U.S. COMMODITY FUTURES TRADING COMMISSION (CFTC)

MARKET RISK ADVISORY COMMITTEE (MRAC)

Tuesday, April 9, 2024

9:30 a.m.

U.S. Commodity Futures Trading Commission

Three Lafayette Centre

1155 21st Street, N.W.

Washington, D.C. 20581

ATTENDEES

MRAC Members

Robert Allen, FMX Futures Exchange, L.P.
Stephen Berger, Citadel, LLC
Richard Berner, NYU
Biswarup Chatterjee, Citigroup
Alessandro Cocco, Department of the Treasury
Tim Cuddihy, Depository Trust and Clearing Corporation
Alicia Crighton, Futures Industry Association
Graham Harper, FIA Principal Traders Group
Lindsay Hopkins, Minneapolis Grain Exchange
Annette Hunter, Federal Home Loan Banks
Demetri Karousos, Nodal Exchange, LLC
Eileen Kiely, BlackRock
Elisabeth Kirby, Tradeweb Markets
Derek Kleinbauer, Bloomberg SEF LLC
Ernie Kohnke, Commodity Markets Council
Chip Lowry, Foreign Exchange Professionals Association
Purvi Maniar, FalconX
Craig Messenger, Virtu Financial
Andrew Park, Americans for Financial Reform
Jessica Renier, Institute of International Finance

ATTENDEES (continued)

MRAC Members (continued)

Marnie Rosenberg, JPMorgan Chase & Co.

Tyson Slocum, Public Citizen

Kristin Smith, Blockchain

Suzanne Sprague, CME Group

Speakers in Attendance

Jessica Garcia, Americans for Financial Reform Education Fund

Gary Kalbaugh, Deputy General Counsel and Director, ING Financial Holdings

Elizabeth King, Intercontinental Exchange, Inc.

Dale Lewis, Chief Executive Officer, Community Markets for Conservation

Ashwini Panse, Head of Risk Oversight for ICE Clear Netherlands, and Chief Risk Officer for the North American Clearinghouses, Intercontinental Exchange

Holly Pearen, Lead Counsel, Environmental Defense Fund

Gary Rowcliffe, Co-CEO and Chief Commercial Officer, OSTTRA

Paolo Saguato, George Mason University

ATTENDEES (continued)

Speakers in Attendance (continued)

Nathaniel Wuerffel, Head of Market Structure, Bank of New York Mellon

CFTC Commissioners and Staff in Attendance

Kristin Johnson, CFTC Commissioner

Tamika Bent, Chief Counsel to Commissioner Johnson

Peter Janowski, CFTC Division of Enforcement, MRAC Alternate Designated Federal Officer

Additional Attendees

Cantrell Dumas, Better Markets

Jennifer Han, Managed Funds Association

Jai Massari, Lightspark

AGENDA

AGENDA (continued)

AGENDA (continued)

P R O C E E D I N G S

WELCOME AND OPENING REMARKS

MR. JANOWSKI: Good morning. As the Market Risk Advisory Committee Alternate 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 Commissioner Johnson for Opening Remarks. We will then hear a recorded message from Commissioner Mersinger. Commissioner Johnson?

COMMISSIONER JOHNSON: Good morning. Welcome, everyone. I'm honored to welcome you to the first MRAC meeting of 2024. At this meeting, the MRAC will introduce formal recommendations reports and present insightful guidance to improve the integrity and stability of our markets.

Today we continue the long tradition of this committee's engagement with the Commission, its valuable insight into the concerns that shape the stability and integrity of global derivatives markets, and its collaboration toward developing ways that the industry and Commission can prepare for and mitigate the most critical risks facing our markets today.

The work of this committee influences industry standards and best practices and provides thought leadership on many of the most important issues that will impact citizens and businesses in every corner of the world, by shaping the direction of the development of markets.

Today we will begin by hearing from the CCP Risk and Governance Subcommittee, co-chaired by Alessandro Cocco, Vice President in the Financial Markets Group at the Federal Reserve Bank of Chicago, on detail as Senior Policy Advisor to the Department of the Treasury, and Alicia Crighton, Chair of the Futures Industry Association Board of Directors. We will hear not only the presentation and report but also recommendations on behalf of the recovery and resolution workstream.

As the report notes, CCPs are fundamental market structures in derivatives markets and have gained further prominence in the wake of the 2008 financial crisis. The G20 nations have committed to standardizing OTC derivatives, where appropriate, and clearing them through CCPs, and by 2012 had effectively adopted policy and legislation to achieve the same. In fact, in 2010, the Dodd-Frank Act reformed the legislative framework for U.S. CCPs. Title VII of the Dodd-Frank Act sets forth core principles for DCOs. Through this regulation and legislation, we have ensured, or at least increased, the stability and integrity of our derivatives markets.

