough investigations. This requires, this part of the rule requires, that DCMs maintain records of the audit trail from the time of receipt of an order message by the DCM to any messages that are then returned from the FCM to any participants. So, again, this part of the rule is specific to the DCMs and what their requirements are in terms of audit trail. We have confirmed this with the DMO folks to make sure that, you know, we have a clear understanding of the audit trail records that are required to be maintained by the DCM. And today we are not proposing a change to 551. It is 552 and 553.

So regulation 552 states that a DCM's audit trail must include an electronic transaction history database. An adequate transaction history database includes a history of all trades executed via open outcry or via entry into an electronic trading system, and all orders entered into an electronic trading system, including order modifications and cancellations. This regulation also lays out specific pieces of information that are required as part of that history database, including a CTI codes, or customer type indicator code.

Regulation 38.553, enforcement of audit trail requirements, requires that a DCM enforce its audit trail rules by conducting at least on an annual basis a review of all members, firms, and persons subject to the recordkeeping rules to verify compliance with the DCM's audit trail and recordkeeping requirements. These audits must include reviews of randomly selected samples of frontend audit trail data and order routing system data; a review of the process by which the identifications are assigned to users and maintained; and a review of usage patterns associated with user identifications to monitor for violations of user identification rules; and reviews of account numbers and customer type indicator codes to test for accuracy and improper use.

Currently, we conduct these annual reviews and they may be conducted slightly differently by the various DCMs. We have rules that prescribe exactly what the DCMs require from our participants. Generally, it is the same information. However, the format that is requested or the DCMs required to be maintained can be slightly different across the DCMs.

And, just for example, when ICE does an annual audit trail review, we basically do a sample by going to each clearing firm and asking them for a sample order from every pathway that they receive an order transmission through. So we go through our systems. We identify order records from each of the different pathways. And we send that request to the clearing firm, who then is responsible for pulling that data, either from their own records or from clients that they have that are direct-access clients, and providing it to the exchange in the format requested by the exchange. So what that sometimes requires is that they have to modify the records that they maintain in a native format to fit each of the different DCMs' requirements in terms of the types of audit trail. And, specifically, I will give you a good example.

The CME has an operator ID tag that it refers to as tag 50; whereas, ICE has the same operator tag, but we refer to it as a tag 116. It basically identifies the same type of individual. And that is just the way our systems are set up and different, although, actually, that piece of information represents the same requirement to identify who the operator or the button pusher is entering an order, whether that be a manual trade or an automated system.

So through that process, it takes our compliance staff a significant amount of time to compile that information and send out the requests to the various clearing firms to have them produce the information to us. And on the other side of that coin, it takes them a long time to pull the information and then convert it to the standard format that each of the various DCMs is looking at.

So what we are looking at today is to try and relieve that annual audit trail requirement for a couple of reasons: one, because the DCM already has most of that data that they need; and, two, it is very detailed information.

So just to kind of set the stage for what we are going to be talking about here and what we have done, the working group has done, is tried to identify and differentiate the data that the DCM maintains versus the data that the DCM does not maintain. Now, as we have said from the onset, reg 1.31 and 1.35 require entities to maintain their audit trail. That is inclusive of what we are going to be calling tier 1 and tier 2, but specific to DCMs, the data maintained for audit trail purposes by DCMs is defined as tier 1.

And if we change to the next slide, this is a schematic representation. And, basically, tier 1 data is electronic order messages transmitted from the client application servers connected to the exchange electronic system to the exchange system and from the exchange electronic trading system to the connected client application server. So that is going to be the red highlighted oval on the righthand side of your screen or your slide package.

Tier 2 is all other order messages not included in the definition of tier 1 that are additionally required to be maintained under regs 1.31 and 1.35. So the tier 1 data that the exchanges and the DCMs maintain is highly detailed. And we use that for our investigation research on a daily basis. In fact, it serves the purpose of us being able to conduct investigations and complete them based on our own DCM-stored information in 99 percent or better of the cases that we bring, either to a variety of committees or otherwise. So there is a very, very small piece that would be considered tier 2, which the exchange does not maintain and for which it would go to participants, specifically clearing members to or FCMs to get that information.

I think I will turn it over. I think we have done a pretty good job of defining what tier 1 is. It is basically within the DCM domain, and it is the audit trail the DCM has now. It collects and maintains consistent with reg 38.551. I think I would like to turn it over to Jeff just to give us an idea of what types of things would be covered in a tier 2. And we can also provide you with the example of, a basic example of, what tier 2 is.

MR. RAMSEY: Thanks, Mark.

So tier 2 data I like to think of sort of the backstage activity before the orders are actually sent to the exchange, so things like if a trading system at the trading firm or at the user is -- say, for example, using an iceberg strategy, where it is going to send in a one-lot and then refill that up to 50 times as it gets filled there. The log and the programming behind that sequence would be tier 2 data. The tier 1 data would be the moment that that order is actually launched to the exchange. That would be captured by the DCM and put through, captured through the tier 1 retention.

Another example would be, for example, like a stop-loss logic, where there is a certain price threshold or a loss threshold within the trading system that then determines it is time for me to launch an order to resolve this issue or to get out of the trade. So I like to think of it as what is sort of housed within the trading system, the logic there that then triggers that data that the exchange sees in terms of cancels, modifies orders and fills.

MR. FABIAN: Thanks, Jeff.

So, as an example, if you don't mind flipping to the next slide, we have used the iceberg scenario, where a firm offers a front-end trading application to its clients. The trading application has functionality that allows the client to synthetically create an iceberg order, where one portion of the total quantity is displayed to the market at a time.

So, for example, a client electronically sends an instruction to the trading application that sits outside the DCM to sell 1,000 contracts. This is referred to as a parent order. It is then designed to display only 50 contracts at a time to the market, which is referred to as the child order. So in this scenario, the 1,000-lot order is maintained at the tier 2 level. When it sends each of those child 50-lot orders, the 50-lot order is the record that the DCM receives, maintains that. It goes through the transaction process. And the confirm is then sent back to the firm submitting it as a 50-lot transaction assuming it is filled in its entirety.

Then the client instruction to the trading application to sell the 1,000 on the iceberg is the tier 2 piece of data, where each of those 50-lot pieces, or child orders, rests in the DCM world. So, theoretically, you have got 20 -- if the entire order gets filled, iceberg order gets filled, you have got 20 50-lot order records in the DCM or tier 1-level data and 1,000-lot record in the tier 2 data. I hope that is an example that -- we tried to figure out one that we thought would be most relevant an example. And, also, the stop-loss example is a very good one as well.

So at this time, I think I would like to turn it over to Andrew to go through our proposed changes to the regs.

MR. VRABEL: The first recommendation of the working group is to eliminate the requirement that DCMs perform annual recordkeeping reviews of firms. It is the position of the working group that these reviews don't add value to the DCMs' existing processes for identifying market abuses, customer abuses, or other trading infractions. But to underscore what Mark said earlier related to the identification of market abuses, customer abuses, or trade practice violations, at CME, we do not have a single trade practice program for electronic trading that is reliant on tier 2 data in order to find a violation, not a single program. Everything is reliant on tier 1 audit trail data, which is data the DCMs' already possess because it is the messages that the firms are sending to the DCM and the DCM is sending back to them.

The one other thing to note about this that Mark highlighted is that we are not recommending changes to the existing recordkeeping rules 1.31 or 1.35. In the event the DCM does need tier 2 or a higher level audit trail data during the course of a trade practice investigation, we would be able to make that request to firms, just as we do today.

There was a question that was presented during the course of the working group's stream of events related to the types of violations that the DCMs today are identifying through their audit trail reviews. Obviously, each of the DCMs today because of 38.553 are required to have from an audit trail examinations of firms. So let me take a moment and highlight some of the things that we identify in these reviews because it does address our perspective that these are nonvalue-adding types of reviews.

Last year, the CME DCMs issued summary fines or letter of warnings in six instances for front-end audit trail errors. And those errors related to information such as the firm failed to maintain millisecond-level timestamps on their tier 1 trading information. To us, this is unimportant because we already have timestamps down to the nanosecond level in the exchange of systems. So the fact that a firm failed to maintain that for its own records does not impact our ability to review trade practice violations.

Another sort of violation that we brought an action against last year is the firm failed to keep a record of when individual lags of a trade were executed as part of a sprut. Now, obviously, on our side, that helps us reconstruct the trading activities. So we know if a lug was part of a sprut instrument.

We have that data because it was executed on our platform. So we obviously know if the order was submitted as a sprut or was it submitted as our rights and filled as a sprut. So, again, that type of data inaccuracy doesn't add value to what we are doing from the DCM perspective to identify trade practice violations.

Now, we do have value-adding portions of our audit trial reviews. And these are done through programmatic reviews to identify data anomalies. So this is aside from our annual reviews of firms' audit trail recordkeeping. We have programs that operate across all of our participants that are subject to recordkeeping violations to validate the accuracy of the data they are actually submitting to us.

So an example, one of those programs, one of our most recently implemented programs, is we are validating the country of origin that firms submit on order messages. The reason why it is important to us is that we have trade practice programs and reviews that are dependent on the country of origin that the firm is submitting. So we need to validate or we have an interest in validating the accuracy of that information.

That is not something that is covered in the frontend audit trail. That is covered in the trade practice or an audit trail program specifically designed to identify violations. Other types of these programs that we employ relate to the inaccurate use of a tag 50 or a user identification. So we have programs that are designed to identify instances where someone may be using another person's user ID. That is critically important for us when it comes to reconstructing the transactions in the marketplace and identifying customer and market abuses. Again, those are things that we do not propose changing. Those will continue to exist in the new model.

This is highlighted in the second bullet, where we believe that the regulatory focus should be on the DCMs' programs that are designed to identify data anomalies or violations from a data integrity perspective, rather than going out to the firm and validating that they have the same data that we already possess. Obviously, industry benefit from doing this is that it eliminates the burdens of complying with the exchange from audit trail examinations.

If we can go to the --

MS. BOTSFORD: So from exchanges' point of view, they have to go out to every member and everyone who is required to retain audit trail and actually make sure not to duplicate what we already have. And that is largely just an exercise in is it copied properly. And it is not discovering anything that they typically would come to us for an investigation, but on top of that, they are going out to every member. We have got them all coming in to us as well once a year and tying people up, saying, "Hey, have we copied this from here to here? And are we retaining it?” when I think there is a lot more value-add to be had from taking those resources and putting them into data integrity, rather than are we a good monkey scribe for this kind of thing.

MR. VRABEL: The second proposal relates to making modifications to 38.552. Just a little bit of background. This revived effort to evaluate the audit trail reviews actually began back with Project KISS several years ago where there was an interest in reducing regulatory burdens that aren’t adding value to the reviews of the DCMs. And one of the first things that was identified across the entire industry was the existence of CTI codes, the customer type indicator. That is actually where all of this began. The customer type indicator historically -- and this is decades ago had value in helping the DCMs reconstruct trading activity, particularly in the trading floor, where the DCMs had obligations to identify instances of customers’ orders being abused by brokers who had dual trading privileges.

Nowadays the CTI code is largely irrelevant to not only the DCMs' trade practice reviews, but it is also a field that the exchanges can impute and determine what the CTI codes should be based on the membership status of the person submitting the order or the ultimate account where that trade is submitted. So that is where this started. What the working group identified is there are other portions of 38.552 that are redundant to other portions of the CBC's regulations.

So just for some background, 38.552 requires that the DCMs maintain an adequate transaction history database and that that database has to include information such as all data that is input into the trade entry or matching system for the transaction to match the customer type indicator code, the timing and sequencing of data, and the identification of each account into which fills are allocated.

Now, we are not here to say that those other fields aside from the CTI codes don't have value. Obviously the exchanges have to have the timing and sequencing in order to reconstruct the trading activity. What the working group is positing is that those particular provisions are redundant to other portions of the regulations.

For example, 38.551 that Mark touched on briefly at the beginning, specifically provides that the DCMs' audit trail must be sufficient to reconstruct all transactions. So one could read that you would be required to have timing information in order to reconstruct all trading activity.

38.551 also requires the DCMs to track customer orders from the time of receipt through filler allocation. So, again, the component of that transaction database requiring that there be information sufficient to identify where trades are allocated is redundant to what is already in 38.551. It is for that reason that we would propose to strike those provisions that specifically proscriptively require the DCMs to maintain particular elements in the audit trail.

MS. BOTSFORD: And to give you a further example of why you should be principles-based, rather than proscriptive, aside from the fact that these things go obsolete from time to time and we don't know what trading will be in another 20 years, as we didn't know back when this list was put together, the industry comes together from time to time to create new elements of the audit trail. And so, for an example, the industry came together to create tag 1031, which is now a uniform tag, as opposed to everyone having their own tag. And that is a designation that tells everyone, "Was this an electronic order or was this a voice order?"

And there is a difference in the processing in the records that might be retained and the information that the exchange in tier 2 might come to us to look for, and by knowing if it is electronic or voice, they know what to look for. If you are too proscriptive, that kind of thing wouldn't necessarily be mandated as retention.

Because we see it as part of the audit trail, we want it to be principles-based so that we would retain it automatically, we do retain it, but we don't know what is going to grow out of blockchain. We don't know what is going to grow out of processing in the future that might be even more efficient than this.

And we don’t think you should try to describe it and miss the mark.

MR. VRABEL: The third matter -- and let me preface this by noting again that the DCMs are required to maintain tier 1 audit trail data. And today the persons subject to 1.35 are required to maintain tier 1 audit trail data. This should be the exact same data that two different groups of registrants are required to maintain. There has been an interest expressed to have the CBC confirm that the DCMs could offer a service to firms where the DCMs would be the recordkeeping custodian for the tier 1 audit trail data for whoever would subscribe to that particular service.

I would note that this is not a novel concept. Back in 2012, when the CFTC adapted regulations 1.31 and 1.35 to incorporate the definition of swaps or recordkeeping rules related to swaps, the CBC specifically recognized that a person subject to 1.35 and 1.31 could rely on a DCM or a SEF to maintain audit trail records. To the extent that the person or the person subject to 1.35 had an agreement in place, a surmising agreement in place, requiring the DCM to maintain those records on their behalf. That was the first thing that an agreement exists.

And the second requirement or the second provision was that the person subject to 1.31 and 1.35 is still ultimately liable for compliance with those regulations. So they cannot shift the burden to the custodian of records for purposes of 1.31 and 1.35.

MS. BOTSFORD: And, just to expand on 1.31, a few years ago when the CFTC made the great step to go and update 1.31 retention requirements to recognize that electronic retention is here and that there is a way to retain it without hiring a technical consultant to keep duplicates of everything that we have, it was streamlined. And it made it a lot easier for FCMs to be able to use an outside vendor or retain it in-house without having to maintain duplicates beyond our BCP, which, of course, we have to do and we have to make those records available. And I think that breaking tier 1 and tier 2 apart and taking tier 1 and having the DCMs retain that on behalf of the industry, it would still be our regulatory requirement, just as it is for the rest of our 131 retention, is just furtherance of the same streamlining and getting rid of the same duplicative cost to the industry, not only in just the cost of retention but the resources in going and reviewing again that this copy matches that copy, which we are never going to be asked for.

MR. VRABEL: I will introduce the fourth and then turn it over to Tammy. The current DCM rules put the obligation on the clearing firms to maintain audit trail data on behalf of, at least for purposes of CME, to maintain the audit trail data on behalf of any connection that the clearing firm ultimately guarantees to the clearinghouse, which means that the clearing firms are responsible under exchange rules for maintaining the audit trail for any of those connections.

There is an interest from the industry if the DCMs eliminate or if the regulations are adopted to eliminate the requirement the DCMs perform annual audit trail examinations, that there be similar relief for the clearing firms to not be required to maintain that tier 1 data on behalf of the connections that they guarantee.

So I will turn it over to Tammy for more insight.

MS. BOTSFORD: So essentially what happens now is nobody gets direct access to the exchange without a clearing member authorizing it and guaranteeing it. And as part of that guarantee, we either arrange for some kind of drop copy after the fact for us to try to retain it or for it to go to a third party to retain it on our behalf or for the entity that has requested direct access to retain it for us, all of which is permissible under 131. And this is all electronic.

The problem is every time you transfer data, that is an opportunity for loss or corruption. Every time that we get data back in and try to process it, it is an opportunity again for some kind of error or omission. Having this all be at a source that is subject to their own retention requirements and already has that information in-house would be particularly helpful.

MS. TYNAN: So I think we will pause there with maybe a little over five minutes left in our time for questions.

CHAIR GORELICK: We have got a question from Tim. We will start there.

MR. McHENRY: Did you attempt to quantify the costs associated with these audit trail reviews, the duplication that is involved, and all of the infrastructure that is necessary to do it, process it?

MR. FABIAN: We did not. However, I can tell you that on the surface in a broad sweep, it takes several of our staff members quite a number of weeks to send out the requests, get the information back, analyze the information to determine the comparison between what we see and what they maintain. And I would say it is several people, multiple manhours. And it can take several months to complete that process. And there is often back and forth with the firms supplying the information as well because in some cases, quite frankly, we request fields 1, 2, 3, 4, and 5 and they will send us the information except they have got 4 and 5 or 5 and 6 and there is a process of where you have to kind of sort that out and figure out why it ended up in the wrong field. It is just a matter of different terminology and things of that nature.

MS. BOTSFORD: To add on to that, we don't just take the native file format and send it to them. We have to take it, put it in the format required by the exchange, try to make sure we have it all right. Depending on whether there has been a change since the time that was retained and the time that it was requested, the translation table may need to be a different translation table if elements have moved around or been added or been subtracted. So it becomes kind of a little bit of a forensic exercise sometimes.

MR. VRABEL: And just from CME's perspective, we have two and a half full-time headcount allocated to frontend audit trail reviews.

MR. FABIAN: From the ICE perspective, we don't have dedicated employees. Our analysts do this in addition to their other investigative processes. So if we were able to eliminate this annual review, they could be dedicated to doing other investigative work or to doing further targeted audit trail reviews, such as periodic reviews of authorized trader IDs as the person submitting the order is an individual. So, in other words, the authorized trader ID that we get, does that actually represent an individual or does sometimes that ID operates - identify several individuals, which is a problem for us? So we do spend quite a bit of time focusing on the key elements that we believe are subject to potential issues when supplied to us, as opposed to, is it a five-lot order in the March contract? That is the type of thing that gets covered in conformance testing when a participant connects to the exchange.

MS. BOTSFORD: And for the FCMs, typically this is part of someone's job on top of their daily book of work inquiries come in and then need to be prioritized ahead of whatever the daily work is to get it back out on time.

CHAIR GORELICK: Larry?

MR. TABB: What I would be kind of concerned about -- and I am not sure because I am not that familiar with the audit trail process -- is, you know, there could be problems in three or four places. One, you know, a customer sends an order. And somehow the

FCM screws it up and then gets it to the DCM. There is some sort of fraud or some sort of, you know, crazy thing going on within the FCM to the DCM that may be overlooked or whatever. In terms of sponsored access, I am using your ID and you don't know what I am doing.

I just want to make sure that if we wind up backing away from some of these rules, that we can backtrack and make sure that, all of a sudden, we don't get a customer inquiry and we can't actually track it back and figure out where the problem is or there is some sort of spoofing going on in the market or somebody is using your MPID and they would call in the equity side. You know, can we be guaranteed or sure that we can cover all of this stuff if we wind up modifying these things?

MR. FABIAN: So again, this kind of goes to the tier 1/tier 2 discussion. Right now, tier 2 is not something that -- the audit trail is not something that the DCM has natively in its systems. So as it exists today, even if these proposed changes were to occur, we would still go to the FCMs to get that information. So if that issue exists today, it is going to exist tomorrow if these proposals are undertaken, not that that is a good thing, but it is something that we would have to pursue tier 2 data --

MR. TABB: So if we make these changes, the challenges or issues of tracking down these problems or issues would not be any significantly different today as it is tomorrow?

MR. FABIAN: No.

CHAIR GORELICK: Supurna?

MS. VedBRAT: I just had a question about the information that you collect at time of transaction, the tier 1 data. It seems like you are not really dependent just on what the clearing member may have because the actual risk exchange is what has happened on the DCM itself, right? So if they are thinking about the market, the information that you have collected and that is in your system is what is going to, you know, identify the risk that has been exchanged.

Now, that information should -- it has multiple checks and balances because I am talking from a client perspective. Once a transaction is done, you are confirming it. You know, there is settlement or what have you, which makes me pause to see that this annual review -- this is just about going in and making sure that there has not been any data alteration or something like that between the periods. But the real information that we need you are getting at time of transaction, you know, perhaps any amendments to it the day after by the time it settles.

MR. VRABEL: Well, just to clarify, what we are talking about are billions of order messages submitted to the exchange. From that, you get the cleared transactions and the allocations and the account changes, et cetera. None of that is going to change.

MS. VedBRAT: Exactly. So, I mean, what you are requesting on removing the or eliminating the requirement just to ensure that the data is maintained properly and matching whatever you have. Like given the advancements that we have had, you know, in technology in the way these trading strategies have progressed, you can figure out if there has been any type of market abuse because of the information that you gathered when the risk exchange or, you know, maybe a day or two after that. I assume at this point like you do have triggers that should highlight if something out of the ordinary is happening.

MR. VRABEL: That is exactly right. I think what you have seen from the DCMs over the course of time is that we move far faster than any regulatory changes.

MS. VedBRAT: Yes.

