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:

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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

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Alicia Lewis, Designated Federal Officer

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Kevin McClear, Intercontinental Exchange, Inc.

Dennis McLaughlin, LCH Group

Craig Messinger, Virtu Financial

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James Shanahan, CoBank ACB

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Dr. Betty Simkins, Oklahoma State University

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Suzy White, HSBC

Rana Yared, Goldman Sachs

Thomas Wipf, Morgan Stanley

Scott Zucker, Tradeweb

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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.)