In addition to domestic reforms adopted under the Dodd-Frank Act since 2010, international standard-setting bodies have been very active in adopting principles, guidance, and standards to support and inform national policymakers in the regulation of CCPs.

I could walk you through the history of IOSCO or FSB's recommendations or, in 2012, the CPMI-IOSCO publication regarding principles for financial market infrastructure, but all of this will be carefully detailed in the presentation and report that Alessandro will present.

I just share with you at the outset of the meeting that the report includes a number of important recommendations. If these should be adopted by the MRAC and then shared with the Commission we hope that they will inform the current pending final rule on DCO resilience, recovery, and orderly wind-down. The recommendations include implementation of supervisory stress tests, inviting the Commission staff to adopt and implement supervisory stress testing of credit and liquidity risks for all DCOs. We invite the Commission staff to consider the adoption and implementation of operational and other non-default risk stress testing, leveraging industry exercises, covering these risks where appropriate.

We are also thoughtful that the results of the supervisory stress tests should be made available to the public. This is a conversation that we will continue to have as we develop these proposals and recommendations.

We are thoughtful, in a second instance, about the need for recovery scenarios and analyses. In the final rule, the text of CFTC Regulation 39.39(c)(2) could be amended to require DCOs to conduct scenario analysis that includes extreme but plausible scenarios. This discussion has been rigorously explored by the subcommittee workstream and we are thoughtful about hearing from MRAC members today regarding their thoughts and concerns related to this suggestion.

Third, we are thoughtful about non-default losses, a topic that is familiar to many of you with respect to CITCO's or Subpart C DCOs.

Finally, there is thoughtfulness around the provision of data for resolution planning and the porting of customer positions. With respect to this final recommendation, the thought is potentially that the CFTC could lead in developing an interagency task force that would include the National Futures Association, to discuss and address impediments to porting of customer positions and collateral in the context of a DCO in resolution.

Next we will hear from the Future of Finance Subcommittee. Over the course of the last several years I have demonstrated an unwavering commitment to researching and understanding the potential for responsible AI or the adoption of emerging new technologies that may facilitate greater integrity and stability in our markets. More than five years ago I began to convene and participate in convenings of AI developers, adopters, academics, government industry researchers, regulators, and public interest organizations. In 2020, I agreed to co-author two books in the law school space, one which deals with the ethical implications of AI across diverse sectors of our society, the other focuses more directly on financial markets. In the last few weeks I have traveled to Tokyo, Japan, South Africa, and Zambia, and offered, in New York City -- a different kind of jungle -- remarks on AI and the extent to work the adoption of AI in our markets could lead to important and significant changes in how our markets operate and the need to identify best practices for integrating AI in our markets.

Among the many suggestions I have made, I would note the following commonalities in my thinking and the thinking of not only the Commission in its request for comment recently issued but also in the efforts undertaken by the FSB, FINRA, and IOSCO in articulating general principles that should guide our thinking about the integration of AI in our markets.

First, I think there has to be a focus on governance in AI models. FSOC, in a recent report, recommends monitoring the rapid development of AI, including generative AI, to ensure that oversight structures keep up with or stay ahead of emerging risks to the financial system while facilitating efficiency and innovation.

I think a second thought is promoting explainability of AI models, something that has been curiously and carefully explored by FSOC, IOSCO, FSB, and FINRA in each of their efforts to address the importance of the explainability challenge.

There is also a need for careful data controls. Data quality, security, and privacy and central concerns for regulators and market participants, as market participants adopt AI models.

In addition, there is a need to think carefully about the challenge of bias in the adoption of AI models. In 2019, I testified before Congress and voiced my concerns that in some contexts AI models may be trained on incomplete or inaccurate data.

Finally, there is a need for testing and monitoring of output. This thought, with respect to

AI, has also been echoed by FSOC, IOSCO, FSB, and FINRA.

I note that the subcommittee today would like to present early stages reflections on the possibility of a workplan. It is an outline of ideas that they are soliciting feedback from MRAC members and hoping that broader stakeholders in our community will contribute to informing the direction of the workplan and the development of the suggestions and ideas therein. Immediately they are thoughtful about the need to have greater visibility into CFTC-regulated markets' use of AI. They are thoughtful about the need for new guidance, advisories, and rulemaking in the context of the option of AI, and they have outlined a framework for this, framing the risks of AI models, robust monitoring and testing of AI models, and oversight and governance of AI models. I applaud their efforts and am hopeful that today's discussion will prove fruitful and offer good guidance as they move forward.