MR. VRABEL: So when you look back at the status of DCM audit trail reviews in 2010, when 38.553 was proposed, or 2012, when it was adopted, the DCMs, at least CME, did not require an automated versus manual tag on an order submission. You know, that came after the fact, you know, from the DCMs' own initiative.

Country of origin. We required that to be a mandatory field populated with accuracy. So I think we have to trust the DCMs are going to require data elements that are necessary for us to preserve the integrity of the markets, irrespective of what the regulations require.

CHAIR GORELICK: Okay. I think we have time for one more question. We will go with Tom.

MR. CHIPPAS: I will keep it quick. Andrew, with respect to your recommendation number 3, could you just clarify? Is the intent that the DCM tier 1 recordkeeping service would be a commercial product of the DCMs or given it is stated the DCMs already have something that you would just take on? It would be probably helpful for participants to understand the intent.

MR. VRABEL: It would be a commercial offering. I think that the DCMs today, to be perfectly frank, are still evaluating what the legal and regulatory risks would be to be the recordkeeper or the custodian of records for the entire industry. It may come out that, you know, from a legal perspective, you know, the risk of us being that repository is too great relative to the commercial value of that.

MR. CHIPPAS: It might be worthwhile to after you consider that further perhaps make additional recommendations so that the Commission, the staff can think about that because perhaps, you know, joint action could be taken there to both alleviate some of those risks and attendant costs if it doesn’t impugn integrity. That is a good suggestion.

MR. RAMSEY: If I can just add, too, you know, as a trading participant, we spent a lot of resources maintaining our audit trails as well. And to have a commercial offering, particularly at the DCM, where it is the depository of record, would be very nice to have. It would allow us to streamline a lot of what we do as well.

CHAIR GORELICK: Okay. Thank you, everyone from the FIA. And thanks for the questions. We will move now into the second panel, on stablecoins.

Good morning. We are going to now continue with an overview of stablecoins followed by presentations on three stablecoins: Paxos Standard, Dai, and JPM Coin. Our presenters are Charles Cascarilla, chief executive officer and co-founder of Paxos; Steven Becker, president and chief operating officer at the MakerDAO Foundation; Eddie Wen, the global head of digital markets at JPMorgan; and Tommaso Mancini-Griffoli, deputy division chief in the Monetary and Capital Markets Department at the IMF.

I will now turn the meeting over to the panel. Thank you.

MR. CASCARILLA: All right. Great. So I am going to give a quick overview of Paxos and then talk a little bit about the stablecoin that we have. And the we are going to move down the panel.

And I think it is important to understand some of the background at Paxos. I know some of you are familiar with it when I look at some familiar faces here. But it is going to be helpful because we have certain attributes to our stablecoin that are made possible by the way we have set up our business. And so, you know, when we think about Paxos, we really think of ourselves as creating financial market infrastructure for an open financial system. And, you know, we have been around now for almost seven years, and we have raised quite a bit of capital. We have employees and a global presence. We have put together an independent board. And we have really tried to make sure that we have set ourselves up as trying to follow regulation and with a regulatory-first approach to everything that we have done and all of the products that we have created. We have created a number of different products. We don't just have a stablecoin. We have tokenized a variety of different types of assets. That includes dollars. We have also created a white-label version of a stablecoin for partners. Our stablecoin is regulated. I will talk about what that means in a moment. We have also created a regulated gold-backed token. And we are also a custodian holding assets that are crypto assets, cash assets, gold assets, other commodities, and as well as securities. And from a post-rate perspective on the security side, we have created automation tools and a settlement platform. So there is quite a bit to what we do at Paxos.

We are just going to talk, really, around what we do from a cash stablecoin perspective. And I think we have constructed this, and we will hear different versions of how to construct stablecoins differently from others. We have quite a few different types of customers. They are institutional in nature. We are generally an institutional platform. And so we have set it up with a regulatory foundation that enables us to create a regulated stablecoin.

So we created a trust company in the State of New York in May of 2015. We are the first firm to be approved to operate in the blockchain and crypto space as a trust company. And so we are very proud of that. It was a deliberate effort that we went through. It took us a number of years. And that then has allowed us to receive other approvals. We have full SWIFT access, access to Federal Reserve, NSS, vaults around the world. We are in the process of actually applying for a clearing agency registration with the SEC, so a whole number of regulatory approvals that are sitting on top of what is our trust company status. And that trust company status is really the foundation because it allows us to hold assets, custody assets, and then to be able to tokenize them.

So when you think about the stablecoin, the Paxos stablecoin, this is one dollar equals one Paxos stablecoin. Assets are sent to Paxos. They are held in bank fully segregated reserve accounts. They are generally held in T-bills or overcollateralized repo of

T-bills that are maturing in a day or less than a week. So there is no duration risk that we are taking. We are taking no credit risk. We are simply holding dollars in a reserve account. And those equal on map one to one with a token. And that token happens to be issued in our case on Ethereum, though we will likely add other chains over time.

And so that one-to-one mapping is really important. It is verified through independent auditors. And so we have an independent auditing firm that makes sure that at all times, the dollars equal the number of tokens.

So there is no fluctuation. There is no attempt. There is no attempt to create a profit from anyone who holds this token. And it is always redeemable for one dollar.

Now, if you come to Paxos and you send us dollars, you have to be a customer. Because we are a trust, we are incorporated under New York banking law, chartered under New York banking law, we follow the practices for AML/KYC that you expect out of a bank. We have a BSA officer. We have four to six weeks of audits every year from the DFS coming in from an exam perspective. We have Grant Thornton as an independent auditor of our internal audit controls. Deloitte Touche is our external auditor. We have an independent board of directors. All of this is done in order to create a lot of confidence amongst all of our customers that our dollars are held in these segregated reserve accounts. And then we have a separate auditor that just audits the bank account. All of this oversight is really meant to create a lot of confidence that, unlike certain other examples in the stablecoin space, that you might have an unbacked token.

And so one dollar equals one token. That token is then issued to a customer that has been onboarded and which is following our compliance programs. And they now have this token they can onward send us.

If someone comes to Paxos and wants to be able to redeem, they can do this. They have to be a customer or they have to be again onboarded. And they can come to us with that token. We will burn the token and then give them a dollar. And so that is the way in which we manage this process.

I think there are a lot of benefits to creating tokenized dollars. There has been a lot of talk about this for central bank digital currencies and other ways of creating so-called stablecoins.

Putting a token onto a blockchain I think really changes the utility curve of the dollar. It is able to move 24 hours 7 days a week. I mean, it is not tied to a 9:00 to 5:00 banking hour. It is able to do this instantaneously. So you are not talking about hours or days in the case of ACH or multiple days in the case of international wires. And you are able to do this much more cheaply.

In the case of Ethereum -- there are many other chains this can be done on, but in the case of Ethereum, it is about three cents to five cents to do a transaction. Imagine that. You know, that is two orders of magnitude or maybe even three orders of magnitude less than a bank wire, international bank wire.

So you are able to move money in a completely different way. And you can program it. So it is important you can create programmable money. And so this is really important. And where this became very clearly needed was in the blockchain space because assets are moving 24 hours 7 days a week very cheaply. And you didn’t have a way of moving money across it.

And, then, the last point is it creates access. If you have a smart wallet, you can now have access to digital U.S. dollars. That is important for global use of the dollar. It is important for underbanked and underbanked persons who don’t have access to a bank account because today the only way to have digital dollars is through a bank.

And so these are I think some of the real key benefits. And that is why we set the Paxos Standard token up this way. And, importantly, not only are we regulated. The token itself is regulated. So in order for us to issue this, we had to take the token and the proposal to our regulator. They saw the proposal in its totality. And they then approved us to be able to do this. So this is a completely different standard from, really, how anyone else is operating in the space, which is something we are very proud of. And we have been able to leverage this in a number of ways. So we have created stablecoin as a service.

So we can do this not just for ourselves but very traditionally in financial services, there is a concept of white labeling where you can add a partner who might be there from a branding or a marketing perspective, but we are still running the entire process. It is still regulated. It still has the same exact controls. Everything is being done in the exact same way.

And so we have done this for a number of different partners, but Binance is probably maybe the most notable in the way they are doing it, which is having the Binance name on what is this Paxos infrastructure. And so that gets to maybe the very point of what we are trying to do at Paxos, which is create this financial market infrastructure that can be utilized by many different firms but, yet, doing it in a way that is regulated, that has all of the right controls and has all of the right type of oversight and opening it up to a much broader market.

So we are really proud of this stablecoin as a service, the process that we have done. There are a number of conversations for other firms that want to be able to take advantage of this very same service.

And so I talked a little bit about how we are regulated. There are monthly attestations on our website. You can go and take a look and see that, you know, we don't just have this auditor. You can actually verify it yourself through independent reports. And I think the use cases for stablecoins, which I am sure we will all about it here, are really around trading, settlement, and payment movements, being able to trade real-time movements of money. And this works for a number of different types of businesses.

We have partners and I think conversations that we will be talking about as the year goes on around payment firms, around banking firms, around remittance firms that find us to be of significant utility for their businesses. And so we tried to make sure that we approach this in a way that is creating a significant level of regulatory oversight without losing the utility that blockchain brings. And that is always a challenge because blockchain can be open and there could be a perception that anyone can use it. But the way we put it in place, really, I think solves many of those underlying issues.

So, with that, I will stop and turn it over to Steven. Sorry. I am actually also dovetailing his technology here. We are a technology firm.

MR. BECKER: Thank you very much, everyone, Commissioners, thank you very much for inviting me to speak here today. I just wanted to acknowledge my team as well: my GC, Brian Avello; head of comms, Mike Porcaro, and our advisor Allen Slover (ph), here supporting me today. So this is really a joint effort.

This is a panel about stablecoins. You have to consider decentralized stablecoins in order to be very complete in your consideration. And it is decentralization that is really important.

Decentralization is inherent in a free and open-market economy. And it also happens to be the underlying structure of a public blockchain. So my contention is that the U.S. is in the best position to extract the best possible value out of public blockchains.

The decentralized finance space, otherwise known as DeFi, has this critical element as well. And it is through DeFi that MakerDAO enables the developments of an un-blockchain economy. And it is not just only an un-blockchain economy, but it is one that dovetails and intersects with the traditional world.

In order to figure out how that happens, we need to take a bit of a step back and ask a really tricky question. What is decentralization? So I have been mulling about decentralization for quite some time and decided to make it simple, let's have a look at some definitions. What I found was when you looked at the definition of decentralized, this became interesting. No matter where you looked, it really came down to, to be decentralized means not to be centralized.

(Laughter.)

MR. BECKER: Very helpful.

But what I did find is that decentralization as a more objective process becomes more practical, becomes more pragmatic. It is the dispersion and distribution of functions of powers. This is something you can work with. So when you think of decentralization, it is more about a framework. They are looking at a definition. So if we considered a framework, what do those attributes of that framework look like? How would you be able to put your finger on something and say, "Yes, that thing can become decentralized"?

The first attribute -- I am keeping this fairly simple -- is that decentralization must be possible. If I am an asset originates and I tokenize my assets, I am in the position to become decentralized.

The second attribute is that decentralization must improve over time. You can look at this from sort of a technical point of view and say to yourself, "Architecturally and from a technological standpoint, how many computers are in this network, in the system? The political side of it, how many folks are controlling these computers? And what about the social aspect? Who is ultimately guiding all of these folks?"

So decentralization is very important in terms of it has to constantly be improving.

And, then, last but not least -- and this is a bit of a tip of the hat to Commissioner Hester Peirce Is that decentralization should ultimately support the intended function. If it doesn’t, you end up having a misappropriation of resources and really looking at a whole bunch of scams as well.

But why does decentralization matter? We framed the argument, at least framed a construct around decentralization, but, really, at the end of the day, why does it matter?

Well, it is about accessibility and independence. If you can create independent access to the financial global system, what does that mean? And this is a statistic that I am sure you have heard a couple of times already, that there is 1.7 billion unbanked. And blockchain, the DeFi space, can help engage and bring those folks on chain.

But, to be honest, that is a large number. And it is a very remote statistic. So I am going to try and bring it a little closer to home. The Center for Financial Inclusion has stated that 68 million Americans are currently underserved. That means over 20 percent of the population cannot afford to be a part of the financial system.

Generally, I end my sort of value proposition there about DeFi, but let's take it to the other side of the spectrum. What about Citibank? Citibank has around about 200 million accounts that it services around the world. Why would it be interested in the permission of this public blockchain? Why not just create a permission blockchain? It is a good idea. You have a lot of control, a lot of speed. That is fantastic. But you don't have access. You don't have access to that 1.7 billion. You don't have access to that 68 million. If you try to do it any other way, you are asking those folks to trust you. And that is the blocker.

Again, keep in mind that when you have a look at stablecoins, Charles has given us a very thorough idea of what I call a centralized stablecoin. And what we are presenting here today is the counterpart to that, the decentralized side. And let me make it quite clear right now they are complementary in my view. We need as many centralized as decentralized projects as possible. So if you have a look at the space that Citibank would be involved in, well, you know, they have access to all of these folks. They could turn 200 million accounts into a billion. That means that they are not going to be by themselves. You are going to have so any folks in that space.

With the access to such a client base, you are going to have opportunity, which, you know, gives rise to innovation. You are going to have a race to the bottom in terms of consumer costs. That is really the driver of competition and efficiency, which ultimately ends with growth. This is boots-on-the-ground jobs. This is the development of the current industries that we have and the development of new industries that come from, importantly, the intersection of blockchain, decentralized blockchain, and the traditional economy.

With decentralization, like everything else, it is not all flowers and rainbows. You know, there is always an issue. There is always an aversion to change. And currently there is this misconception that decentralization is unmanageable. It is not capable of being regulated.

I would like to sort of point back to previous statements I made about the fact that decentralization is inherent in an open, free-market economy. That means we actually have the tools available to us to apply it appropriately. We just need to change our perspective in terms of how we actually apply it.

If you imagine for a second decentralization as an ocean, it is really impossible to try and regulate the ocean. But you can certainly regulate the ports, the harbors, the ships, and the shipping lanes. So that is really what I call regulation at the edges and the ships in the shipping lanes looking at the regulation of these walled gardens.

So what this really requires is looking at the current tools we have and just simply saying, instead of trying to control for the ocean, why don't we try and control for how we interact or engage with it? It really comes down to looking at the control of the activity, not just the entire structure.

So let's come down to a subspace of decentralized finance, or DeFi. Really, what is it? A couple of definitions are out there, but this is the one that really resonates with I think the broader aspect of what MakerDAO is involved with and what DeFi is trying to do. It is trying to create a new monetary and financial system built on public blockchains. Importantly, it is a system that augments. It does not replace or substitute the traditional one. I can't emphasize this enough. You do have naysayers on both sides, where they say, "Blockchain is ridiculous. Let's not have it" and folks from the blockchain saying, "The traditional world is rubbish. Let's burn it to the ground." But ultimately there is a realization that the value to this whole equation is at the intersection of the blockchain economy and the traditional one. And, then, finally, this is a system, as I mentioned before, that creates value by enabling this independent access to the global financial system.

Now let's get to MakerDAO. You know, what is MakerDAO? And, importantly, I need to stress that I am introducing MakerDAO now, as opposed to the beginning of the presentation, because we really need to set the stage of what decentralization is, have a working concept of what DeFi is because then MakerDAO makes a lot more sense.

And, strictly speaking, MakerDAO actually is made up of two components: one, a protocol; and, two, a community. And this is of the utmost importance to understand. It is the community that creates the value. We are talking about a decentralized system. It is the community that is engaged with a decentralized system that gives it the value and also permeates the value into the traditional space.

So what is DeFi? Sorry. Once you make it down, where does it fit in DeFi? So if we have a look at just the Maker protocol, simply speaking, it is a decentralized protocol layer on top of the Ethereum blockchain. So it is a layer that is applied on top of the Ethereum blockchain. It is an open-source protocol that is blockchain-agnostic. Very important, Charles mentioned that the consideration of Ethereum is really important, but being open to other blockchains really is vital as well. It also presses the idea of interoperability, which, you know, that is a conversation for another time.

The fact that you also open-source leads to the underlying robustness that you have with general open-source software and how you can ensure that it has a certain level of integrity and quality.

And finally, most importantly, MakerDAO provides the necessary tools for the DeFi space to enable this growth of the blockchain economy. And this is something we need to dig into. And I think most folks would be taken aback by the fact that these tools that are provided by MakerDAO are the primary function of the Maker protocol, where the stablecoin Dai is actually the byproduct.

So if you have a look at the tools of these functions, they really break down to three parts. There is the ability to collateralize the transfer of assets into the protocol, the ability to generate credit. This is how the stablecoin Dai is created. And then there is a rewarding tool. In other words, there is the ability to stake your Dai and earn Dai or get rewarded with Dai on the back of that.

Now, again I need to sort of emphasize that the Maker protocol's primary function is to provide these tools to the DeFi space because with these tools, products and services can be created on chain. That developing economy that I have been speaking about, that gets further enhanced. But in order to facilitate the transactional value, it requires a stablecoin. And that is where decentralized stablecoin really takes full effect.

But let's get to the point. How is Dai actually generated? We are talking about a decentralized system. And the best way I know in terms of explaining this is through a wonderful analogy. So let's pretend that you have got $15,000 of gold in your vault in your basement, hard thing to do, but let's pretend. You go down to the basement. You take that gold out, and you go into your study, where you have just procured yourself a very nice smart vault. You stick that $15,000 of gold into that vault and close it. That vault is smart. It realizes the value that is inside the vault and, in turn, generates for you

$10,000 of credit.

You want to go on vacation. What do you do? You go, "Well, this is a great idea. I am going to take $5,000 out, go on vacation, enjoy myself."

When I come back, I will go back to work. I will earn my $5,000. And with a small fee, I take that money and put it back into my smart vault. The smart vault opens and allows me access to the gold.

I want to pause there for a moment because there is something critical here. The gold belongs to you. The vault belongs to you. The cash belongs to you. This is the ultimate expression of decentralization. In fact, if we take this analogy and have a look at how it is applied on chain, substitute ether for gold. And that smart contract, the vault, is really just, you know, a production of code on chain that accepts that value and assesses that generation of credit, which is Dai.

So here is the important thing. Where does Dai get its value from? And this is critical. You need to start off with $15,000 in your pocket to purchase this digital asset called ether or whatever digital asset you wish to put into this vault. That is critical. Dai does not get created from nothing. And that is really essential to not only policy, but it is also essential when you refer to CBDCs and look at stablecoins as the private market counterpart to CBDCs and, by extension, in a central bank cash.

To that end, you have purchased this asset, put it into the vault. You have generated Dai. And that Dai sources its value from a dollar-denominated asset. That is where the value comes from. That is where the source comes form. You use it as you would any other stablecoin. And when you are done with it, you bring it back to the vault. And, in exchange, you get your collateral back. I made that sound binary when, in fact, you have a lot more versatility. If you only use a little, you can extract collateral out if you wish and balance and manage your vault as you see fit.

An important, another important, distinction to make is Dai is a decentralized stablecoin. It is not algorithmic. It still requires the engagement of the community to make sure that it operates appropriately. That is why it is so important from a DeFi point of view is that DeFi is finding its value at the intersection of the real world, where people exist and they do need to interact.

So what are the takeaways? What are the conclusions from this that I wish you guys to think about after this presentation? And that is MakerDAO is a subset of the DeFi space. And, in turn, the DeFi space is a subset of decentralization. And decentralization requires a change in perspective to see the value inherent in it and available to everyone and that value is and does come from an open and free system that embraces this accessibility and independence.

And, on that note, I would like to thank you very much for your time and consideration. Over to the pilot.

MR. WEN: Hello. Thank you for that.

I first thought I would kick off the thank you to the commissioner for inviting me to speak on the panel.

I was advised by counsel that I should lay out a brief disclaimer that the presentation I am about to give is a reflection of my personal views, not necessarily the views of those of JPMorgan Chase.

That said, look, my name is Eddie Wen. I am the head of digital markets at JPMorgan. I am here to talk briefly about the JPMorgan coin. This is a prototype stablecoin developed by my colleagues in the wholesale payment business in conjunctions with our Blockchain Center of Excellence. BCOE was a group founded in 2015, really designed to explore the applicability of blockchain technologies for the bank. While I am part of the Capital Markets Division in the sales and trading businesses and I am not a subject matter expert on blockchain and DLT, I have worked with the team in examining the applicability of distributed ledger in blockchains for the bank. And we have concluded largely the most viable applications of this technology lies within either our payment space or the settlement of transactions in the back of it. I think that is kind of reiterated with some of the earlier discussions.

Now, I would also emphasize that the product

I am about to describe has not gotten full regulatory approval. It remains as a prototype and not yet live as a live service. Now, we have done production parallel testing with customers on various different implementations. The results are promising, and I think there are a lot of benefits to a JPMorgan Coin that would help in enhancing some of our infrastructure.

Lastly, there were also previous conversations on the panel discussing JPMorgan Coin. And we felt that some of the discussions did not properly reflect what the product offering does. So this is a good opportunity for me to kind of clarify how the product works.

So, with that, I will move on to the next slide here. Look, some of this may be a rehash of what my previous speakers have talked about. So I will try to make this brief.

In short, the digital coin, the JPMorgan Coin, is a digital coin designed for instantaneous payments using blockchain. It is built on top of the Quorum protocol-based blockchain network, but it can be adapted to interoperate with other protocols, subject to client demand. And this product is only available to JPMorgan customers who have gone through our AML/KYC process; it is a permission blockchain and is not available for retail use.

So I think it is also good to pause here to give you a little bit of backdrop of why we think this is a very useful product. And some aspect of it probably looks more like software infrastructure, which I will talk about a little later. So the backdrop is a lot of times in our merchant services business, a lot of times when a merchant provides the good and services that are sold, oftentimes they issue a bill for the clients to pay and some subsequent ladder process.

So now both on the client and its operations side have to deal with accounts receivables and payables. And the process of handling that is very intensive from a technology perspective and human resources perspective. And, largely, I think we think that the ability to bundle in a ledger the transaction which involves procurement of the goods instantaneously with payments, we think that ultimately is a huge value-add and a cost savings for the payment business overall. So, hence, we think why this like the JPMorgan Coin is an important infrastructure component to allow that to happen efficiently.

Now, you may ask, is this coin currency a legal tender? Well, it is not money per se, right? It is a digital representation of our clients' money at JPMC. In short -- right? -- it always has a value equivalent to U.S. dollars. And it is backed by the faith and credit of JPMorgan Chase. It currently is applied to the U.S. dollars, but conceptually the technology is currency-agnostic, and we can apply it to other currencies beyond the U.S. dollars provided the pilot continues.

Now, we listed here a couple of use cases. Again, they are kind of in the payment space as well as the settlement space of various different applications. We feel that the common theme here is that having a digital asset like JPMorgan Coin represents the essential payment leg of a blockchain transaction. And it is applicable for building a variety of different applications. If you look at it, you could call it a crypto asset, but, really, does it look more like a software infrastructure to support the business that we do? And I think ultimately if we are successful in making ubiquitous deployment of JPMC Coin internally within the bank, a lot of the applications and systems that we built in JPMorgan could be substantially simplified.

So this is a relatively simplistic illustration of how a particular use case with the coin will work. And, as I said, these coins are a digital representation of the clients' money at the bank. We could break it down into three steps. One is the issuance process. Second is the coin transfer. And, finally, then there is a redemption process, which converts the coins back. So in the issuance process, the clients can instruct the debit of his JPMorgan deposit account, certain amount of U.S. dollars. And those dollars will turn into blockchain-based digital U.S. dollars housed by JPMorgan Coins.

Upon the clients' instructions who wish to make a payment to another JPMorgan client on the blockchain, a new ledger entry is introduced representing the debit and credit of JPMC Coins between the two clients.

And, finally, if the client chooses to redeem the coins back to U.S. dollars, they can do so and convert the coins back into their money in the deposit bank.

So you could see that the repeated use case of this could be very powerful. Now, it does not use the traditional payment rails, which could be very costly and time-consuming. Blockchain provides atomicity, traceability, 24-by-7 operations, ease of reconciliation, and lower cost, and what traditional means of payments would have been. Operational staff may not have to spend as much time tallying up netting transactions and reconciling that with client balances upon the tally transactions. This is the core value proposition of what the coin is and how it makes it more efficient for our business.

So I thought it may be helpful to kind of give a brief overview of the taxonomy. And I think Tommaso may actually touch upon this in the subsequent conversation. This is actually a report that was published by the G7 working group recently on the taxonomy of stablecoins. There currently is a lot interest in stablecoins, though the market participants recognize the inherent volatility of cryptocurrencies make it very difficult to build a payment platform on top of. As a result, there are many variants, as we heard some today, having created, but there are important distinctions between the various different flavors.

As I mentioned, the G7 working group published a paper. And it largely classified the stablecoins into three different categories -- right? -- a depository coin; a value redemption asset-backed coin, a very low-redemption asset-backed coin; as well as a fixed redemption asset-backed coin.

The JPMorgan Coin is a variant of the depository coin. It is simply just a digital representation of clients' money at the bank and is readily redeemable at par. Now, other types of stablecoins may have variable or fixed redemption values. They are subject to the credit quality of the issuer. And they may be openly traded in a market price that fluctuates away from the underlying asset values of the asset pools that are in there.

So that brings me to kind of discussions around our regulatory views and some of the core principles we think it is important in the guidance and oversight of digital assets, including the stablecoin. We feel very strongly that that regulation should be activity-based. Now, digital assets are subject to activity-based regulations. It should be regardless of the type of financial institutions that are conducting those transactions.

Secondly, minimum standard for DLT networks should be established. Blockchain networks should be subject to minimum standards to reduce systemic risk. Examples such as cybersecurity risk, data privacy, and resiliency, those types of guidelines on guard rails for those would make sense to regulate the space.

We also believe global consistent oversight is important in these borderless markets. We have tried for global consistency to avoid cross-jurisdictional arbitrage. If you create a service in one jurisdiction versus another, you should be subject to the same rules.

And, finally, ongoing regulatory engagement. I think this is part of the reason why we are on this panel. As the pace of technology evolves, regulators should have a means of engaging market participants on an ongoing basis to appropriately calibrate the oversight process.

So I would close by the following. So the JPMorgan Coin is not an attempt to replace the global payment system. It is a mechanism designed to improve it.

JPMorgan's payment business is subject to the same regulatory oversight. With or without the JPMorgan Coin, it is a highly regulated business and will continue to be that way. However, JPM Coin could reduce the operational paying points, providing greater traceability, less time and effort, and spent on reconciliation and other operational activities.

Overall, this will translate into lower cost-of-service provisions for the bank as well as for our customers. And it provides an infrastructure for us to build the next generation of digital applications and services. Right?

And, with that, I will hand it over to the next speaker.

MR. MANCINI-GRIFFOLI: Thank you very much. It is a pleasure to be here. Thank you for the invitation.

I will speak about my own views, not those of the IMF or its executive board.

And I have been invited to speak about stablecoins. I will speak about stablecoins more generally. And this is based on a paper that I published last summer with Tobias Adrian, also at the IMF, which was the foundation, actually, for the G7 paper, of which I was also an author, that Eddie just mentioned.

So I am going to try to give you a bit of an overview of what stablecoins are, at least how we see them, with my coauthor.

So the question I would like to start with is, how do you pay for coffee? And this is really not -- I am not trying to start with a joke. This is very serious. How do we pay for coffee? I chose coffee maybe because I am an Italian. So that is the most important part of the presentation: good coffee. Right? And the answer is really with a stable store of value. So we like stable stores of value. We like to hold stable stores of value in our pockets because when the coffee costs one dollar, we want to be able to pull out that amount to pay for it. Vendors like to be paid in a stable store of value because what they receive, they don't want to be able to transfer immediately into something else.

And so the serious parts of this slide is, what is a stable store of value? We can't just take it for granted. And what I would like to suggest is that a stable store of value is rooted, first and foremost, in a real good; in this example, coffee. We want to be able to pay for something. What we hold as a stable store of value needs to have identity that would allow us to pay for something.

Now, that something has a price, which is expressed in the unit of account, say one dollar. And we pay for that good, one dollar, with private money unless we pay with a dollar bill. When we pay with a bank account, when we transfer a bank deposit, it is a private form of money.

Now, the fact that one dollar, that face value of one dollar, allows us to pay for coffee today and tomorrow and hopefully next year has to do with price stability. So price stability is part of what we intend with a store of value, with a stable store of value.

But there is another element to a stable store of value, and that is exchange stability, something that we take for granted. We take for granted the fact that if we have one dollar in our bank account, we can pay for coffee that costs one dollar. But we shouldn't take it for granted because there is this notion of exchanging the private money into a government-backed form of money, into cash essentially, to pay for coffee.

Now, you would find this perfectly reasonable if the private form of money were foreign currency. And then we could speak about foreign exchange between the foreign currency and the dollar before we can pay for coffee. And what I would like to argue is that

that notion of exchange stability also holds true for dollar-denominated private forms of money, such as bank deposits and stablecoins. So what I would like to do is focus on this notion of exchange stability and leave price stability for the central bank to worry about. But, nevertheless, in the context of this presentation, it is important to keep in mind that both price stability and exchange stability are part of what we intend by a stable store of value.

So there are two types of private monies: collateralized and non-collateralized. So collateralized types of money are forms of money that are backed with collateral and which you can redeem against that collateral. So a bank deposit, for instance, is a collateralized form of money. And so are stablecoins.

Uncollateralized types of money are crypto assets, bitcoins, for instance, or, frankly, cash. Cash is not a private form of money, but it is a good representation of a non-collateralized form of money. You can't redeem cash against anything else. You would come to the bank with a $20 bill. You can get 2 10s, but you can't get anything else for it.

So let's focus on collateralized forms of money. And what I would like to do is explain what a stablecoin is by comparing it to a bank deposit along these five dimensions: denomination, exchange pledge, backstop, settlement technology, and backing asset. I will clarify what each of these is throughout this presentation.

So let's think of a bank deposit that we call for simplicity B money, bank money. So a bank deposit is denominated in the domestic unit of account. It is in dollars. It can be redeemed or exchanged at fixed face value. So if you have $10 in your bank account, you can redeem that against $10 bills, against a $10 bill. You can do that. And you believe that you can do that because there is a government backstop: deposit insurance, lender of last resort, emergency liquidity assistance, supervision, et cetera. The government plays an important role in making that exchange pledge credible to you.

When you transfer B money, when you transfer accounts, deposits held at a bank to another bank, the technology is centralized. It is an account-based form of money where there is a check of your identity. Are you the rightful owner of this account? If so, yes. And then we will transfer the money. And that transfer is settled centrally, through the central bank ultimately.

The backing assets that the bank holds against this claim that you have can be mixed because of the government backstop. So this is pretty simple, pretty straightforward. We understand that that is the world we live in. How do stablecoins compare? And what I would aim to do is emphasize that there is no single stablecoin and there is no single form of alternatives. They vary according to exchange stability.

So that concept of exchange stability that I had up there on the slide is important. And what I will discuss now is first what we call E money and then another form of money that we call investment money. And I will suggest examples that vary according to exchange stability.

So the first example is what we call sCBDC.

Don't worry about the name. What is important to understand is that this is a form of digital money that is also denominated in the local unit of accounts that has an exchange pledge. So you can redeem this at face value against cash.

But the backstop is private. The government is not involved. So the company that issues this liability, as CBDC that you use for payments, has to rely on only itself to create trust. And how does it do this? Well, it does this by backing the assets.

So we will jump now to the last step here. Backing the assets was something that is very, very safe and very, very liquid. And in the most safe and the most liquid case, that is central bank reserves. So this is a narrow bank. That whole central bank reserves and issues a liability to be used for payments by you and I.

And the settlement technology in this case is mixed. It can be centralized. It can be account-based or it can be decentralized. What I intend by decentralized is token-based, blockchain-based if you want, where your identity is no longer important but the validity of the token is important.

That is sCBDC. The next step is what currently exists and are very popular in other parts of the world: closedloop systems. This is what Alipay and WeChat Pay are, for instance, in China. So the denomination is again in the domestic unit of account. There is a pledge for exchangeability. Reading ability at face value, there is a private backstop just as sCBDCs. But the only difference is that this is a centralized account-based system. So you have an account at Alipay or WeChat Pay. And the assets that are held, well, are safe and liquid, not quite central bank reserves, although in the specific case of Alipay and WeChat Pay in China, the central bank has deemed the setup with, you know, safe but private assets as too risky and has asked Alipay and WeChat Pay to hold only central bank reserves. So that example has now migrated over to sCBDC but started out as closed-loop systems.

And there are others around the world. M-Pesa in Kenya is one that is extremely popular that 90 percent of people in Kenya use for things.

Now, the last is what I call coins for lack of a better word. You might come up with something better. And if so, let me know. It is very much the same as all of the other examples I have described except that it is not decentralized. It is token-based. And the assets held against this claim that you hold are safe and liquid assets. And they can be government securities. They can be deposits in a large bank or other types of assets.

The last type of money is what we have coined investment money. And that is a liability that is issued in its own denomination. The redemption is no longer fixed at face value. In fact, there is no such thing as face value in a unit of account that we -- such as the dollar or the euro, et cetera, the government unit of account. The redemption is variable at market value. So, essentially, you get back the value of the collateral at market value whenever you decide to redeem.

And here the settlement technology is decentralized, and the assets that are backing this claim are mixed. So this is very similar to an investment fund, where you simply hold a tokenized share of the fund.

There are some schemes that are very similar to this and that we have labeled I-money. In fact, we were public about this in our first paper. The first iteration of Libra we thought corresponded to I-money, as opposed to E-money, because the redemption was a variable rate. And you were only going to get back the market value of the underlying assets at the time of redemption.

Very well. So what is a stablecoin, having laid out the environment here? Well, basically, a lot of stuff can be labeled as stablecoins. And that is an important takeaway, if anything, from this presentation, is that stablecoins is an extremely, extremely diverse term that captures a lot of different types of schemes: both E-money coins, so E-money, that is token-based, and I-money as well. So never think of stablecoins as one type of product. Always look at how the underlying product is actually constructed.

So, of course, we are concerned by public policy objectives and by how stablecoins might or might not satisfy these objectives depending on the design. And, again, it is very important to look at stablecoins on a case-by-case basis.

We think about consumer protection. And let me just jump to the next slide here to illustrate why there can be concerns about consumer protection. Stablecoins are, after all, issued by a private company with private backing. There is no government backstop, as we suggest, I suggested earlier. So there is always the question of whether a stablecoin represents a claim, a legal claim, against the underlying assets. There is the question of what happens when the issuer of the stablecoin defaults, whether the access to the claim on the underlying assets is protected from bankruptcy. And there is always, of course, the possibility that the underlying assets are exposed to market for an exchange and liquidity risks. So there is a question mark about consumer protection.

I think that, because of that, there is also a question mark about financial stability. If there were very large redemptions out of stablecoins or movements of capital out of countries into stablecoins, whether stablecoins might facilitate bank runs in countries, in weak countries, out of their currency.

There is also a question mark that is very important for the IMF. And that is whether stablecoins might undermine monetary policy control in countries with weak institutions and high inflation, where there is partial dollarization in those countries already. So people hold dollars and transact in dollars already, but doing so is relatively expensive because they need to either hold them under the mattress or hold a dollar bank account. And the question is whether dollarization in those countries might become a lot easier with stablecoins and, as a consequence, whether those countries will lose monetary policy control entirely.

There are also questions about data privacy and confidentiality, obviously, who holds the data that is generated when the coins are transferred.

There is a question about competition and efficiency. I think the most important term here is "interoperability." Are these new coins interoperable? If I hold coin A, can I exchange? Can I pay somebody who holds coin B? If not, there is a question of fair competition, obviously.

There is also a question mark about financial integrity. To what extent are wallets KYCed? To what extent are transactions, subsequent transactions, in stablecoins actually monitored? To what extent are these stablecoins compliant with FATF standards?

So these are the questions that we raise at the IMF with regard to stablecoins and in the regulatory community. And I think I will end with that. Yes. Thank you very much.

CHAIR GORELICK: Okay. Thank you very much to the panelists.

And, with that, we will open up to any questions. Since I didn't get to Gary last time, I will start off with Gary.

MR. DeWAAL: A question for you, Steve. So it is intuitive to me why either a private or a decentralized stablecoin backed by an asset in one way or another would make sense. What is the use case for a stablecoin backed by a budget digital asset that has tremendous volatility? What is the use case for that?

MR. BECKER: Well, the first thing is you have -- using just ether as an example, you have a limited-use case. But the idea here and with respect to MakerDAO is to consider the fact that any collateral type could be possible to use. And that is why MakerDAO is incredibly important in terms of the intersection between the decentralized space and the traditional economy because if you think about something like dead factoring, you might be able to get into a point where you can tokenize invoices and you can get your financing from a decentralized space a lot quicker than you could from a traditional space. You might have better terms because the collateralized comes with different parameters.

This is not - - this doesn't live in the world of imagination and potential. Right now, there is an organization called dexFreight that is doing that for truckers. You know, someone who is sitting behind the wheel is pulling a payload they invoice. And at the same time, they could flip over to another app and go, "Let me go and factor this invoice." I mean, again, it is in its infancy, but it is happening right now.

So what MakerDAO does is it gives this broad capacity for everything from creating brokering services on top. You have got to be a registered and regulated loan originator. You can wrap your business around that functionality and offer that service. In effect, imagine this entire protocol integrating into the backend of -- sorry to say this -- JPMorgan, Citibank, and whatever the case may be. It takes the efficiency of the blockchain. It takes the execution and settlement elements that happen at the same time from the blockchain and applies it to the ability to finance. So the use cases, working capital, capital structuring, general trading. Really, everything you can think about in terms of finance and insurance you can apply using the Maker protocol.

CHAIR GORELICK: Thanks. Tom?

MR. CHIPPAS: So regarding some of the stablecoins -- maybe this is more appropriate for Chad and for Eddie -- the presentation from you, Chad, said that reserves are held in the safest financial instruments. Do those instruments pay interest?

MR. CASCARILLA: Yes.

MR. CHIPPAS: And do the coin holders receive any of that interest?

MR. CASCARILLA: No.

MR. CHIPPAS: It would be interesting to understand why.

MR. CASCARILLA: I think as soon as you were going to pay interest, it might look like a financial instrument. And that could raise potential securities issues. And so by having it tied directly one-to-one but not having any interest rate component, the value would not fluctuate versus, you know, a physical currency dollar.

And so it is not clear that you would cross -- that alone would let you cross into a securities framework, but it is certainly a potential.

MR. CHIPPAS: And I guess extending that concept, then, you are talking about the U.S. dollar, where, thankfully, we haven't seen negative interest rates, but there have been G20 countries with their currency operating in the negative interest rate environment. How would a stablecoin react? What would be the impact to the coin holder in a negative interest rate environment?

MR. CASCARILLA: I think you are going to have to deal with it in a different way. I mean, the means of replicating the coin started to get a little bit tricky. And so I think that is part of the reason why you have seen a limitation in terms of stablecoins being created in other G7 and G20 currencies versus the dollar. I think that the mechanism in order to be able to manage that would be around transaction fees. You can create a mechanism to be able to do that when it is out in the wild, so to speak, against what would be the negative interest rate.

So it is definitely, you know, doable. I don't think that it is confounding per se, but it would definitely be a change from the way the token operates right now.

MR. CHIPPAS: One last question, if I can. With respect to the instruments that are being utilized to generate interest for the issuer, would you describe those efforts as -- and this is coming from a comment about security concerns or becoming a security. Are those any more than just making sure that you don't have erosion due to inflation and things of this nature or are these active investment activities being undertaken to generate outsized returns?

MR. CASCARILLA: The goal is really safety and liquidity. And so when you think about having basically one-week maturing T-bills, for instance, that is basically the safest thing that you could own. So in that case, I would actually argue that you are safer than a bank because these assets are being held bankruptcy remote. They are not being used for loans for any kind of duration risk, interest rate risk, credit risk. You actually have essentially zero risk by holding your dollars from an investment perspective with us.

MR. CHIPPAS: Got it.

MR. BECKER: So if I may add here, the dollar implementation of JPMC coin is intended to be more of a digital representation of the client's money at the bank. So the questions you ask regarding negative interest rate environment, et cetera, I would make that to be no different than if they were holding the money at the bank directly.

MR. CHIPPAS: Thank you.

CHAIR GORELICK: Thank you.

Commissioner Berkovitz?

COMMISSIONER BERKOVITZ: Thank you. I apologize for the extremely fundamental nature of my question here, but why do we need -- why can’t JPMorgan, for example, do all that you are laid out to do for a stablecoin for JP Coin? Why do you need JP Coin to do it? Why can’t you facilitate all of these customer-type transactions simply with the customer and all of the deposits and just have dollars go back and forth on the blockchain? Why do you need this intermediate thing called JP Coin to do that?

MR. WEN: Well, I think partly a lot of it is technology-driven. If you look at the traditional payment rails that we have, the infrastructure to facilitate payment, much of that may not necessarily can operate on a real-time basis. Nor is it a natural fit for that on a distributed ledger transaction.

So by representing a coin, now, all of a sudden, on a cash leg of any transaction in the distributed ledger, you are able to accommodate that capability to a lot easier.

So some people think of it as more this is more like software architecture to maintain our existing systems and make it more agile. I think there is some truth to that, and it makes it a lot easier to do.

From a client's perspective, you want to be able to get a transaction done quickly and with atomicity. And this is the capability that allows us to do that.

CHAIR GORELICK: Charlie?

MR. COOPER: Thanks a lot.

I think this is a question for Tomasso, but it may also be a question for Steven. Tomasso, in your definition of stablecoins, it seemed broader than I guess I traditionally think of it. And you had said that there might be a variety of different coins that would fall into that bucket.

I am wondering how you would view the Dai example because, if I understood, Steven, you correctly -- and I might not have -- the argument was, "As long as it is collateralized, therefore, Dai becomes a stablecoin." Even if the collateralization is in a highly volatile non-fiat-backed digital currency, that to me strikes me as a bootstrap into stablecoins that isn't right.

Would you, Tomasso, from the IMF or your own personal point of view? Does that fall into the bucket as represented here back I guess ultimately by ether as becoming a stablecoin or is that not a stablecoin?