The Market Structure Subcommittee will offer feedback on, one, significant point of analysis, and two, workstream reports. The significant point of analysis grows from the FCM and capacity workstream that has been presented at several of the earlier MRAC meetings. We know that FCMs are critical intermediaries in cleared markets, and this workstream analyzes publicly available data regarding the increasing decline in the total number of FCMs available in markets as well as the increased demand for FCM services.

Next we will hear from the Treasury workstream reflections on the U.S. Treasury cash-futures basis trade and risk management considerations. The presentation will be delivered by Nate Wuerffel, Head of Market Structure at Bank of New York Mellon.

We will finally hear from Bis Chatterjee on two workstreams, the post-trade risk reduction and block size workstreams.

And as a last presentation today, we will hear from several presenters on issues related to climate-related market risk. In December of last year, the CFTC issued proposed guidance regarding the listing of voluntary carbon credit derivatives contracts and issued a request for comment. As the Commission continues to consider and explore its actions in this space or potential interventions, we are thoughtful about the extent to which several topics might be explored, in market integrity, disclosure transparency and enforcement, market design and intermediation, product design and reliability. We will hear from Holly Pearsen of the Environmental Defense Fund. We will also hear from Jessica Garcia of AFR, and finally we will hear from Dale Lewis of COMACO, the Community Markets for Conservation in Zambia, probably the person joining us from the farthest away in the world today.

I would like to conclude my opening remarks just by thanking everyone who has already rolled up their sleeves and began to chart a course of development and completion for the important work that the MRAC subcommittees will begin and continue to explore this year. Allow me to thank our MRAC Chair and Chair of the FIA Board, Alicia Crighton, for her indefatigable support of MRAC and also for her ever so eloquent and diplomatic interventions, when necessary.

I am grateful for the MRAC Designated Federal Officer, Tamika Bent, who is Chief Council in my office, and alternate DFO, Peter Janowski, who is Trial Counsel in the Division of Enforcement. I also want to thank Rebecca Lewis Tierney and Julia Welch, who are both also in my office and here at the table, serving as ADFOs for two of the subcommittees.

Let me finally thank the logistics and administrative staff. I would like to describe in more detail in my closing remarks how grateful I am to each of them. But thank you Altonia Downing, Monae Mills, Andy Brighton, Keane McBride, Venise Raphael-Constant, Margie Yates, Jean Cespedes, Pete Santos, and Ty Poole.

Thank you so much for joining us today. I look forward to a robust and informative discussion.

MR. JANOWSKI: Thank you, Commissioner Johnson. Before starting our discussion there are just a few logistical items that I have been asked to mention to the committee members.

Please make sure your microphone is on when you speak. This meeting is being simultaneously webcast, and it is important that your microphone is on so that the webcast audience can hear you.

If you would like to be recognized during the discussion please change the position of your placecard so that it sits vertically on the table, or raise your hand and Chair Crighton will recognize you and give you the floor.

If you are participating virtually and would like to be recognized during the discussion for a question or comment, or need technical assistance, please message me within the Zoom Chat. I will alert Chair Crighton that you would like to speak. Please identify yourself before you begin speaking and signal when you are done speaking. Please speak directly into the microphone for optimal audio quality on the webcast. Please unmute your Zoom video before you speak, and mute after you speak. Please only turn on your camera when you are engaging in discussion.

If you are disconnected from Zoom please close your browser and enter Zoom again using the link provided previously for today's meeting.

We ask that speakers keep as close as possible to the time allocated in the agenda. We will hold up a one-minute timecard to indicate that one minute remains to finalize your remarks. For virtual speakers we will send a direct message using the chat function as a reminder.

Before we begin we would like to do a roll call of the members participating virtually so that we have your attendance on the record. After I say your name please indicate that you are present and then mute your line.

James Andrews?

MR. ANDREWS: Present.

MR. JANOWSKI: Richard Berner?

MR. BERNER: Here.

MR. JANOWSKI: Alessandro Cocco?

MR. COCCO: Present.

MR. JANOWSKI: Neil Constable?

MR. CONSTABLE: Present.

MR. JANOWSKI: Edward Dasso?

MR. DASSO: Present.

MR. JANOWSKI: David Horner?

MR. HORNER: Present.

MR. JANOWSKI: Eileen Kiely?

[No response.]