MR. MANCINI-GRIFFOLI: I am hesitant to comment on this particular example of MakerDAO, which I don't understand fully. But I think a lot hinges on whether there is a guaranteed redemption at face value, if you buy MakerDAO or any other coin, whether you are holding a coin that has a face value expressed in the domestic unit of account and whether there is a guaranteed redemption at face value. If there is that guaranteed redemption, it would fall under the E-money category. And the question is, what guarantees? What stands behind that guarantee? What type of assets? How risky are they? How much capital is kept against in the balance sheet? That will determine the riskiness of that scheme. Nevertheless, I think the important factor is whether there is that guaranteed redemption or not. If there is not a guaranteed redemption, it would be what we call investment money, which is much more like a tokenized ownership share of an investment fund. So maybe I should let --

MR. COOPER: Yes, Steven based on that.

MR. MANCINI-GRIFFOLI: -- Steven elaborate based on that.

MR. COOPER: Based on that because the analogy, I would argue gold is not ether. So I don't know that the analogy holds. So I am trying to figure out, what is the face value of $15,000 worth of ether if the price is moving a lot? I don't get --

MR. MANCINI-GRIFFOLI: Let me just - one small thing. Gold since you brought up gold, we would categorize that as I-money -- right? -- because a coin that is collateralized by gold doesn't have a face value. What you get when you redeem that coin is today's value of gold. You have an ounce of gold as collateral. And when you redeem it, you get your ounce of gold back or whatever the dollar value of that ounce of gold is. So that is I-money for us.

MR. BECKER: Essentially there are two parts of this that we need to investigate. The first one -- and I did bring this up to Tomasso in a previous panel that we were on -- is that the idea of guaranteed payment and the consideration of underlying assets, the very centralized point of view. It really is a case of saying you are constructing something independent of the person or the organization using it.

What I am trying to express here today is that a centralization is very much pointed at the fact that it is you and the protocol. There is no counterpart. There is no counterparty risk. From the collateral point of view, the idea of looking at gold just becomes a lot more tangible. It gives you a sense of what this asset is.

As to the analogy that gold is ether, you are correct. I am not trying to make that equivalence. What I am trying to say is that you have a dollar-denominated asset. That is, in essence, what we are talking about. A dollar-denominated asset that you own that you put into your own vault, as it were, a smart contract on chain that you own and to generate credit that is yours is really the point that is trying to be made here.

Now, the previous question from Mr. DeWaal was what are the use cases here? Well, ether is a good example because we are familiar with it. And that familiarity brings us to this blockchain space. But what if for a moment, you did have a crypto native asset that did have a good sense of stability and did represent some sort of commodity? Let's say you had on-chain nickel or on-chain cobalt and you could use that as the asset that goes into this particular vault. Again, this is really where it comes down to the spectrum of choice where on the one side, you have centralized capability.

And I really want to emphasize again this is about consumer choice. If you wish to go to the bank and use a bank account and stay with the system, great. If you wish to have the ability to do this yourself, that also should be now a consideration. What DeFi does, it brings that. It brings that with transparency. It brings that so that when you consider

how you are going to raise working finance for
yourself, how you are going to capitalize your
organization on chain, all of this becomes, you know,
very much a possibility. But it is dependent on the
protocol and its stakeholders to figure what collateral
type should be used and under what parameters and under
what conditions.

CHAIR GORELICK: Thanks. Now I will go to
Yesha for the last question.

MS. YADAV: I thank you very much for an
excellent panel. So my question is really I think for
Chad and Eddie and in terms of thinking about how you
deal with fragilities in the underlying blockchain. In
particular, when we see ether, for example, it is very
popular. It is used widely for various types of coin.
And it has created concerns about potential
difficulties, latency, delays that might exist within
the blockchain itself to put pressure on that
blockchain. So when you have so much dependence on the
ether blockchain for Paxos, in particular, how do you
deal with the fact that potentially there may be
fragility in the underlying blockchain, that users may

default in large volumes to using the dollar-denominated system as a whole?

And the second question I had was in relation to the fact that we do have an immutable blockchain for ether and the fact that you are regulated. How do you deal with errors that exist, for example, fat-finger trades or Herstatt risk or fraud and clawback that might be necessary from time to time? How do you account for that in your own systems and, in particular, with respect to the calibration of the collateral that you keep to back up the Paxos coin or a JPM?

MR. CASCARILLA: Yes. So I think there are two components. Certainly Ethereum has a network effect to it right now. And so most people are using Ethereum as a smart contracting layer. It is by no means the only protocol for this. I think there is a tremendous amount of capital and intellectual work being done on how you can both increase the speed of Ethereum but around other chains as well.

And ultimately for Paxos as an issuer, we are being responsive to our customers. If they would like us to issue in other chains -- and we certainly have gotten interest to do that -- we will. And so we are by no means tied to Ethereum.

I think from a practical perspective, at 17 transactions per second, which is where Ethereum is at, that couldn't run all of the world's transactions. I don't think anyone believes that. It certainly needs to do a lot of maturing in order to be able to be more useful. But, on the other hand, you haven't really hit capacity constraints in a way that has been truly debilitating. There have been examples where bottlenecks have happened and increased block sizes. And so certainly if there was a big adoption, which would be great -- I think we all think that is fantastic -- there will have to be either some solutions around what are so-called second layer and lightning networks and channels or usage of other chains. And we are certainly very open to both of those.

I think 17 transactions per second to put that within some kind of a framework, Visa is at maybe 1,700 transactions per second. Stellar, which is another chain, is at like I think it is 150. So you couldn't run. Just to be really clear, you could not run the entire world's payment economy or otherwise on a centralized, open public blockchain right now. And I don't think anyone believes you can, but I do think this is an engineering problem that is solvable. And there is a lot of headway being made every day, every month. And so I think it will be a question of adoption versus innovation here in terms of being able to match that in the case of Ethereum, but there are a lot of different chains that could be used. Some of them are built specifically around solving the problems of payments, as opposed to maybe solving the problem of smart contracting, which Steven has been talking about here. And so you might not even be in a world where one chain does it all. I think that is fine because you create interoperability.

I think your second question was around how are we managing risk around compliance and other things. So just to go back -- and Herstatt risk, et cetera -- so we don't really have -- we are not trying to take bank risk here. We have some limited bank risk for the onramps and offramps. When people send us money, we are taking that money, and we are sweeping it either into a network of banks, where you have FDIC insurance, or into T-bills or into T-bill over collateralized reverse repo. So in any case, you are taking almost no risk, just really U.S. government risk, and no interest rate risk. This is very, very safe. This is far safer than money held in a bank. We have done that very specifically because we want to make sure that it is a dollar on a blockchain that you know you could always redeem. And so that is how we tried to manage that risk.

Now, there is a second risk, which is the money is moving out from Paxos onto the public blockchain. We monitor the blockchain. We have tools to do that. They are very advanced. You can understand what is happening.

And then there is a second component, which is we have a specific feature in our smart contract that allows us to seize and freeze, which we deliberately put in with our regulator, that allows us to freeze a wallet and seize funds in it if we receive a jurisdiction from a lawful subpoena. We can't do it on our own. It is very clear, you know, in the terms and conditions. By the way, this is true of almost every smart contract. Whoever trades a smart contract has a lot of control over it. We have just been very explicit about when we would adjust a smart contract. And it would only be if there was a lawful subpoena from a jurisdiction. Otherwise, it is able to be moved around. And we try to monitor to make sure that everything is being used correctly. I think the onboarding/the offboarding provide a lot of that, protections as well.

MR. WEN: If I may add, look, the capacity constraints questions is an interesting one. And we do do work on making sure that the infrastructure can cope with the capacity and the utilization we have. And that is no different than many of the applications the firm builds for processing client transactions.

To Charles' point, it is an engineering problem. And there are ways to kind of optimize, parallelize, and achieve greater scale. But the usage can be incremental in how we onboard more customers, and the load factor can be controlled. So it is not that we will turn on everybody all at once onto the platform, whether they will be gated and onboarded accordingly based on the capacity that is available.

Further, the implementation is technology-agnostic. You can actually reimplement it to different types of protocol underneath. We have discussed some of those. We haven't done it, but the ability for it to be protocol-agnostic is also an important aspect of these tools so that we can adapt as needed.

Now, the second question in regards to kind of the onramp is, how do you make sure that those fat-finger issues and controls do not affect this? Well, I would say because it is a closed-permission network we are trying to construct, it is no different than how a person building a digital application, submitting a payment would interact in the same control processes these would apply for us in our case and how an importation will work. And a lot of times, part of the reasons that we are waiting for regulatory is essentially the process of verification and making sure things work and can scale, you know, is onerous. And we would be subject to the same level of controls we have for JPM Coin versus any other applications that we know.

CHAIR GORELICK: Okay. Thank you, everyone. And now let's move on to the third panel before we take a break for lunch.

This panel will be presenting on some applications of the ISDA common domain model. And presenting on behalf of ISDA will be Ian Sloyan, the director for market infrastructure and technology at ISDA. Ian, the floor is yours.

MR. SLOYAN: Thank you very much. And thank you to the committee for inviting me here today.

Before we get to the applications of the CDM, I am going to start from the start and explain what it is because I have already had that question this morning. So let's get started with that.

We think about the market infrastructure that we - - that exists. This is a very basic diagram of how we see the sort of infrastructure of the derivatives markets but any markets, really. We have a number of different entities with relationships, a trading venue where trade might be executed, a bank facing corporate hedging, transaction clearinghouse, securities depositories, custodian bank, trade repository. The problem we have is that all of the information that has been exchanged is on different formats and different standards. There are some standards that are used for exchanges' information, but at every point in the chain, we see people storing information in different ways. At the same time, whenever changes are made to this data through the lifecycle of the trade, we see that those changes are made in different ways, which causes a lack of consistency to the records. We have many different agencies and services involved in this part of the market.

So the CDM, I want to put it in context of what ISDA is doing. So ISDA provides standards for the derivatives markets through our well-known legal framework and the master agreement, the definitions, et cetera.

In order to sort of digitize these markets and make standards work better, we need to see things in sort of a flow of three steps. We need to standardize the legal documentation and best practices in a way that then can be digitized. And then once they are digitized, we need to distribute them so people use them and implement them consistently. So in that vein, we have a number of initiatives at ISDA at present on the legal side to try and standardize some of the clauses found in certain parts of the documentation where bespoke language is typically negotiated.

Then on the digital front to digitize these clauses and best practices, we have the CDM, which I am going to talk about today. We have ISDA Create, which is a platform for negotiation of ISDA documentation, primarily the credit support annexes required for the new initial margin rules. We also have an FpML data standard for messaging, which is used to send information to trade repositories for other purposes, such as confirmation.

So the CDM is what I want to talk about today. The key sort of aspect of the CDM, well, it is the distribution mechanism. The CDM is not supposed to be a new standard, a new format. I's a model. And it is a model which we want to distribute in as many languages as possible so that people will be able to implement it. So let's talk about the CDM in a bit more detail.

So, as I said, it is a model. The key part is the third word of the CDM. It is a model for the products, calculations, and events that happen in derivatives markets. It is presented as data and functions in the model. And then we present it in -- in what is called a composable model. We use basic components to build more complex things. That is as deep on the technical design that I will go into. And the key aspect, as I mentioned, was that we want this model to be used and implemented as natively as possible. So we try and distribute the model in different languages for ease of implementation and consistent implementation because that's the purpose of the CDM, is to try and get the legal clauses and best practices on the left-hand side of the previous slide to be implemented consistently. And that is the main goal.

So how do we do that? Well, I am going to call out a legal definition here from the 2006 ISDA definitions. The green text is copied and pasted from the definitions. It tells you how to calculate the floating amount on an interest rate swap. And then at the very bottom, which is in blue, highlighted, is the code for implementation of our calculation. I am not sure Maybe reading the green text is easier for a lawyer, but the implementation is more consistent if we use code. So this is the CDM code, which can drive consistent implementation of the floating amount, which may be the cause of breaks if someone misinterprets the legal definition. So the CDM is a model distributed hopefully so that people can implement consistently.

Now I am going to talk about some of the applications because that was what was promised to be the focus of today's presentation. But those collateral and reporting are just two of the applications which we are working on at the moment. So I just want to mention where they fit in some of the other priorities. And these are sort of, you know, short-term priorities for the first half of this year, really. So we are working on an implementation of the CDM for interest rates clearing processes and how do we move a trade to clearing. And we are working with some of the clearinghouses involved in those markets to work on that. And they will be implementing that part of the model, collateral data and processes, which I am going to go through in more detail. We have developed an equity swap model or equity derivatives model, which we are currently enhancing and that's already been worked on with a company who is working on the implementation of equity swaps on DLT. So that is one sort of example where a company can take our code and implement it on their system.

Regs to reporting, which is going to be the demonstration. I am going to run a short video to show you how we have tackled CFTC reporting. And the digitization of ISDA definitions, as alluded to on the previous slides, that is something that we are very keen on working on at ISDA at the moment. And we are looking at, in particular, some of the areas around benchmarks, IBOR transition, fallback mechanisms, and how maybe the CDM code could allow implementation of those fallbacks in a more consistent way, rather than just publishing the .PDF document to tell people how the fallback should work.

We are also working -- we do run the CDM as the ISDA CDM, but we are broadening our community and partners by speaking to other trade associations. People involved in other markets who have seen the sort of initial work we have done and pilots we have done are impressed and would like to deploy a similar approach in their markets. So, as I said, we are going to focus on collateral and reporting in the rest of the presentation.

So I want to talk about at a very high level the benefits of having a consistent model and where these two examples fit in. So there are three themes that I like to kind of focus on in regards to CDM benefits. So it enables interoperability in removing the burden of setting up connections between the entities we saw in that first slide. Hopefully that is quite clear. If we have one consistent model for the data and another consistent model for the processes, which operate on that data, it should improve interoperability. And it should remove the burden of setting up connections to new systems. And the collateral workflow is possibly an example which I will be able to demonstrate in a moment.

Transparency between regulators and market participants, again, the reg-to-reporting example fits into this benefit. And, finally, which I don't want to lose sight of, the ability for the CDM to speed up the development of new solutions for markets that it pertains to for this domain, we can allow providers to focus on technology, rather than asking them to understand the market. And hopefully I can show you in a bit more detail with this slide.

So if we think of how the, you know, products are brought to market today, people have to research the business domain. They have to gain subject-matter expertise. They have to design their own proprietary model to solve the problem. They have to implement that model on technology. And then they need to convince the market that the solution is reliable and consistent with market practices.

And, then, the next group comes along in green and does the same thing. The outcome are two systems, which may not talk to each other, even if they must do for some purposes. Using something like the CDM and making it available to the market in an open manner so that it can be used means that they just need to learn about the CDM. And then they can take the components that they need to build their system and implement them in building their solution on their technology. So if they have got a really good distributed ledger, if they are really good at privacy or clouds, whatever it may be, they can focus on that and not on the domain expertise, which we can give to them based on the expertise of ISDA's members.

And, then, the outcome is that with those systems that use that common domain model, they should be interoperable at the points where they need to be. So by deploying the CDM, we believe new systems will have interoperability, a shorter time to market, and association with a recognized market standard from ISDA. And, based on the subject-matter expertise obviously of our members.

Now I want to go into the interoperability and STP with specific relation to collateral. I am going to show you some of the components and some of the code we have worked on for that.

So, to think about this in a bit more detail, when a trade is executed on a venue or over the phone or whatever way it may be, the information is agreed at that point. Both sides seem to know what they are talking about and believe that they are agreeing to some terms. The terms tend to be stored, then, and captured in the systems in different ways. And then at each point throughout the lifecycle -- and this is what the left-hand side of the screen is supposed to show, that each event is executed in a different way. So we have the new trade stored and executed in a different way between the bank and the client. The increase is then executed in a different way if they are increasing the position. Margin and collateral processes are implemented differently and processed differently, possibly referencing a different format of where they stored the CSA. One might be on paper, and the other one might be in a .PDF folder somewhere.

And, then, finally, the trade comes to

maturity, and the maturing of the trade might be done differently. This is what causes breaks and reconciliations that are required or if we can get people code that they can implement in the form of DS-CDM, market participants can implement the same code for each part of the event. They don't need to be using the same system. We are not talking about necessarily a system, but that will be probably a good way to implement it. But we can give them very formal rules as code that they can implement so that each step in the process is done consistently and, moreover, we can use a standard way of representing the trade when it is captured. We can also store the CSA information in a standard way, too.

So, looking specifically at the collateral management process and lifecycle, we are looking at the CDM and developing the CDM for a collateral model, let's call it broadly, for the CDM, where we can provide a standard digital reference data form of the CSA, which can be used to store CSA information consistently. We also have ISDA Create, which allows the execution of the collateral documentation and order documentation in time in a consistent manner.

Collateral eligibility, how do you identify eligible assets for collateral is something that isn't standardized today. There is an initiative at ISDA, though, which is working on that. And we are at the same time taking the output of the standardization work and putting it into the model and reviewing it digitally in the model so that we could distribute that out as a digital model that people can implement.

Connecting different systems in the collateral lifecycle with consistent data model is a prerequisite for any automation. You can't run smart contracts if things aren't consistently described and connected. And that is what the diagram on the right shows for ISDA Create where the CSA document could be executed. It could come out in CDM form, go to the various vendors in the market infrastructure. And they all -- whatever part of the proposal or process they are part of, where they do interact, they will be interacting with consistent data standards.

Finally, inconsistent calculations cause breaks and disputes. Data infractions are often misinterpreted in implementations and cause breaks that are settlement breaks that people have to resolve. That is a cost that we don't believe is necessary in the same way calculations for - - on CSAs tend not to be implemented consistently. And there are disputes and inconsistencies there of settlement which cause problems. So we are also working on that.

So I am not going to go into too much detail because the diagrams can be a little bit scary, but we have taken the CSA 2016 IM and VM CSAs in the case of New York law, and we have coded them into the CDM. We are working on the 2018s at the moment. I know there are other documents that are currently found on ISDA Create.

We can create a standard data model for those, and that is on the right-hand side as basically a screenshot of the graphical navigation of our CDM portal, where we have a model for these documents. Eligible collateral, as I said, is a problem. And this is sort of the nascent work on a collateral eligibility model that could hopefully align custodians and other market participants and vendors to come around to having the same standard model for how they describe these assets because it is really just an instrument identification problem when you get down to it.

In the CSAs at the moment, that is a free-format eligible collateral schedule. There is no standardization there. We would like the digital form of these documents to have this module kind of inserted for a standard digital way to describe collateral.

Calculation text. This is pretty hot off the press. I think the guys just released it the other day. This describes how you calculate the delivery amount for initial margin from a 2018 IM CSA. There is the legal text on the left. And on the right is the code that will get you the same performance hopefully. It was written with the internal lawyers and developers sitting around the table. I mean, you know, I think it took -- okay. It probably took about a couple of afternoons to get the lawyers to understand what the developers were talking about, but, you know, by the end of it, I think it was a very powerful message that the lawyer involved turned around and said, "I really understand the code now." So that is a positive.

But this is the sort of thing that we can deliver with the documentation, a code implementation, which allows consistent implementation of that for the purpose of smart contracts and automation, et cetera.

Okay. Putting it all together, looking at what we have, so we could negotiate the CSA on this to create the CDM form of the CSA could come out of ISDA Create. And then we have a model for the calculation, the collateral selection, the posting of the security. These are all components of the CDM that exist today. So if someone was building such a system or multiple parties were building systems across that lifecycle, we could give them the CDM model components so that they could implement them.

All right. So that is it on the collateral application. I want to talk about regulation and reporting now. So how do we implement, how does the market implement regulation today? So regulators publish rules. And trade associations such as ISDA work with members to try and interpret the rules and then develop best practices, which can be supplementary to the rules to allow people to implement them consistently. Those tend to take the form of artifacts such as best practice documents or spreadsheets, which we host on ISDA's website or, indeed, the rules themselves, which take the form of being on the Federal Register.

Industry participants then read those rules. They read the best practices and, in totality, come together on an implementation that their developers implement. It doesn't always meet the necessary levels of data integrity, of consistent implementation that we would expect from what are often very prescriptive rules. Whatever happens between the best practices and the rule writing and the developer implementing the system, there is too long a chain and there is too much cause, there is too much of different interpretation happening. And what we would like to do is see a much more consistent level of implementation and interpretation of those rules.

So how can we do this? Well, we can use a model such as the CDM to represent the rules as code. And we can operate on the data, the transaction data, which is already in the CDM form and then project from the CDM form of that data to the regulatory requirement and maybe the CFTC reporting rule or could be some other type of regulation. So the idea is that the CDM can implement the rules and best practices and allow people in to let them across the industry in a much more consistent way. Reducing that interpretation risk from the developer's point of view by giving them code they can implement and components they can implement in their systems, rather than having them have to read something that a business analyst has put together based on a lot of industry discussion. And hopefully that will improve the data integrity.

Now, we did this last summer as part of the digital regs report in the pilot with the Bank of England and FCA. We were approached to see if the CDM would be a potential way to explore digital regs reporting in that pilot. We were successful in applying it to EMIR and MiFID rules, and it was quite successful. The outcome is that I think a lot of our members are very excited about this new way of developing or working on best practices around reporting. And with the idea to come here today, we took some of the CFTC rules and have a demonstration of how those could be implemented in the same way. And we took some trade data from the public tape and developed a prototype of the Part 43 reporting rules. Now, these are based on the reporting rules as they were before the publication last week of the updates. But we will hopefully demonstrate the power of what we can do here.

So we define a report so you could maybe think of that top level of text and the bottom level of the table that you find in the annex to the reporting rules. We can define different parties as part of this. So we defined the CFTC based on I think the definition found on the CFTC webpage. We can define the standard, the actual form that the report needs to be generated in, so in this case the FpML SDR message specs. And then we have each field. And each field can then have a logical rule related to it to show you how to fill in that field, so to speak.

So we are going to look at one example here, where asset class is a field that needs to be filled out on the Part 43 public report. And we are going to fill in some rationale here where we could, you know, note or annotate where ISDA maybe has provided some supplementary best practice to the actual reporting rule. We could note I would say what we are doing here and why we have implemented this logic. In a very transparent way, as I mentioned, this code exists in the CDM. The CDM is made available publicly.

And here we have where the system -- and this is basic implementation where we have the code running against real example trades. So we have taken, we have created a dataset of example trades, which we are creating the reports from. These, the top five reports there, are real data from the public tape that we observed. And we constructed sort of CDM form of those to project out to the report.

You can see there by using the tools we have here, we can live-update the reporting rules. So COR is going to change to credit. But you can see how if you wanted to explore certain impacts of new rules or different changes, what they might look like if we had a large dataset with which to test against. Now, this is obviously only very much a prototype.

Here is an example we found in the SDR data, trivial perhaps, but the price notations are all measured to -- there is no specification about how many decimal places the price should be reported to. So you can see that people have different numbers of decimal places through just writing a basic rule into filter. Should I say the price notation? We can set the form up to two decimal places. And you can see that can be updated. That is the sort of thing that ISDA could help members implement in real time to try and help the consistent implementation of the reporting rules.

So that is the end of the demo. And there is a link to that, which I will share with the committee after. I think we wanted to really just get the point across regarding the direct implementation. We at ISDA and our members believe that there is a potential to approach regulation in a different way and sort of shift the paradigm so that we can work together with regulators and use kind of build test implementations, get lots of data, show up what the application of the rules would look like, and then iterate on that over time to reach a better regulatory outcome. Indeed, at this juncture, with the new CFTC reporting rules, we think there is a potential for an industry project run through ISDA or perhaps with other organizations to try and achieve that. And that is something we will be exploring with our members in regards to the new CFTC reporting rules.

Questions?

CHAIR GORELICK: Thank you, Ian. Very helpful. It seems like a very sensible approach.

I guess I will start with the first question. You are talking about making the code publicly available. Is this a true open-source model or is there some other way that you are going to make it available?

MR. SLOYAN: The code is open-source. It is available for download in all those different distributions, different languages as people need. It isn't under Apache 2 license. It is under a different open-source license. And it is obviously -- but it is completely open-source for people to use in their implementations. Indeed, they have been --

CHAIR GORELICK: Thank you.

Haimera?

MR. WORKIE: Thank you.

You mentioned earlier that one of the things that was designed to help remediate was the idea that people have potentially different ways of calculating the information. Does the code actually become part of the contract or how is that treated in terms of -- do they just agree to it or is it actually incorporated in the context of the contract?

MR. SLOYAN: So I think the CDM will exist as kind of an implementation layer. So those components are not part of the contract per se. I think over time, as the sort of smart contracts topic matures, perhaps it will be by reference to a specific piece of code.

But the CDM is intended to help implementers implement in the way they do today. So there are systems built today to do calculations, which are not necessarily -- that code is not part of the contract, a part, you know, of the conformation of the trade. But over time, I think the smart contracts topic and as people look at that and sort of -- is the contract code is something that this code could be incorporated to.

MR. WORKIE: Thanks.

CHAIR GORELICK: Okay. Thank you very much, Ian. And I think with that, we will take a break for lunch. We are expecting to be back here at 1:30 p.m. Thanks, everybody.

(A luncheon recess was taken at 12:38 p.m.)

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

(1:35 p.m.)

MS. TENTE: We would like to call the TAC meeting back to order, and I will turn it over to Richard.

CHAIR GORELICK: Thank you very much, Meghan.

I would now like to turn to our next panel, in which we will hear an overview of the insurance market for crypto custodians and how the insurance market is driving best practices and a discussion on why multi-party computation, or MPC, may be a promising solution to some of the challenges around custody.

Our presenters this afternoon are Jim Knox, managing director for technology and communications industry-regional practice leader at Aon; and Itay Malinger, co-founder and CEO of Curv.

And, with that, I will turn it over to Jim and Itay.

MR. KNOX: Thank you very much for that, and thank you for the opportunity to speak with you today. I am very grateful for that.

In case there is a lingering malaise due to food exposure at lunch, I am going to open with some opening statements that might get your attention.

It is my belief that insurance is absolutely critical to the digital asset space. It is my further belief that without a robust participation by the insurance companies partnering in the digital asset space, the space will not scale to its full potential without the insurance companies fully embracing this space. I will just open with that.

Start off with some slides. Historically, there have been some losses in this space, some unfortunate incidents with stealing and hacking of some significant losses listed here, listing digital assets stolen from exchanges that have been highlighted in the past, some pretty big headlines with the exchanges that have been hacked.

The next slide goes into the ICOs, some of the reputed fraud that has been involved with some of the ICOs, a lot of headlines being made here as well.

The net effect of all of these headlines, whether it is the fraudulent activity with the ICOs, whether it is with the exchange that had been hacked, and some massive amounts of money stolen from the exchanges in the crypto or digital asset space, the net effect is that it has had a very chilling effect on the insurance industry. It has had an effect on the terms that are being offered to companies in digital asset space, on the amount of limits that is being offered, and the type of insurance that is being offered. So all of this bad news, this negativity has had a chilling effect on the insurance space.

Obviously it has not been lost on the regulators. We have comments up here by several regulators, notably Mr. Chairman Giancarlo from the CFTC about how they will strictly enforce fraudulent activity in the space. Insurance companies are aware of this. I am sure they are appreciative of this, these headlines. But the losses still remain out there, and it has had an effect on the insurance companies.

So I want to just talk a little bit about anecdotally some of us here with gray hair who have been around for a while, I remember in the late '90s, something called the internet first came out. Back then I was working for a company called Zurich Insurance. I was a young fresh Dino insurance underwriter. At my desk, I was receiving about 20 applications a day, sometimes more, from companies that were seeking to make a splash on this thing called the internet.

Many of these companies that we were underwriting or at least evaluating for directors' and officers' insurance purposes, it is wild speculation with these companies. There is no clear path to revenue with these early internet companies. They were being successfully wildly funded, though, with no clear path to success, no clear revenue model, no profitability in sight, but they were wildly funded.

I would say about two years later, maybe 90 percent of the internet companies that we underwrote for, say, directors' and officers' insurance, about 90 percent were gone, you know, burning cars on the side of the road. They were just evaporated, disappeared.

So what is happening now is, you know, fast track 20-30 years later, some of those young professionals back then who were underwriting those types of risks in the internet space 30 years ago, they are now senior managers at the insurance companies. And they are now listening and the hearing, and they are talking about this new technology called blockchain, somewhat new, in the space. And they have long memories, and they remember what happened back in the day when a lot of these insurance companies took a hit, some severe losses, with the early internet and some of the iterations back then with those companies.

So what we have done now, it is becoming more and more of a robust place, the digital asset space, the blockchain space. So this slide here, what it does, it demonstrates. From a perspective of the insurance company, they are looking at several metrics here. So the first top of this chart shows you the typical types of insurances that are going to be offered by insurance company for a company in the digital asset space.

So the green, yellow, and red is meant to indicate -- he green is obviously easy to obtain insurance. Yellow is a little challenging. And the right side, the red, is a bit more challenging. So things like surety bonds are quite easy to obtain in the marketplace if you have a need for an MTL license.

Cold storage is where you take that -- if I am preaching to the choir, if you know this, indicate -- but cold storage, if you take that digital asset, you download it off the internet, you put it into a hard drive or UBS stick or HSML, it is off the internet. It is very cold.

Specie insurance is a very interesting concept. Specie insurance has been around for 100-200 years. 100-200 years ago if you had a Monet or a bar of gold and if you stored that, that hard asset, that gold, in a vault, some type of area that was protected, specie insurance is meant to cover the exposure associated with securing that hard asset.

When Mt. Gox happened several years ago, we were helping some of the companies in the digital asset space, some of the earlier companies. When the Mt. Gox headlines came out, the insurance industry had a very

-- again, the chilling effect on the insurance companies. They started to back away when they saw what happened with Mt. Gox because there is some serious money involved there, some losses.

So at Aon, we had to come back to the table. We had to bring the insurance companies back because we had clients who had needs. And we had to think a little outside the box and say, "How do we bring these insurance companies back to the table to offer our clients insurances when you have things like Mt. Gox and there are bad headlines going on?"

So not myself. I would like to take credit, but I can't. But somebody at Aon said, "Why don't we use a specie analysis and apply it to digital asset space? Why not apply the same logic? If you are insuring a bar of gold or Monet painting that is being stored somewhere in a secure place, why not apply that logic to a UBS stick that has a bitcoin on it or a hard drive or HSML that has all of these digital assets on them and they are secured safely away off the web?"

So we did that. We successfully did that. So now there is an insurance out there called specie insurance, which, frankly, is being used by a lot of the companies now in digital asset space for cold storage. You have cyber insurance. You have technology errors and omission insurance. You have directors' and officers' insurance. The three in the middle there on the yellow on the top, cyber technology, E&O, and D&O, almost all of those insurances are being purchased today by companies in digital asset space.

Then you have on the right side, the far right side, crime-hot wallet cover, not an easy insurance cover to obtain. Much, much more due diligence is done on this type of insurance by insurance companies. It is available. You know, we currently do help our clients obtain hot wallet cover.

I will tell you that, for some reason, I can speculate why. When it comes to hot-wallet cover insurance, almost primarily the only place you are going to find that insurance is with the London markets right now, not the U.S. markets. They have not fully embraced it.

The crime insurance for hot-wallet cover is almost uniquely a London solution right now, London insurance markets. A lot of Lloyd's syndicates are participating in that.

If you look at the bottom side of that slide, we are talking about the type of companies out there in the space who are seeking the insurances. If we talk about companies that are using blockchain technology purely, say, for its own intrinsic value, meaning if they are using the blockchain technology for a logistics company or a real estate company, it is much easier to obtain insurance for that type of use.

Security tokens, interesting area. This is the CFTC. So I won't get too involved with securities here, but if it is the claim of security, you are acknowledging that we are not going to play games with the regulators. We are going to, you know, call it a security and treat it as such, you know, obtain insurance. Some of your traditional asset managers, advisors obtain insurance. When it starts getting a little bit tricky is the companies that are in the digital asset space are actually touching. They are actually doing day-to-day with the tokens and the assets. When you are talking broker-dealers, custodians, exchanges, minors, the insurance company is a little bit -- they start to get a little bit squeamish because they view more exposure there. You are dealing with these tokens, these assets. You could be tripping regulatory issues. There could be security issues. If they are stolen, these tokens, that starts to get a little bit more challenging with the insurance companies.

Far right side, initial coin offerings, it is a dead subject. Some companies now are trying the staff method with offerings and other methods, but it is almost a dead issues as far as your -- an ICO come to look for insurance, you know, "Good luck. God bless you." Not today.

Here are some of the issues that the insurance companies are factoring when they are evaluating whether or not to underwrite a company in the digital asset space. Uncertain regulatory environment has an impact on the American and London insurance markets. Perceived reputational risk. You saw it in the headlines that happened earlier.

My personal believe is that a lot of the insurance companies, particularly in America, the U.S. insurance companies are on the sidelines right now. They are on the sidelines in the digital asset space because a lot of the senior executive management there are not going to support, put out terms. And if, God forbid there is major loss, a major hack, and it is on their watch, potentially could go back and hurt them.

And I personally think that is why a lot of insurance companies -- it is one reason, simplistic reason, but a lot of insurance companies are on the sidelines right now.

There are regulatory issues they are very concerned about. Frankly, it is a developing space. But by comparison, it is a fairly new space. Because of that, there is not a lot of claims history. There is loss history developed that the actuarials of these insurance companies can evaluate and make a determination on this risk. So the fact it is somewhat a nascent industry, somewhat has an effect on the insurance companies.

Limited loss history, like I described. The negative press has a huge effect on the insurance industry. And, again, people are very hesitant to put the name out for risk if, God forbid, there is going to be a loss.

Some of the coverages to consider. We talked about this briefly. Most of your insurance offerings out there for companies in digital asset space are directors' and officers' insurance. You have cyber. You have technology errors and omissions, which covers the issues regarding the technology platform that a company is using; investment advisors; crime insurance. All of these different types of offerings are out there for the markets.

As far as the actual markets who offer the insurances, this gives you an idea of what we are facing. The D&O insurance marketplace, if you look at the primary, which means on the right side on top, it says, "Primary." That is the first insurance company that will take that first layer of insurance. And they have what we call the burn layer, if you want. There is a claim that comes in. So they are the ones that are on the ground from dollar one if a claim comes in.

So you see Lloyd's there, which is, again, Lloyd's of London mark, which is very big in the area, very supportive. You have some other markets as well. What is interesting is in that first tranche there, you don't see the big names in the insurance space, again because all of the bad news, the negative press, regulatory uncertainty has had a chilling effect on the insurance market.

So in the digital asset space as far as D&O and then it is crime. As far as crime, interestingly, the top right quadrant there, Lloyd's, is the only marketplace right now for crime insurance for hot wallet coverage, there are some American markets that may attach a very, very high level if the company is buying $100-$200 million worth of hot wallet insurance. But you don't see a lot of purchases that size.

E&O market, very similar. Again, you see Lloyd's as the primary player. You have Munich Re and some others. Then you have some others down below.

Someone made a comment to me a while ago. I do believe it is very true. I like to think that the insurance industry is driving best practices in the digital asset space, you know. And why? For the following reasons: that if you do not have your house in order as a digital asset company, you will not get insurance. And in order to get the insurance, you have to have very, very, very good, robust compliance procedures in-house. If you are dealing with the regulators, you have to let the insurance companies know where you are with your regulators, how are you doing with them, is your timeline good to meet all of the requirements with them. You must have very, very good KYC/AML in-house procedures. If you don't have that, you will not get insurance.

And there is a host of items here on this slide that shows you just how deeply the insurance companies are going to do a dive into your company, the diligence, and ask you exactly what is going on with your company, what are your best practices, what is going on to get that insurance.

So, with that, I will leave it at that, but thank you very much for your time. Thank you very much.

MR. MALINGER: All right. Good afternoon. I am Itay, Itay Malinger. I am the co-founder and CEO of Curv. We are a digital asset security company, a tech company based in New York.

I am going to touch on some of the points that you heard from Jim around digital asset security. So when insurers are trying to evaluate the security posture of their customers that want to buy insurance, we will talk a bit about the evolution of security for digital assets and the challenges that they pose, specifically the challenge of securing private keys. I assume you all know that private keys are those secrets that enable to sign transactions on a blockchain. And they pose a very significant challenge of a tradeoff between security and liquidity. And solutions today are very difficult to get insurance for but also impractical to scale.

We will then present -- it is going to be a bit technical, but we will present some teasers around the latest and greatest in cryptography to enable to address those challenges, so multi-party computation, zero-knowledge proofs, and an example of a protocol called Diffie-Hellman. And then we will circle back and talk about what this means for custody and for digital asset security.

So, as we mentioned, private keys are a single point of failure as long as you talk about digital asset security. And since it is easier to get insurance for cold storage compared to hot wallets, as was just mentioned, the reason is that it is perceived to be actually more secure specifically from adversarial attacks. But when you think about what are the attack vectors around digital assets, it can be, of course, the first thing that comes into mind is an adversarial cyber attack -- right? -- hackers getting into a hot wallet and stealing the funds. But it can also be an insider threat, of course, the people that you trust the most to have access to a cold storage vault in that case.

Once they are within that cold storage facility and have gone beyond all of the authentication mechanisms to that cold storage vault, they have full access to the entire liquidity of your company. So do you really trust those people to get in? And how can you construct a way to better protect from those insiders?

And, finally, because the private key is the holder of the identity on the blockchain -- right? -- the private key is the way to generate your identity on the blockchain so that you can receive assets, losing a private key means losing the ability to make transactions. And you have seen that as well.

So there are many cases that you have heard about, such as cases in which people lost their keys. A loss of keys means the keys are there forever. They were not stolen. There is no hacker who got the assets. There was no employee who stole the assets. And, yet, mathematically, it will not be possible to retrieve those assets in the near future.

So, really quickly, I will go over the existing solutions. I think these are terms that most of you have heard in the past, but you will see this tradeoff between the more liquid solutions that enable you to withdraw funds quickly versus the more secure solutions that enable you to keep the assets more secure, especially from adversarial threats. Right?

So, of course, a wallet is the infrastructure to secure their keys. So it can be either software-based or hardware-based. The hardware are HSMs if you heard about that term. It can be a consumer-based piece of hardware or more enterprise-grade, but, of course, the software-based solutions since they are based on software, they can be more flexible to address many consumers trying to withdraw funds.

Another tradeoff is between hot wallets and cold wallets. When we say, "hot," we mean wallets in which the private keys are connected to an internet-connected machine. And cold wallets are wallets in which those keys are disconnected from the internet, and you can see this is state-of-the-art today. Right? Take a World War II bunker. Take a piece of private key, and keep it within that bunker. There are actually vendors who are offering that. And it is good practice, again, mainly against adversarial cyber attacks.

Another element is usually when we talk about private keys and public keys, an address or a wallet or a target destination can have a single-sig address. But for some blockchains, specifically bitcoin, there are blockchains that support multi-sig address. So think of it as, instead of having just one key, you can have two separate keys, just like in some banks, when you go to a vault in the bank, there is the clerk that has one key, and the owner of the asset that has the other key. And both need to open the wallet.

And, finally, one more technique that is called sharding, or Shamir's Secret Sharing if you have heard. It is the ability to take a key and split it into separate locations. Every time you want to sign a transaction, you need to bring those pieces back together, sign the transaction, and then delete the pieces that you brought together.

So, as you can see, on the right side, we have more complex constructs. Some of them are literally physical to secure the blockchain. So you have this great construct, very state-of-the-art blockchain, which is very connected and decentralized, but, effectively, the security requirements are causing solution providers. Right? Most exchanges will have 98 percent of their assets in cold storage. Right? So eventually you are having a very centralized set of service providers, who are holding their assets in a very disconnected environment.

And the question is, can we solve this tradeoff between security and liquidity? And, now, there is a way to solve that. And, actually, the answer is, of course, yes.

So if we look at the way the blockchain is designed, what is a blockchain, it is a set of protocols that enable players or participants in the network to maintain one ledger that everyone knows and everyone agrees upon, right? And the way to do that -- and what is powering the blockchain is actually math, right?

So three simple mathematical functions that are being used over the blockchain are the ability to create a public key. Right? I said the private key is a secret known to the holder of the asset, but their identity is their public address, right? So deriving a public address from a private address is a mathematical function, actually a very simple one, just taking some number to the power of the private key. And that is a public address. So that is one mathematical function.

And another mathematical function would be the function that is used to sign a transaction, basically to say, "I am who I say I am. This is the transaction that I want to make. And this is the mathematical proof that I want to make this transaction." Okay? So signing is just another mathematical function.

And, finally, the ability to validate that the person who said who he is -- right? -- is actually behind this. The ability to verify that a transaction is authentic is also a mathematical function.

So, effectively, all of the blockchain is powered by those mathematical functions. And, yet, the private keys are kept in cold storage vaults of World War II, right? So MPC and zero-knowledge proofs are an attempt and a successful one that is on the mainstage today to take math itself to protect the private key itself. Okay? And the way to do that is effectively to eliminate the private key and to create identities in which the secret material is distributed across many, many players.

So this is the point at which we are going to do a bit of math, but I think it is going to be more clear once we are done. So let's take a very simple example of a multi-party computation protocol, which is -- let's say we want to calculate we have a circle here, and we want to calculate the average salary of the people around this circle. Okay? So we could have brought some trusted third party, right? And we don't want to share our salaries to one another or to anyone, right? We could have brought some trusted party. And each of us would go to that party and tell our salary to that party. That party will then go and calculate the average. They know all of the inputs. Right? And that is the way to do it with the equivalent of private keys. Right?

The issue is, what happens if this party is malicious? What happens if this party is compromised, right? Can we collectively calculate the average salary without bringing any trusted third party into the protocol? And the answer is yes. Okay? Very simple example. I will go first.

We will do a protocol. I will take my salary. I am not going to tell you what it is. I am going to add some random number that only I know. Okay? I am going to think of that random number. And I am going to add those two together. I am going to send it to you. And you will receive a number that you don't know what my salary was because there is some randomness there. And so you have no way of knowing what was my original salary unless you know my secret. You will add your own salary and will send it to the next person and so on and so on. So each of you will add your own salary. At the end, I am going to receive the sum of all of your salaries from Jim. And I am going to subtract the random number. Only I know that random number. I have the sum. I am going to divide it by the number of people. And we got the average salary. No one in this process has learned anything about each other's salary. And, yet, we were able to calculate the average salary.

So this is a very simplistic example, of course, but it was proven back in the '80s that you can take any mathematical function, a sum, a multiplication, or any function whatsoever, and cryptographically do a multi-party calculation in which those secrets remain private to the different parties. Not only that, let's say that some of us were trying to trick people, the other part of the room. It will also be resistant to malicious adversaries who are a part of that process.

So another construct is called zero-knowledge proofs. And that is another -- again, in the MPC, it was a protocol, right? Each one of us did some calculation. And we sent some information over the network or to one another. Here we are talking about another set of protocols that the goal in this, in zero-knowledge proofs, is to prove that I know a secret without revealing the secret to the other party. Okay? But I want to prove to the other party that I know that secret.

So a very simple example, let's say that I am Bob, and I have two balls. One is green, and one is red. And I have another party, Alice, that wants to prove to me that those balls are different without telling me, without telling me, Bob, which ball is green and which ball is red. Okay?

So I have one green ball and one red ball. I am going to put them behind my back. I am going to present one ball. Right? I am going to take it back. And then with a probability of 50 percent, I am going to switch the balls and present the other ball. Right? And Alice will have to say whether or not I changed the balls. Right? So if I do that enough times -- right? -- after a few times, basically I am going to know whether or not I have the same color or not. I am going to be able to prove, Alice is going to be able to prove to me that I have, indeed, different balls without telling me that it was red or a green one.

So the third example -- and here we get a bit to kind of sixth grade math, but it is the -- here we show how we can create a public key that does not have a private key. Okay? This is a very simplistic example, but we will try to do that. Right?

So what we want to do is we want to create, we want to calculate the public key that corresponds to the sum of two randomly generated numbers by two people. So here we have Alice and Bob. Each of them will think of their own secret. Okay? Each of them has their own secret. Alice has thought of the number

12, but she does not tell that to Bob. And Bob thought of the number 10. He will not tell that to Alice. Right? The "private key" will be 22. We will just sum those numbers. And we will call that the private key, but we will never calculate that private key. We only want to calculate the public key. Right? And, basically, the ability to calculate a public key is to take a generator number, in this case the number 4 -- right? -- and to take it to the power of the private key.

So you are going to have to believe me, but 4^{22} is the number 25. Right? But are we able to calculate the number 25 without calculating the number 22? And the answer is yes, and it is pretty simple. Alice will take her number and calculate her public address. That will be the number 20. She will send the result to Bob.

Bob will take his own public key, will calculate the private -- will take his own private key, the number 10. We will calculate the number 23, which is 4^{10}. And then they will send the results they have to one another. Right?

So now after the exchange of the results phase, both of them will have 20 and 23, which is both what they calculated and the result of their counterparty. And the multiplication of 20 and 23 -- you have to believe me. It is 25. Because we are operating in cryptography, we always operate under a specific prime modulate, right? So you do 20 times 23, and you divide it by 29. And what is left, the modulate is 25. You can try this at home. And, basically, both parties got the same result, which is the number 25. But at no point in time did we have the number 22. If you did, you would have seen red. But there is no red here above the line.

And, basically, this is a way to calculate a public address with no private key. The private key is distributed between Alice and Bob. And for advanced students, if Bob is trying to trick Alice, there is actually a way for him to do that. And zero-knowledge proof can come to the rescue for Alice to ask Bob to prove that it was actually a random number that he used in order to choose the number.

So what this means is that we are able to make mathematical constructs in a distributed way. Right? So we just saw that we can collaboratively calculate a public key without a private key. And cryptography has gotten to a point in which we can do that also for digital signatures and for the validation and for calculating cash. So calculating cryptographic functions in a distributed way, again, back in the '80s, it was proven that it was feasible. The issue is that in the past years, it had become also feasibly within the timeframe that we would be able to forgive. Right? So it would take about a second to do this but will not take 30 months to do one calculation. Right? So we got to that point in which those protocols are feasible. And we are talking about advances in the recent years in cryptography.

So now once we are able to create the identity on the blockchain with several parties, now comes the question of, how do we distribute the secrets between the different parties? So that is kind of a business decision. It can be between -- let's say I am an exchange. Remember that I had employees who were able to get into a room to be able to move assets around. Instead, I can give each and every one of those employees a different secret. And together through MPC, each of them, their assets -- their data is not valuable at all. But collectively, they are able to move the assets or if I am a custodian, I can hold part of the secret and give the other part of the secret to my customer, the funds who are my customers or if I am serving consumers, I can have these constructs of distributing the key material between parties in a way that there is no point in time, no point in history in which a private key will exist, either in a hardware wallet or in a software wallet.

So, effectively, the solution is that this is very secure, right? There is no single point of failure here. It is connected. All the parties are connected to one another. And you get the ability to be very liquid and very flexible to the business requirements that you need.

And one more bonus is that it is agnostic to the blockchain, which is very important. Right? You have many blockchains today, but do you really need a different keyed mechanism for each and every one of them or you can have something that is completely off the chain that can help you resolve the security issues of all the blockchains that you manage? And we see a proliferation. A blockchain is each of them with their own business value, but from a security perspective, this should be kept separate.

Thank you.

MR. KNOX: Any follow-up questions from the audience at all?

CHAIR GORELICK: Let me start with one quick question for Itay. Itay, why is multi-party computation preferable just to a multi-sig wallet?

MR. MALINGER: Yes. So the two main reasons would be one is that in multi-sig, you do have two keys. Right? And those keys are constant over time. In multi-party computation, what you can do is you can change those secrets that I mentioned, change those secrets, every time, every hour, every day, every time you make a transaction. So those secrets are not constant constructs. So that is a huge security benefit because, for example, if an adversary gets to one point of the network and they get to the other point after six months, they will actually have no value.

The other benefit is what I mentioned last, the blockchain agnosticism of the asset. Right? You have the same infrastructure that can apply to bitcoin, Ethereum, or whatever, instead of having separate support by the various blockchains. And there are blockchains we don't even have multi-sig, right? Specifically, Ethereum does not have a native multi-sig solution. So you can have that also to support non-multi-sig blockchains.

CHAIR GORELICK: Okay. Great. Thank you.

Mayur?

MR. KAPANI: That was a very good presentation. Thank you.

One quick question. The actual math for doing MPC or in terms of the logic, are there multiple ways of doing this or is this still evolving or is that a standard way? It is kind of people are converging based on the quality of the math in terms of it being able to be hacked? What do you think is the state of the union?

MR. MALINGER: Yes. So there are multiple ways to do this, various protocols trying to optimize on different parameters, just like you have many different signature schemes in cryptography -- right? -- not just issued BSA or a lifted Curv. Some are using other ways. Some are faster than the others. Some are better for many parties versus better for two parties. And this is an evolving space. It got to a point today in which there are I think three to four like main protocols for MPC, specifically for the crypto use case, which is digital signatures, that got it to ballpark in the second today. When you compare it to the time that it takes for bitcoin transactions, this is pretty good. And I assume that this will get better now as we move forward.

MR. KAPANI: Thank you.

CHAIR GORELICK: Thank you.

Haimera?

MR. WORKIE: So my question is really more the intersection between what you two discussed. How much does the insurance companies look at the key management systems that are actually being used? Is there like a baseline that is attached to that? Do they give credits if it is more robust or how is that taken into account?

MR. KNOX: Sure. Thank you for the question. Are you talking specifically about the security measures regarding the --

MR. WORKIE: Yes.

MR. KNOX: So, to answer your question, yes, they do take a careful look at that. To give you an idea of just how interested they are in the whole process, we actually had Curv speak with 60 insurance underwriters around the world about 2 months ago to explain the technology to them because they are very aware of multi-sig insuring. They have a clear understanding of that. But they heard rumblings that MPC technology was coming, but they didn't know what it was. So we at Aon actually thought it prudent to put an MPC provider in front of the insurance writers so they got this technology, they understood it because they are going to have to evaluate it.

So the response directly to your question is they do take a very deep dive in these security measures.

MR. WORKIE: And a question, I guess a follow up question about the difference between the public markets, the public blockchains, and private blockchain systems. Obviously, in addition to the key management systems, there are also issues around kind of the infrastructure of how the blockchain system is set up and how that gets utilized and where there is ability within any given blockchain system to do nefarious things on the system. How is that taken into account in terms of looking at public versus private? And how is that considered?

MR. KNOX: Sure. So several factors are going to be evaluated by the insurance underwriters, the insurance companies, the use of that blockchain and what is it being used for when it is public versus private? Who has access to that blockchain? Who is integrated into it? What are the values? If there is a blockchain that is being utilized, what are the values, say, of if there is tokens, some type of assets being dealt with on that blockchain? What are the values of that?

So there are several factors they are going to look at, but, most importantly, they are going to look at who is involved with that blockchain, who are the parties involved, what are they doing with it.

MR. WORKIE: Thank you.

CHAIR GORELICK: Okay. I understand we have a question from Chris Hehmeyer on the phone.

MR. HEHMEYER: Hey, everyone. I am sorry I am not there. It is pretty wimpy of Chicago to be canceling flights with two inches of snow this morning, but that is what they did to me. So I am sorry I am not there.

Itay, I have a question for you. Given the computational heaviness of an MPC solution, how much capacity is there? Can it provide the liquidity that you talked about? Does it have a lot of capacity or can it get bogged down with a lot of activity?

MR. MALINGER: Yes. So the capacity is pretty unlimited. I mentioned that it is ballpark of a few hundred milliseconds per signature, but the advantage is that this is software, right? So you can do as many of those in parallel as you need. And with that, we are just setting it up, even in the cloud, right? You can set up as many of those in parallel. So, effectively, the capacity is pretty unlimited. It is very loosely coupled with the computation that you have. And it is even getting better, and it is any case orders of magnitude better than what you get from the blockchain itself. So it is still like however the blockchain will improve, you can assume that the MPC protocol will improve as well. And they will always be quicker than the blockchain itself.

MR. HEHMEYER: Thank you.

CHAIR GORELICK: Thank you.

Yesha?

MS. YADAV: Thank you so much. Terrific presentation.

So I have a question I think mainly for James just to try and -- some very basic questions. So I understand insurance to be regulated at the state level. And so in that context, how much input have you had from state regulations in terms of how they see this landscape and how they see their own rulemaking in relation to insurance developing in response to the risks that you are outlining in this presentation?

And, second of all, in terms of the insurance companies themselves and the state regulators that might be working on this, do they see the reserve requirements for insurance companies changing given the potential volatility of the underlying assets if you are looking at crypto, bitcoin, the price volatility that attaches to it, the technological fragilities and so on and so forth that you outlined? Are the reserve requirements likely to change, shift upwards, particularly given the lack of data and so on and so forth? And to what extent is that likely to affect the ability for companies to actually want to be in this space?

MR. KNOX: Sure.

MS. YADAV: And then finally -- I'm so sorry. And, finally, I just wanted to ask, you know, normally when we think about insurance, the insurance companies are able to diversify and then control their exposure because their diversifying met multiple geographies and risks and so on and so forth. Is that diversification potential available in this space or is there some kind of correlated risk exposure that attaches in this market more so than others?

MR. KNOX: Okay. Thank you for that. I will start in the order that you posited the questions.

Regulators are extremely aware of this space on a state level. Without mentioning names, I can tell you that one of my larger digital asset clients was proactively contacted by New York State regulators after a press release went out about an activity that they were engaged in. So the regulators are very aware of this space on a state level. They are watching it very carefully. They will proactively reach out to companies within their domain and ask them questions if they feel it is proper and follow along that.

Second question I think on reserve requirements, that is a really interesting question. I personally do not see the reserve requirements being changed right now by the insurance companies, but I do see them being changed in the following situation. Our sales, Aon, and possibly others are evaluating the possibility of having insurance companies issue insurance policies in denominations of digital assets.

In other words, not offering a $10 million policy but offering a $10 million bitcoin or some type of token policy. Right? If that happens, yes, then I do see the requirements for reserves being changed in that situation.

And my apologies. Your last question was diversification and?

MS. YADAV: (away from microphone)

MR. KNOX: Right. Another good question. I think diversification is huge for the insurance companies. And I don't know if diversification is the metric, but, as I said to you earlier on in the presentation, a lot of the insurance companies right now, particularly in the U.S., are evaluating the space very carefully without diving full in and offering insurance products.

I think that diversification of a portfolio is always very important. So, obviously, they will diversify but, frankly, right now for the insurance space in the U.S., there is only a handful of insurance companies that will offer insurance products for the digital asset space, the exposures. So yes, they will obviously diversify when needed, but it is not a ton of activity right now from the insurance companies in the U.S. in this space.

CHAIR GORELICK: Thank you.

Tim?

MR. McHENRY: Yes. Thank you.

So, given its complexity, how would I as a customer know that the MPC protocol is being properly applied? Is there some sort of a third party authentication that can be done or a cryptographic audit or anything like that?

MR. MALINGER: Yes. So the same validation mechanism that applied to any cryptography -- cryptographic libraries, specifically because of encryption or digital signatures, right? These are being validated by cryptographic review companies. So there are companies who are, first of all, offering commercial MPC protocols, right? And those vendors, Curv included, are being reviewed by third party validators, both by academic professors and by cryptographers at large. And there is not just a review. You can also do some other kind of attack simulations on those protocols, like band testing, et cetera. All the best practices that you have for encryption, you can apply to MPC and to any cryptographic protocol.

CHAIR GORELICK: And Chris?

MR. CHATTAWAY: A question for James. Can you give us some perspective on the size of the market, like notional underwritten number of claims that were filed, you know, notion of those claims?

MR. KNOX: Sure.

MR. CHATTAWAY: Just for some perspective.

MR. KNOX: That is a great question. So early on, I showed you some of the headline hacks that happened in this space with the exchanges. To our knowledge -- and there is a lot of those companies that were hacked and some significant losses. Not one of those companies was insured.

The interesting thing is in the digital asset space, there has not been a lot of claims yet. There has been some very -- there were some small claims. There has not been heavy losses.

The interesting thing is that we have

actually had insurance companies, some large insurance companies who were leading the space several years ago. And one day, they decided because the headlines were so bad with some of the severe hacks and losses, they walked away from the space completely without paying one penny of loss.

So, to respond to your question, there has not been a lot of significant loss in the insurance space, interestingly. Maybe it is a good job by the insurance underwriters that they did not underwrite those exchanges that were hacked.

And I think did you want to know a little bit about capacity in the marketplace?

MR. CHATTAWAY: Yes, like are they charging enough premiums, then, to like compensate? Like it feels like there should be some tradeoff or some efficient frontier here where like if there is a great demand for this service, that people are stepping away from it, that other market participants would provide it at some price.

MR. KNOX: Sure. So the market is always going to find its --

MR. CHATTAWAY: Equilibrium, yes.

MR. KNOX: Yes. So the issue becomes -- we will talk about real quickly just the different types of insurance. So you sell cold specie insurance, right? It is low-exposure. You have a bitcoin in your assets offline, right? You can get a lot of insurance for a lot of capacity, pretty reasonable pricing.

When you start to go to the other end of the spectrum, we are talking hot wallet coverage -- right? -- the highest exposure for digital assets from an insurer's perspective. There is capacity out there. It is limited, and it is very expensive. So, you know, we have successfully helped clients with their hot wallet coverage. If I was going to evaluate, I would say, right at this time, it is just the price is not good for us right now.

MS. TENTE: All right. Thank you. I think we will take a five-minute break now before the next presentation.

MR. KNOX: Thank you all very much.

(Recess taken.)

CHAIR GORELICK: Okay. Good afternoon,

everyone. I would now like to turn to the final panel on our agenda, in which we will hear an overview and updates from several entities looking to create useful corporate governance regimes in the digital asset and cryptocurrency marketplace.

Our panelists today include Jeff Bandman, who is a board member of Global Digital Finance; Yusuf Hussain, who is the president of Virtual Commodities Association; and Brad Vopni, who is a founding board member of the Association for Digital Asset Markets.

And, with that, I will turn it over to the panel.

MR. BANDMAN: Good afternoon. Thank you very much for having me. Jeff Bandman, board member, cofounder and lead for regulatory affairs for Global Digital Finance. Thank the Technology Advisory Committee for inviting us and fellow panelists here. Today, as a former CFTC official, it is a particular thrill for me to be here among so many friends and former colleagues. And every day is a good day at the CFTC.

(Laughter.)

MR. BANDMAN: So I decided to do that. And, really, you know, this panel and all the work has been a real tribute to the CFTC's forward thinking and leadership in digital assets. And, really, a commitment of the resources and energy in this space, you know, does set a global standard for regulation in this area around the world.

So I will start by just introducing Global Digital Finance, or GDF, who we are. And in the course of this presentation, I am going to talk about how we came about and then how we are working on setting global standards and self-regulation in this space and what the role of the regulators can be.

So we are a global international policy organization headquartered in the U.K., but our membership is global. You know, we think of ourselves in the global landscape as sort of akin to a standard-setting body. We have a global footprint in membership. You know, our focal point, our codes of conduct for crypto asset, which I will describe are internationally community-based. In addition, we do a lot of global regulator and policy-maker outreach and also try to be a resource and, you know, comment on things like consultations and promote those kinds of things. We do work internationally, so regulators, governments, international bodies, foundations, subject-matter experts, as well as the industry itself.

So the context for, you know, how did GDF come about -- and, really, the organization was kind of incubated in late 2017. And the work commenced in early 2018. At the time, you know, there was a sense of real urgency around it. I think some of the concerns at that time were well-expressed by letter to the G20 from the finance ministers and central bank governors of France and Germany. You know, there was all of this exuberance. There were a lot of behaviors in the market. And so while there was promise for this new technology, you know, it seemed like there also needed to be kind of a sense of standards. And it would be, you know, you could say, "Well, we don't think what is happening is necessarily right." Well, but in reference to what? And so there really needed to be the industry to show it could come together and do these things. And so some of the things that were articulated at the time, the need for a common understanding on the nature of tokens; the taxonomy; a common vocabulary, which was actually the first project of GDF in 2018; the implications of the exposure of market participants to tokens in terms of market integrity; protection for vulnerable investors; and finally, AML and KYC concerns. So those were a catalyst to us. And so, as a result, we did the work to develop a taxonomy and to start to develop codes of conduct in this area, which is still kind of a core part of our mission.

So a bit about kind of who GDF is. And then we will turn our focus to the work. So here is a list of our -- the slide is showing our patron members, advisory council, working members, and partners. You see it is a global group. You see a lot of our guidance and steering comes from the patron board and advisory council, who are global firms. We are a member- and community-driven organization. But also as the kind of list of partners, there shows we partner with different organizations, other not-for-profit governance organizations around the world because we think collaboration is very critical. And these are global markets. And so it is important for people to work together globally as well as locally.

Our extended GDF community and those who participate in our summits and drafting of codes include an even broader mosaic of firms. And we also have very extensive engagement with the regulatory community, who participate in our summits as observers, who provide bilateral feedback on our codes of conduct, who we engage with sometimes on deep dives in the various subject-matter areas.

So community-led standards. What do we mean by that? And why is that important? So, as I said at the outset, when this work started in late 2017, early 2018, you know, we saw the need for a set of rules and standards to be there, but who appointed us? It wasn't as if we came down from Olympus and suddenly had the wisdom to know what was right in this area. It was important to convene the industry as a community and have community-developed standards. And so that was the nature of the work that we did.

We found that the regulatory perimeter in

2018 and still, frankly, the case today is different in different jurisdictions. Here in the U.S., many digital assets fall under the CFTC or the SEC for different purposes than the IRS or FinCEN for others. But in terms of the market, you know, in the U.K., you might have a single regulator, same in Singapore. In Europe, many digital assets fall outside the oversight of -- they don't qualify as financial instruments or commodities. So we felt this is a global market. There needed to be a set of global standards.

So the work, the way the codes of conduct are developed are by working groups. They are done, drafted. And then once they are developed, they are subject to kind of public and notice in comment period, similar to what from my own and other regulators' experienced working at the CFTC. So in 2018, the first, the taxonomy in the first set of codes that we did, we attracted about 650 comments from about 150 commenters around the world. Fortunately, somebody other than me had the job of collating those. But the important thing was really to have community-driven things. And then we think that really -- in terms of adherence to those for people who participated in creating them, that is a very important element.

So these are -- this slide lists -- on the left, those are the codes that have been ratified. We have a number that are in development. And then we are starting to work on the next ones.

Why have we structured it this way? Well, when the work started, you know, we looked around for models of codes of conduct in other industries, whether in peer-to-peer finance. Something that we thought very highly of was the FX code, but the FX code, even after all of the concerns with FX prices, took three years to develop. And we felt, "We don't really have three years. We need to get this work started now." And so we started a modular approach where part 1 was the overarching principles. And then we have added additional modules kind of in a priority order based on what the community and the industry and the regulators tell us are the most urgent topics. And the work has grown. So, for example, our AML group that is done published a number of these and has published.

You know, we also have been very engaged with the with the FATF process around the travel rule. And that was about 85 global members. Our custody code of conduct that was just approved at our summit this morning to go to the public consultation phase, again, that group has over 80 participants as well. So there is very broad-based work that goes into those. And all of those are available on our website, a lot of public and transparency.

How do GDF codes relate to law and regulation? You know, I think in one sense, they fill gaps. There are many evolving areas. They also try to be a single set of global rules that others can live on. They can serve as models for law and regulation. They can be adapted or they can be worked with by groups. Like my colleagues on the panel, VCA and ADAM, they can be adapted or applied in specific jurisdictions. They don't supersede applicable law, but they are a complement to law. And in many cases, there are regulatory gaps.

So now that we have a code of conduct, how is that applied and implemented? So we have a self-attestation registration. People at the CFTC will be familiar with the concept of self-certification. And this is how we started with self-certification. I think over time, there is interest in moving to kind of an external certification or audit process. But today, you know, members or anybody without being a GDF member can signal their adherence, elect to adhere to the code. About half of our members have already publicly attested to that. And others are in the process of reviewing, and we hope doing so. So that is growing.

We have started studying kind of a phase 2 of this, which would be external, having a third party audit or verification, but, again, with an interest toward we need to get better standards in the industry, starting with a self-certification model. And then, again, this is a global process, and we will work our way towards external certification.

Here these are just some of the contents of the code, just to give an idea of things that we cover, some of the overarching principles, you know, very fundamental topics: ethics; treatment of customers and customer assets; and then as we have gone into the specific code modules, principles for token-trading platforms. You know, a lot of these things might say they are common sense, but we have really gotten into the weeds within the organization, debated those, and submitted those for public comment. So that has been a very rigorous process.

And we also have principles for funds and fund managers, token comparisons and rating websites, stablecoins. The stablecoin one, obviously that has become a huge topic internationally with the rise of global stablecoins. That group actually started its work with a stock take. Like they thought it was kind of premature to propose principles. First, they needed to get the lay of the land, which, again, is something that is very common in regulatory things. And, similarly, our custody group that just published something today, you know, they started with a stock take. And we also have a tax working group that is in the midst of a stock take now before it gets to those.

Today is actually the second anniversary of when we have had our first meeting. It was our eighth summit. We had about 200 people around the world in 10 global locations from Bogata to Johannesburg. The Asia sessions normally meet in person, but, for health reasons, they met virtually. And so we have been very excited about that.

The points I would like to kind of wrap up with are, you know, first of all, you know, the regulators, like the CFTC and others, how can they be involved? And then sort of what is the progress to date? And where do we see the challenges ahead?

So GDF itself has been very proactive from inception of reaching out and engaging with regulators. You know, at our very first meeting, we had observers from the SEC, the FCA, the Bank of England, Her Majesty's Treasury. And that has grown to include observers from the CFTC, the FSB, you know, regulators around the world. I showed you the other. So we have had that kind of engagement.

We also have had a lot of feedback, typically bilaterally, rather than at the meetings, around when they see things in our code. Are there inconsistencies? Have we thought about particular language? It is a lot of kind of issue spotting, things that we may not have thought of ourselves. And so those get kind of integrated into the process of improving the codes before they are finalized. So that is a very important role of the regulators.

Progress and challenges ahead. So at the end of last year, we surveyed our membership to get an idea of what their concerns were. Some of the biggest regulatory challenges that they see: inconsistent and unaligned cross-border regulatory guidance, lack of clarity. There is sometimes consistency on the regulatory perimeter.

Also, some inconsistencies are caused by the fact that some market actors are regulated, and others are not. And so you can get potentially either a forgiveness-permission dichotomy or personal challenges if some people are playing by one set of rules and others are playing by another. So the fact that where regulators can create a uniform set of rules and a level playing field, that is something that is very important to our members.

Also, things like boxing platform interoperability, custodial insurance. It was great to hear the previous panel on that. That is a big priority for the industry. And the readiness of financial institutions and access to banking is an issue internationally.

In terms of progress, I think we are very heartened by seeing the development of these codes and people not just getting together in rooms and conference calls and drafting these but putting their hands up and saying, "Yes, we agree to live by these standards." I think that is very important. The fact that we see that there has been broad international consensus on the importance of having these high standards I think is really encouraging to us. And we felt at the time we couldn't wait for regulation to come, that the industry needed to show that it could adopt some of these best practices.

We are very encouraged. We think there has been good response to our model, which is very participatory in an industry which has been sort of driven by decentralized technology that we have a kind of distributed model for kind of driving the content and participatory of what the rules are.

So, again, thank you very much for having us, certainly happy to answer questions at the end of the session after my colleagues have gone. You know, again, we thank the CFTC for its interest and engagement.

MR. HUSSAIN: Thank you. Thank you, commissioners, members of the TAC, for the opportunity to present on the industry's approach to building healthy, safe markets through self-regulations. Thank you.

So when regulation is done right, it can pave the way to healthy and sustainable markets, unlock the promise and innovation of crypto for the better. Regulation is the pathway to building trust and broad market adoption. You can't point to a thriving market that isn't either principles-based, rules-based, or governed by some level of regulatory oversight.

We recognize the importance of state and Federal-level focus on market integrity and investor protection, but we also do believe that the industry has an important role to play in these self-regulatory efforts within the United States.

Today I will discuss the role of industry, examples of paths to self-regulation, coupled with an evolving regulatory landscape, and recommendations for how we get there, including why the VCA is the appropriate vehicle to meet such goals.

A little background on the founding members of the Virtual Commodity Association. Gemini Trust Company and bitFlyer are the original founding members of the VCA. Gemini is a regulated New York Trust-licensed crypto exchange and custodian founded in and operating since 2014, the first crypto exchange and custodian to obtain a SOC 2 Type 2 report, providing additional levels of transparency into the security and availability of our infrastructure. Additionally, we recently announced the launch of our captive insurance company to provide additional subject-matter expertise and additional capacity to the somewhat limited capacity available in insurance markets today.

bitFlyer is a globally regulated cryptocurrency exchange with operations in Japan, the U.S., and the E.U. They are one of the first recipients of the New York Bitlicense. bitFlyer is not only a founding member of the VCA but also a founding member of the world's first cryptocurrency SRO, the

Japan Virtual Currency Exchange Association.

A little bit about the VCA. The VCA was established in September 2018 with the ultimate goal of being designated an SRO, a self-regulatory organization. To be very clear here, there is no designation of the VCA as an SRO today. We are looking for paths forward to become an SRO. Being an SRO means a very specific thing. And we will get into that a little bit later in the slides. We don't take this goal lightly. We understand that it is a multi-phased approach that begins with basic organizational capacity building.

The launch of the VCA was directly responsive to concerns and public statements made by government officials and regulatory officials by senior officials at the CFTC and the SEC as well as the view of the industry that the industry should take steps to enhance standards, including those around market integrity and transparency.

We believe that the CFTC has an important role to play by enhancing investor protection and market integrity within key markets that underpin emerging futures and derivatives-trading activity.

Adding a layer of oversight in the form of self-regulation is important for investor protection, as we have seen in traditional securities and derivatives markets and with well-respected and successful SROs, such as FINRA and the NFA.

In terms of our structure and organization, you will see a combination of crypto industry subject-matter experts as well as traditional financial industry subject-matter experts. In the past year, a lot of focus on organizational capacity building. In 2019, we were able to establish 6 committees focusing on concerns highlighted by government officials and regulatory authorities, including one on BSA/AML; a second one on custody and security; a third on insurance, which was discussed earlier today; fourth on tax; a fifth on market integrity, focusing on information sharing, consolidated audit trails, and cross-market surveillance; and, finally, a committee focused on examination and enforcement, being able to build out an enforcing regulatory framework. We believe the last two committees are of utmost importance. Not to diminish the priorities or the importance of the other committees, but examination and enforcement are capabilities that we are looking to build out that are in alignment with international standards defining what a self-regulatory organization does.

As noted, the goal is to establish the VCA as an industry-sponsored self-regulatory organization for the U.S. spot virtual currency industry. I do want to highlight that the road to growing the VCA has not been an easy one. In addition to the natural organizational challenges of a young nascent industry, we found that absent explicit regulatory support or engagement, it can be difficult to drive a voluntary adoption and enforcement.

In order to succeed, the VCA will need to bring together a diverse array of market participants subject to an objective governing framework that places the overall health and integrity of our markets before the interests of any particular set of actors.

We do believe progress is attainable. As we do so, we look at domestic role models, such as FINRA and the NFA; as well as international examples that can inform our journey.

For instance, bitFlyer, as mentioned earlier, is a founding member of the VCA as well as a founding member of the JVCEA, which is the world's first crypto SRO. The notion of self-regulation in Japan was catalyzed by a - - by the hack of a Japanese exchange, Mt. Gox, in 2014. Likeminded exchanges gathered together in a grassroots movement to form the JVCEA.

The action was further catalyzed with one of the largest hacks in the history of crypto, Japanese exchange Coincheck, at 500 million, $500 million. That catalyzed the Japanese FSA to designate and formally approve the JVCEA as a crypto SRO in October of 2018.

Through Japan's mandate of the JVCEA, the JVCEA has been able to overcome the challenges of voluntary adoption in a young industry and now consists of 27 members, including 19 cryptocurrency exchanges.

Currently the JVCEA has formulated 12 categories of self-regulatory rules, including, but not limited to, token listings, margin trading, financial management, anti-money laundering, and enforcement.

With bitFlyer's membership in VCA and the JVCEA, we have been able to establish synergies not only between likeminded exchanges but also likeminded self-regulatory initiatives across the globe. We believe that collaboration between the VCA and the JVCEA is especially important in an industry that is truly global and operates 24/7. While global SRO examples are certainly informative, we agree with Chairman Tarbert that the U.S. should be a leader in this space.

We should look to Japan as a model for self-regulation. However, U.S. regulators should not wait for a hack of a U.S. exchange to prompt delegation of an SRO. In parallel, the VCA continues to build out its capabilities and self-policing measures. Creating a U.S. virtual currency SRO is a two-way street that requires collaboration between government and industry.

On the industry side, we continue to focus on capacity building and bridge building. In terms of capacity building, as I mentioned earlier, it means something very specific to be an SRO. A report from IOSCO in 2000 identifies the elements for an effective

SRO, which include rulemaking, dispute resolution, surveillance, and enforcement. The IOSCO report also emphasizes that self-regulation is an effective method of regulation as SROs are familiar with the increasingly complex nature of their respective industries. SROs are deemed to have specific knowledge and ability to effectively implement regulatory programs.

The NFA is an example of an SRO that has been delegated authority by the CFTC in 1976. Leo Melamed, chairman of the CME, formed a committee comprised of industry leaders to engage Congress on supporting legislation for the creation of the NFA, legislation that gives the CFTC the authority to authorize an SRO when it is in the public's interest and when an SRO can remove impediments to and perfect the mechanisms of free and open futures trading. Six years later, in 1982, the creation of the NFA gave the futures industry the regulatory framework on which its markets could continue to grow and succeed.

The Commodities Exchange Act and related CFTC regulations set out a number of requirements for an

RFA, a registered futures association, like the NFA, requirements which the VCA is also in alignment with.

Following on the IOSCO SRO principles, the case study of the NFA; global examples, like the JVCEA; and existing CFTC rules and regulations, it is our goal to build up the VCA to serve a similar crucial self-regulatory function for the spot virtual currency markets in the United States.

In terms of bridge building, we must also work across our industry. Just like traditional finance, traditional financial industry, there is no shortage of thought leaders and associations. The same applies within the crypto industry. There are thought leaders and associations that focus on being think tanks, lobbying associations. There are standard-setting bodies like those beside me, Global Digital Finance and ADAM. And then there are those like the VCA that are looking to obtain SRO designation. We are not competitors. We are collaborators in this place, in this space. And we look forward to continuing to collaborate with our industry as peers.

Two of the committees that I would like to focus on and highlighted in the IOSCO report as being fundamental to having an effective SRO include examination/enforcement, and market surveillance. The examination/enforcement is a key pillar of an SRO. As in traditional finance, there are best practices and standards set by global standard-setting bodies, like ISO or FATF, that require localization by regulatory authorities. In a similar fashion, more than setting standards, the VCA will continue to collaborate with the various crypto associations for purposes of leveraging and localizing those best practices and standards to inform rulemaking. Those rules will then be adopted, examined, and enforced.

As crypto markets are globally distributed with institutional and retail investors having direct access, no longer gated by traditional intermediaries, being able to trade crypto in multiple venues 24/7 requires a cross-market surveillance approach, not any one single market surveillance approach.

Just as over the years traditional financial markets have become increasingly distributed with multiple venues to trade on, SROs have taken steps to adjust their approach to market surveillance. For example, the conversations that we had earlier today around the FIA's initiatives around consolidating audit trails, additionally FINRA's consolidated audit trail initiatives.

VCA members are making progress towards building a technical platform to ingest data feeds from member exchanges for purposes of cross-market surveillance.

The creation of an SRO is a two-way street which requires collaboration between government and the industry. Government and regulators play an important role in motivating industry self-regulatory efforts by speaking about them and encouraging such developments. This can catalyze action. The action that we are looking to catalyze is the designation and delegation of authority to an SRO. We have had a number of interactions with the CFTC trying to figure out how we can make this happen. We have engaged our special advisor, Sullivan and Cromwell, to perform an analysis to understand what authority does the CFTC have within current rules, within current regulations, to designate an SRO?

Our analysis looks hopeful. We would like to further the analysis with the CFTC. But at initial blush, it looks like the section 17 of the Commodities Exchange Act does indeed provide the CFTC broad authority to designate and register an SRO. According to our analysis, there is no statutory rule-based reason that this authority could not extend to a self-regulatory organization offering its services in the spot virtual currency markets where those virtual currencies are commodities as defined by the Commodities Exchange Act.

Given the CFTC's oversight over virtual currency-based futures and derivatives, we do believe that it is in the public's, the market's, and the agency's interest to designate an SRO to surveil and enforce overly and rules-based trading in a market underlined and used for the pricing of the futures traded on CFTC-registered entities.

Finally, while we believe this analysis indicates a potential path forward, as mentioned before, we would like to continue our dialogue with the

CFTC and key stakeholders to further the analysis. Additionally, we would like to note that state licensing regimes may benefit from a federally authorized SRO, filling in any gaps that may result in state-level and Federal-level regulation.

I would like to thank the Commission and the TAC for the opportunity to present on the industry's path to designating and delegating authority to an SRO. Thank you.

MR. VOPNI: Thanks, Yusuf. Thank you, Jeff. Thank you to CFTC and the TAC. Thanks so much for having me. I appreciate the opportunity to talk about the ADAM.

My name is Brad Vopni. I head up digital asset trading at Hudson River Trading, a global multi-asset proprietary trading firm. And I am here as a representative and a founding board member of the ADAM, which is the Association for Digital Assets Markets.

So what is ADAM? ADAM is a private, self-governing, broad-based association of firms seeking to build a safer, stronger, and more efficient digital assets marketplace. The development of digital assets, including cryptocurrencies, digital commodities, digital securities, and the underpinning technologies we believe has a tremendous potential and is rapidly and ever evolving.

In the Summer of 2018, a number of firms convened to explore what could be done to significantly reduce issues for both existing and future investors in the digital assets markets in order to give them a higher degree of comfort and security as they looked to transact in this nascent asset class. Most of the individuals in the room were experienced financial services professionals, having worked in the equity commodity and FX markets and exchanges, brokers-dealers were actively involved in some fashion or another in the digital assets markets and had experienced firsthand the idiosyncratic nature of the digital assets markets and were sanguine about the asset class but knew more could be done to build credibility and improve conduct in the markets. Within a few months, ADAM was created, formally launching as a nonprofit on October 24th, 2018.

Membership in ADAM is open to organizations involved in or that seek to become involved in the markets for digital assets, including trading venues or exchanges or marketplaces, custodians, investors, asset managers, traders, lenders, liquidity providers, and brokers.

ADAM has a relatively simple mission: to foster fair and orderly digital assets markets, where participants can transact with confidence, certainly easier said than done, but when determining what ADAM should do, we established four guiding principles, which are, one, provide clear standards for efficient trading, customer, clearing, and settlement of digital assets; two, encourage professionalism and ethical conduct by market participants; three, increase transparency and provide information to the public about digital assets markets; and, four, seek to protect market participants from fraud and manipulation.

Now, equally as important in establishing what ADAM was intended to do, we were also very mindful of what ADAM isn't. ADAM is not intended to be an advocacy group. ADAM is not intended to be a replacement for regulation. Simply put, ADAM exists to enable industry to pave the way toward fair and orderly markets by complementing existing laws and regulation, basically to bridge the gap between the status quo and future regulation of the digital assets marketplace.

So, historically, as some of us have mentioned before, market-driven efforts to establish industry standards led to effective self-regulation, both in securities and the commodities markets. Subsequently, through authority granted by Congress, FINRA, previously NASD/NASDAQ, was established as the SRO to oversee our securities markets. And NFA was established as the SRO to oversee our commodities markets.

The ADAM membership is composed of industry experts who have combined hundreds of years experience and expertise in the traditional equities and commodities and various other markets and who are now active participants in the digital assets markets in both the United States and abroad.

There are 10 founding members of ADAM. And they represent a large market share across key areas within digital assets markets. Those members are BitOoda, BTIG, Cumberland, Galaxy Digital, Genesis Global Trading, GSR, Hudson River Trading, Paxos, Symbiont, and XBTO. All of these firms committed to two years of participation in ADAM and all have representation on the board.

And while we were fortunate enough to attract a distinguished list of firms at the start, the group was thoughtful regarding the types of market participants that ADAM should involve. What that means in practice meant understanding how firms arrived at the roles that they played within the markets, mostly due to how the digital assets markets has evolved.

So while many service providers in other asset classes exist entirely independent of one another, we have to appreciate that many firms in the digital assets markets, especially marketplaces, often perform the function of numerous other firms in other asset classes. Marketplaces themselves can often operate as the exchange, the clearinghouse, the custodian, the broker, and sometimes even the dealer. And while we believe that over the long-term, industry will ultimately dictate how some of those services should be offered, either within the four walls of those organizations or potentially segregated like they are in other assert classes, ADAM understood that it needed to find the appropriate balance between appreciating how things actually operate with an eye towards how they might in the future. Striking that balance helped drive our mission and ultimately our purpose.

So what have we done? In collaboration with industry and legal experts as well as academics, ADAM has developed a code of conduct that will set standards for professional conduct and efficient industry self-governance for digital asset markets. And I will go to the code in a little bit, but our goal is that through the introduction of and adherence to the code of conduct, others in the marketplace will be ADAM members as trusted players and create best practices and establish higher industry standards.

We formally announced the code and our new members at the consensus event in November of last year. We hosted a launch party the evening prior to consensus and had over 50 high-quality firms, who came to learn more about ADAM. Two of our founding members participated in a panel at consensus to discuss the mission of ADAM and went into what the code is intended and not intended to do and ultimately published a draft of the code itself.

Membership has also been a key focus for us. And even while managing to be somewhat low-key and pen to paper as we drafted the code, we managed to increase our membership by 50 percent, adding a number of well-regarded firms who share the same vision around establishing best practices and creating higher industry standards.

So alongside the announcement of the code was the announcement of the few new members who had chosen to join ADAM. Those members are BitGo, Anchorage, BlockFi, CMT Digital, and Tagomi.

So before getting into any specifics regarding the code, it is important to appreciate what we believe this milestone ultimately meant. One, it signals that members are committed to professional standards of conduct, standards that institutional investors are familiar with from other markets and would require if they are to enter these markets in any meaningful way. Two, they help improve the standards of conduct in the industry. Where regulatory gaps are general and uncertainty exists, this can ultimately act as a backstop by setting minimum reasonable standards of conduct; and, three, provides an opportunity for industry to step up and provide leadership in defining what those best practices should be.

So, as indicated, the code of conduct is really designed to promote integrity, fairness, and efficiency. Intended to inform and complement, rather than replace existing regulation, the code is drafted to inform participants on best practices and is part of a long-term effort to define and promote ethical behavior and conduct by all digital asset markets' participants.

The code is really divided into a number of principles, which guide and define appropriate professional standards in the following areas: governance, compliance, risk management, market ethics, conflicts of interest, transparency and fairness, market integrity, custody, information security and business continuity, and anti-money laundering, and countering the finance of terrorism.

Complying with the letter and spirit of the code should be well within the reach of firms who understand basic standards of professional conduct and have a commitment to sound governance and risk management.

That said, we do believe that there is tremendous value in coming together as an industry to commit to these standards. And because it is principles-based, the code is intended to be flexible enough to address issues that will inevitably arise given the nascent technology and asset class. And we expect these best practices to evolve over time and be reflected in the code.

ADAM's code is to provide industry-led, -developed, and -maintained best practices and standards to the digital asset space so it is better able to grow and attract new participants, who expect and demand some form of clear regulation, whether industry- or government-led, and should ultimately raise the level of professional conduct in digital assets markets.

Looking forward, what does 2020 and beyond hold for ADAM? First, at the end of next month, members will be signing the code. Those are the 10 founding members and the 5 new members. Second, ADAM is going to continue to focus on growth. We have embarked on an executive director search and are looking to bring a seasoned, sharp, respected individual to help us lead the next phase of ADAM. We continue to recruit new members, being ever mindful of reputation, credibility, function, and geography. ADAM is not exclusively a U.S.-focused organization. But given how historically U.S.-based institutional firms have often been the tip of the product in asset class sphere, we appreciate that if we can assist in making institutional-grade participants in the U.S. feel as though they are dealing with professionals, then it will be useful in other jurisdictions. And the borderless nature of digital assets is ultimately one of its most exciting and intimidating features

Governance. We will expand our board of

advisors. We have been very fortunate enough to have worked in a variety of capacities with a number of academic, legal, and industry experts and will be looking to create an advisory board to aid our executive director and the board of directors in its further push to legitimize the markets.

And finally, generally looking to leverage the ADAM platform to raise awareness among digital assets market participants and engagement, ADAM can be a resource to market participants, to regulators, and other stakeholders. We are early on in the stages of exploring how we might do that, but some early ideas include submitting comment letters on regulatory and policy initiatives, engaging with regulators on matters beyond the code of conduct, being a source of information about industry trends and practices, and possibly expanding the role of ADAM in defining what industry best practices should be, perhaps issuing model policies or FAQs or case studies to clarify how the code should be applied in various situations. All of this is quite speculative at this point but identifies a few areas that we are exploring internally.

So we are incredibly proud of where ADAM has arrived. And the code is an incredibly meaningful milestone in what we anticipate to be a long road ahead to give investors the same confidence in dealing with digital assets that our other, more established markets afford. And while we are very mindful that ADAM doesn't have all of the answers today, what it does have is an ever-growing list of high-quality firms in the digital assets markets that share a common vision of an industry-led initiative to continue to promote fairness, decency, and ethical behavior doing the hard work to build credibility, helping sort out the rules of the road, and improving the conduct in the digital asset markets.

That being said, I am happy to answer any questions. And thank you for your time.

CHAIR GORELICK: Thank you to the panelists.

So I will start with Charlie.

MR. COOPER: Thank you. Thank you for all of the presentations. And, Brad, I am cognizant of the fact that you don't have all of the answers. I am still going to ask questions.

I am actually thinking that what might help up front is a bit of a definitional question. And the reason I say that is, Yusuf, in your presentation, you talked about cryptocurrencies. Jeff, in yours, you talked about crypto and digital assets. And, Brad, you talked about digital assets potentially more broadly. The reason I think that matters is if we are talking about the idea of a self-regulatory organization that looks at cryptocurrencies, that is one conversation. And it is interesting because we could make the argument there is nothing currently overseeing them, and we wouldn't make the argument there is nothing overseeing them. But, Brad, if you are talking about broader digital markets that can refer to digital shares of stock or digital bonds or digital futures, that is a different SRO because we could also make the argument then that all of those assets, the underlying, are already regulated. They already have SROs. So we don't need this.

So I guess, what are we talking about here or are all three of you actually talking about different things?

MR. HUSSAIN: I will make a quick start. The usage of the term "virtual currency" was intentionally used just to use the same terminology and parlance familiar with the CFTC in the commodities space. The VCA is looking at specifically U.S.-based spot cryptocurrency market self-regulation.

MR. BANDMAN: Yes. Thanks for the question, Charlie. And, also, I was remiss in not recognizing R3 and DTCC as GDF members. And thanks for your engagement and support.

So you are very right to make that distinction. So I would say that GDF, our initial focus was crypto assets. And we used that term starting in 2018 because that was the term that the FSB and a lot of the regulators were using. You know, we know FATF calls them virtual assets. I think Chairman Tarbert calls them digital assets. So there is a lot of terminology there.

So our initial focus and where we thought the most urgency in developing the code of conduct was for crypto assets. And that was our initial focus.

The name of the organization is Global Digital Finance. And I would say aspirationally over time, you know, if we can play a role in helping to support truly global digital finance, I think that is in our roadmap but not what we are most urgently working on.

I think one of the new working groups that our members want to start is one on sustainable finance and how that ties into digital finance. So I think that will maybe be the first step in that direction. And we maybe also be starting a group around digital identity, but, you know, our initial work has been focused on crypto assets. And that is where we got started.

MR. VOPNI: And for the lawyers in the room, I will read exactly sort of what we indicated in the code. But I think it is a fair question because you are absolutely right in that a number of digitized securities or other digital assets already have governance and rules around those. And so when we spent a lot of time thinking about what a digital asset is -- and, again, this is sort of why the -- it is a principles-based code and why we sort of anticipate it to be a living, breathing document is that, you know, we at ADAM believe that currently a digital asset is a cryptographically derived digital instrument available in a public, private, or commissioned blockchain or other form of distributed ledger. There are some other words, too.

And then sort of from an asset class perspective, any option futures contract swap or other instrument or index, the value of which is derived, wholly or principally, from the value of the underlying insurance meeting the description in clause 1. So it is specifically designed as a wrapper for what we believe the definition of cryptocurrency would be if that answers your question.

MR. COOPER: Thank you.

CHAIR GORELICK: Tom?

MR. CHIPPAS: Thank you. Thank all three of you. No doubt it has been quite a bit of work. And it is very obvious from the presentations the thoughtfulness that you have all put into it. And I appreciate that. And I am sure everyone here does as well.

Charlie asked my first question. So thank you, Charlie. Appreciate that. So, with that stipulated already, I guess I would ask just a broad initial question. Then I may have a follow-up or two. Today, we have digital commodities, bitcoin, for example, that trade. And, historically, we have commodities like gold that trade. And we have derivatives on these things as well, too.

Can you give me an example of a spot commodity SRO that perhaps you have looked at for inspiration or has governed any sort of spot commodity trading, at least in the United States, that you can think of?

MR. BANDMAN: Yes. So, I mean, SRO, I think, you know, in terms of something that has legal authority, delegated, statutory legal delegated authority, you know, I think that my colleagues already made the observation that I think in the U.S., that there is not, to our knowledge, a specific example of that. But there is obviously the Japanese one.

One of the models that we looked to was the

FX code of conduct. So there may not be an FX SRO, but the introduction of a code of conduct and then people who adhere to that is an important step in promoting market integrity and higher standards.

MR. HUSSAIN: To be clear, we are not advocating for a non-crypto spot commodity SRO. There isn't one that exists that I am aware of. However, crypto is a unique asset class that has similarities to other asset classes, like derivatives, like futures. Additionally, we are looking to be responsive to the CFTC and other regulators and government officials' concerns around market manipulation, especially as the futures and derivatives product continues to grow for cryptocurrencies. It would be important to ensure that the underlying, the underpinning markets are also appropriately surveilled.

So it is a unique asset class. There aren't any non-crypto commodity SROs that I am aware of. But there are similarities and there are differences.

MR. VOPNI: Tom, the answer to your first question is no, I am not aware of any. I think when I -- ADAM was very mindful. I know the title of the panel involves the letters SRO, but we were very mindful in sort of using that term as sort of a guiding light for how we think about things, but we also sort of recognize that an SRO status is generally earned. We are not entirely sure exactly who would be decreeing necessarily an SRO title amongst or upon whatever body that may be in the future. So I think from ADAM's point of view, we wanted to be a rather broad-based sort of self-governing organization looking at items like the global FX code, many of us having gone through sort of the equities markets in the late '80s, early '90s, and sort of what became of NASD and then FINRA and others and using those as sort of guideposts for us as we think about, you know, how this market is going to evolve over the next 5, 10, 20 years.

MR. CHIPPAS: So, with that stated, what I just posit as a general question is, is crypto really that different? So if a token is just called a token when it is actually a security, then in the United States, I think we know who should regulate that and where it should go. If it is a spot commodity, then we have the Commodity Exchange Act and we have decades of history of how spot commodity markets have worked and how derivative markets have worked.

And, certainly, you know, speaking selfishly for a moment, ErisX operates a DCM and a DCO. Everything listed, for example, in the VCA presentation with the exception maybe of the information sharing, our responsibilities that we have as a DCM operator, we already have the authority and obligation to do many of these things.

So I guess I would just ask, how fundamentally different is crypto as a commodity than other things today? It is a tiny, tiny commodity market in comparison to many, many others. And FX I think, Jeff, is a great example, where if there are specific things that need to be addressed, they could be addressed maybe with something less invasive, expensive, and time-consuming than a completely new set of obligations, some of which already exist in the derivative markets. And the CFTC already has the authority to get involved in underlying spot commodity markets under various conditions.

So has there been any real analysis away from headlines and not planned to review only of headlines? How different is it? I know there would be some unique aspects, but ultimately if it is spot commodity under derivative, how different is it?

MR. HUSSAIN: Sure. Non-crypto spot commodities physically distributed, typically wholesale, that is a broad statement, typically wholesale. Ease of access is different compared to crypto, to the spot market crypto, the spot crypto currency market, there is access by retail investors, institutional investors that are no longer gated by intermediaries and completely agree that for the futures and derivatives market, there already are existing self-regulatory initiatives and efforts, regulations and rules around the futures and derivatives market. What we are trying to do is fill in a gap for the crypto spot currency markets in the U.S.

MR. BANDMAN: Just to add to that, so I think some of the differences are, you know, these markets are global, right? The instruments are frictionless or may be frictionless, digital. They may be characterized by the sort of instantaneous settlement. And I think there are other assets that have those attributes. But I think also, taking an international global perspective, which has been our outlook on this, you know, the regulatory treatment of these things is different in different jurisdictions. And our outlook has been that there were a lot of gaps in regulation. And particularly for people who are participating in this market, either locally or internationally, we thought there needed to be some sort of reference point for what the behaviors should be.

I take your point very much that where there is already an existing supervisory framework, you know, like there is already excellent supervision of derivatives markets in the U.S. and securities markets in the U.S. So we don't need to reinvent the wheel, but there are also kind of gaps. Looking at it internationally, there are a lot of places. And regulation is still catching with sort of the definition of is a commodity -- can it be a tangible interest? In some jurisdictions, it can't. That may evolve with these things.

You know, you sort of kind of brought up the point about cost-benefit analysis. For us, that is one reason for starting out with kind of a self-certification model that is kind of wider and probably less expensive for participants than kind of the supervisory model. So that is another observation I would make.

MR. VOPNI: Tom, what I might also add is that I think your fundamental question is actually sort of why ADAM exists. And while I don't think for many of the digital assets that we are referencing there is a fundamental difference, I think that the issue that there is uncertainty still means that in absence of clear definition of what those are, who sort of ultimately is responsible for surveilling, regulating those assets, that participants need to come together to try to create a rules of the road that make sense until that time and place, where it is much clearer for all participants.

MR. CHIPPAS: My final comment would be I keep going back to gold as a great reference. I heard anecdotally that eBay is the second largest spot gold market in the world. That is fully retail, unregulated, consumer-driven. So I will just continue to point out that I think we have a lot of analogous commodities we can look at today that, as much as I love crypto and all things that go with it, I am obviously dedicating my time and career to it, sometimes we might be better served thinking that there is a lot more in common than different. And finding simpler solutions would be the only comment I make.

Again, congratulations to all of you. There is a lot of hard work and foundation building you are all doing, and I appreciate the effort.

CHAIR GORELICK: Thank you.

Commissioner Berkovitz?

COMMISSIONER BERKOVITZ: Thank you.

Just, Yusuf, when you talk about an SRO, are you contemplating like the SROs that we have, the CME, ICE, NFA, that there would actually be not only just surveillance but enforcement authority, that persons who trade on the member exchanges would sign basically membership agreements where they would consent to the jurisdiction of the platform? And that would include potentially enforcement actions, which could include civil monetary penalties.

And then, secondarily, if the answer is to that yes, is that something that Jeff and Brad in your codes of conduct, that a number of these entities believe an SRO should do because otherwise if just a couple of them say, "Okay. We are really going to have an effective SRO based on the futures of securities models," where there is actually surveillance plus enforcement authority but you are the only ones that do it, there are others that don't, market participants will gravitate towards the lesser regulatory or the lesser potentially burdensome "Why am I going to subject myself to penalties on this exchange if I don't have to have them on another exchange?"

So if you could just -- what type of actual membership agreements do you contemplate? And would this include potential enforcement authority? And then, more globally, is this something that you are striving to have a baseline for everybody to sign up and agree to?

MR. HUSSAIN: What you defined and what you just went through is the definition of an SRO per the IOSCO report, per what a registered futures association's responsibilities are. That is the intent. That is what we are looking to build towards. That is what the response to the calls to action by the regulators and government officials is intended to do.

Once again, for the U.S. cryptocurrency spot markets, we do agree that it is not a level playing field right now. So it doesn't make sense to live in a world where there are certain venues that are not regulated in a similar fashion. So as other jurisdictions further formalize their self-regulatory organizations, as Japan did, as others continue to do, we would want to ensure that there are appropriate synergies between these different self-regulatory authorities.

And, once again, we are not looking to replace any sort of existing regulatory authority. What we are looking to do is serve as an extension in this specific case, an extension to the CFTC to provide sensible, thoughtful regulation to the cryptocurrency markets.

MR. BANDMAN: The other part of the question, you know, you sort of asked, well, if there is this SRO, will people move towards the less regulated part or the more regulated part? I mean, part of that is dependent on, you know, is the scope of its authority, is sort of compliance with that voluntary or not?

I think that in terms of adoption in this area, retail but also institutional adoption, people do trust well-regulated markets. I think if -- like I hadn't heard until we were discussing before the panel that there was a theory that the CFTC might be able to authorize the VCA in this context for the spot market. But if it did and if it had that authority, you know, I think a lot of the market would actually -- you know, maybe not everybody -- there might be actors who didn't wish that for cost or principle or other reasons, but, you know, I think that a lot of market participants and especially those who have yet to adopt in this area would be encouraged by the fact because -- right -- and if they were an SRO, not only would they be acting under delegated authority, but the CFTC would be supervising them. Right?

I think in other jurisdictions, I think having a voluntary code of conduct that fills in gaps and regulation, there would still be a lot of demand for that because in the absence of clear legal authority or regulation, then self-regulation and having codes and principles is the best alternative available.

MR. VOPNI: I think that Jeff summed that rather well. Maybe just to add to that, I think that it is not perfectly clear to me how it would work if a single entity -- right? -- was sort of operating as an SRO and what that meant given sort of the -- not even sort of decentralized but just the global nature of digital assets. And so yes, is it voluntary or is it required to be sort of a meaningful outcome or determinant for participants in the space?

You know, speaking specifically about ADAM, we -- our members need to sort of self-certify and comply with the code, both initially in a month and then also on a yearly basis. We are sort of putting governance around what it would like to develop a formal process to identify and evaluate instances of noncompliance and determine appropriate disciplinary acts them. That is challenging to do in a self-governing organization, let alone enforcement and what that would look like for a self-regulatory organization.

So we are going to focus on that for ADAM in the near term and let others sort of worry and opine and think about what that would look like for an SRO.

CHAIR GORELICK: Thank you.

We have time for one more question, and I think we will go to John.

MR. LOTHIAN: I am a winner. Thank you.

My question, you alluded to it a little bit earlier. My question has to do with structure a little bit because if you look at the SROs that we have, they are mostly organizations that are full of intermediaries. And the cash crypto market is one that has a lot of direct retail members, as opposed to an intermediary, a broker, prime dealer, you know, or prime broker, whatever, kind of a thing. What is the role of this organization relative to the retail crowd?

MR. HUSSAIN: So the approach for the VCA has been working with the markets, the exchanges, where institutional and retail investors can operate, execute trades on directly, with or without an intermediary. We believe that these rules and regulations move closer to the core, the core being the marketplace. That way, we capture not only those individuals and institutional investigators that proxy trades through intermediaries but also those that are directly accessing the exchange, which is the case for the retail investors.

MR. BANDMAN: So in our case, kind of retail investors would typically be the ones who might be protected by the code or might elect to do business with those who have signified that they are adopting by these principles. The way our organizational structure works also, the retail participants can also participate in the composition and drafting of the codes or comment on them as well. At this time, we don't have a specific retail governance methodology.

MR. VOPNI: Two comments. One, I would say that ADAM is intentionally broad-based, specifically because of the sort of nuanced nature of the digital asset landscape, sort of again, you know, alluding to a number of marketplaces wearing numerous hats that would be generally decoupled in other asset classes.

And so we are -- and I guess the second point is part of the principles are or one of the governing elements of the principles or of the code is that it is sort of based on, your adherence to the code is based on your size, is based on your role, and is sort of appropriate for an organization depending on what hat or hats you wear. So the way sort of a principal trading firm that generally operates on a proprietary basis that doesn't have clients or counterparties or deal with people on a bilateral basis, you know, their adherence to the code may be more concentrated and less onerous than somebody who runs a number of businesses and what they would have to do to self-certify and identify conflicts of interest and other elements.

So, you know, I think that is one of the reasons or sort of one of the primary reasons that ADAM is broad-based is because there are a lot of participants that perform a number of functions within the space.

And I think the second comment is that we sort of look at this in sort of a rising tide, sort of floats all boats. And this is one of these asset classes. And I don't have a lot of context for -- or we can't come up with context for another where retail has been the tip of the spear for adoption. And so in order for institutions and institutional-grade participants to sort of come in, they are going to require clarity, reasonable practices, best practices, and things that don't necessarily exist or are uncertain for them. And those will sort of be just the general table setting for them to feel more comfortable, sort of regardless of the regulatory structure of it.

CHAIR GORELICK: Thank you to our panelists.

So I think at this point as the last matter for the day, the TAC is going to vote on a recommendation from the Cybersecurity Subcommittee. The recommendation was emailed around to the Technology Advisory Committee last week. And there are also copies of the memo in everyone's folder for today.

This is also a recommendation that has been well-signaled by the subcommittee. This was first presented two meetings ago. It was re-presented at the last meeting. And today is the day, finally, that they are asking for a vote to approve these recommendations.

So the Cybersecurity Subcommittee is recommending that the full Technology Advisory Committee make a recommendation to the CFTC that it join with other noted organizations in making a statement of support for the FSSCC cyber profile similar to the following, and I will quote, "Regulatory harmonization regarding cybersecurity requirements is a worthy objective saving resources for both regulators, such as the CFTC and financial institutions, by allowing increased focus on the most important risks and necessary investments to mitigate those risks.

"The FSSCC cybersecurity profile is a customization of the NIST cybersecurity framework that financial institutions can use for internal or external cyber risk management assessment and regulatory organizations can use as a catalog of best practices and requirements to support both informed and efficient risk-based compliance-related examinations and the development of future cyber regulation."

As I mentioned, TAC members were provided with the materials for the vote in advance of today's meeting. In addition, the Cybersecurity Subcommittee presented on the background to these recommendations at the last two TAC meetings.

Before I open the vote, I would like to open the floor for a discussion on the recommendation from the Cybersecurity Subcommittee.

MR. McHENRY: Thank you, Mr. Chairman.

As you said, for the last two meetings, we presented information on the cybersecurity profile, which was developed through a coordinated effort with the Financial Services Sector Coordinating Council. This was done in response to an industry-wide need for consolidated and reconciled catalog view of various cybersecurity regulatory standards. So since its release, the profile has garnered broad support among a variety of financial sector participants, industry associations, and agencies. The Cybersecurity Subcommittee believes that this is because the profile summary framework can provide great utility and efficiency to firms as well as the regulators that oversee them.

So as the profile continues to attract significant attention, it would obviously benefit a great deal from support from the CFTC, as outlined in your materials. Therefore, the Cybersecurity Subcommittee recommends that the TAC move forward with its own recommendation that the CFTC make a statement in support of the cybersecurity profile, as suggested in the materials.

CHAIR GORELICK: Thank you.

Is there anyone else who would like to make a statement or ask any questions at this time?

(No response.)

CHAIR GORELICK: Okay. With that, I will now move that the Technology Advisory Committee adopt the recommendation from the Cybersecurity Subcommittee on making a recommendation to the CFTC that it join with other noted organizations in making a statement of support for the FSSCC cyber profile. Is there a second for that motion?

MR. LOTHIAN: Second.

CHAIR GORELICK: Okay. I am happy to

entertain the motion as well. Is there a motion?

MR. LOTHIAN: I so move.

CHAIR GORELICK: So moved. Is there a second?

MR. TABB: (Indicating.)

CHAIR GORELICK: Okay. We have a couple of seconds here. Okay. With that, I will now call for the vote on the motion. All of those in favor of approving the subcommittee recommendation, please say aye.

(Chorus of ayes.)

CHAIR GORELICK: All those opposed, please say nay.

(No response.)

CHAIR GORELICK: Are there any abstentions?

(No response.)

CHAIR GORELICK: Okay. The motion carries. Congratulations to the subcommittee.

And, with that, I think we can turn it over to the commissioners for closing remarks. Thank you very much.

COMMISSIONER QUINTENZ: Well, thank you,

everybody, for joining us today. I know it takes a lot of time to participate in these in an effort to travel and to be with us and to think about engaging productively. I was very pleased. I hope you all felt the presentations we heard were informative, enlightening, and represented a great deal of leadership in some transformative areas of finance that we will all be dealing with I think going forward in the future.

So let me thank all of our panelists. Let me thank all of you, our full members. Let me thank all of the subcommittee members that aren't represented on the full panel for their participation. And, as always, thank you, Richard, and thank you, Meghan, for going above and beyond, especially the last couple of weeks with all of the other work that has been going on. So thank you.

COMMISSIONER BEHNAM: I will just echo Commissioner Quintenz's comments. Thanks to the committee, a huge effort I think leading up to today, a lot of great questions, a lot of great panels, which I think raised a lot of questions for me from a legal perspective and authority perspective in sort of how we should move forward on these really important issues. And a special thanks or Richard and Meghan, of course, for your work and look forward to seeing all of you again soon. Thanks.

COMMISSIONER BERKOVITZ: I would also like to thank everybody and thank the committee and thank my colleagues here, Commissioner Quintenz and Meghan and Richard.

Today's meeting of the Technology Advisory Committee shows why we need a technology advisory committee. Really, technology is integral from everything, the ISDA program to basically put into code the ISDA agreements, which will have tremendous benefits for market participants and for the CFTC, to the presentation on multi-party confirmations, to the presentation on stablecoins and the banking system really shows the extent to which our markets, really dominated by technology and a whole host of issues that we really benefit by all of the expertise of the presenters and you around the table bringing to this agency. And we really need meetings like this and a committee like this to help us stay informed on these issues and so we can formulate appropriate regulatory responses and intelligently consider your well-thought-out recommendations. So I thank everybody for coming to Washington and participating in the meeting. Thank you.

MS. TENTE: All right. Thank you, everybody. The meeting is now adjourned.

(Whereupon, at 3:43 p.m., the meeting was adjourned.)