MR. JANOWSKI: Derek Kleinbauer?

MR. KLEINBAUER: Present.

MR. JANOWSKI: Murvi Maniar?

MS. MANIAR: Present.

MR. JANOWSKI: Craig Messinger?

MR. MESSINGER: Present.

MR. JANOWSKI: Andrew Nash?

MR. NASH: Present.

MR. JANOWSKI: Jessica Renier?

MS. RENIER: Present.

MR. JANOWSKI: Tyson Slocum?

MR. SLOCUM: Present.

MR. JANOWSKI: Kristin Smith?

MS. SMITH: Present.

MS. JOHNSON: Suzanne Sprague?

MS. SPRAGUE: Present.

MR. JANOWSKI: Thank you all. We will now hear from Chair Crighton.

CHAIR CRIGHTON: Thank you. Good morning, everyone. Nice to see you.

Today, as Commissioner Johnson indicated, we will engage in discussions involving CCP risk and governance, artificial intelligence in finance, market structure developments, climate-related market risks, as well as a host of discussions of issues surrounding the introduction of several emerging technologies and the development of the carbon credit market.

Our first presentation today comes from the recovery and resolution workstream of the CCP Risk and Governance Subcommittee. Alessandro Cocco, the workstream lead and Vice President in the Financial Markets Groups at the Federal Reserve Bank of Chicago, on detail at the U.S. Department of Treasury, will first present recommendations from the workstream on the Commission's proposed rules on derivatives clearing organizations' recovery and resolution.

We will then turn to comments from three panelists: Elizabeth King, Global Head of Clearing and Chief Regulatory Officer, Intercontinental Exchange; Paolo Saguato, Associate Professor of Law, Antonin Scalia Law School, George Mason University; and Cantrell Dumas, Director of Derivatives Policy, Better Markets. Following these remarks we will have open discussion from MRAC members.

Alessandro, I will hand it over to you.

SECTION ONE: CCP RISK AND GOVERNANCE SUBCOMMITTEE

MR. COCCO: Commissioner Johnson, Chair Crighton, and staff, many thanks for inviting me to speak today. My name is Alessandro Cocco, and I coordinate the work of the CCP Risk and Governance Committee on DCO resilience recovery and wind-down.

Today I am presenting a report containing recommendations from this workstream. The workstream is composed of members from DCOs, FCMs, buy side, and academia. These are, in alphabetical order, Ruth Arnold, Managing Director and Associate General Counsel at Bank of America; Richard Berner, Clinical Professor of Management Practice in the Department of Finance, and Co-Director of the Stern Volatility and Risk Institute at New York University; Lee Betsill, Managing Director and Chief Risk Officer at CME Group; Juan Blackwell, Head of Credit and Counterparty Risk Management at Ontario Teachers' Pension Plan; Reginald Griffith, Global Head of Regulatory Compliance at Louis Dreyfus Company; Demetri Karousos, President and Chief Operating Officer at Nodal Exchange; and Paolo Saguato, Associate Professor of Law at Antonin Scalia Law School at George Mason University.

The report is aimed at supporting CFTC staff in its final rulemaking efforts by offering recommendations and comments on four main areas: (1) Adopting supervisory stress testing of recovery and wind-down plans; (2) Implementing recovery scenarios and analysis; (3) Including non-default losses in recovery and wind-down plans; and (4) Reporting of customer positions and collateral during a CCP in recovery or wind-down and clearing member default.

Before I go any further I would like to note that any opinions expressed here are my own and not those of the Federal Reserve system or the U.S. Treasury.

Let me also start by acknowledging that while it is important to have a roadmap for potential recovery, wind-down, or resolution, subcommittee members know that the resilience measures, if properly implemented, will materially decrease the likelihood of CCP failure and the need for recovery wind-down or resolution. Some workstream participants also noted that attending to the management of existing risks is of greater value to the financial system than planning to recovery from risk management failures.

The question then becomes how can we devote the resources of regulators, DCOs, and market participants to ensure that we utilize those resources efficiently and that planning for recovery and wind-down, which is necessary, does not impact negatively but rather enhances the resilience of DCOs? Preparing for the worst-case scenario of a recovery or wind-down or resolution, if we get the balance right, can help us prevent that outcome in the first place, so we must be prepared.

With respect to the broader international policy framework for the recovery and resolution of CCPs, we will hear today from Professor Paolo Saguato, who will speak in a few minutes.

Let me turn to the recommendations. I will start with supervisory stress testing to identify vulnerabilities in DCOs, and thus the appropriateness of recovery and wind-down plans. With respect to this topic, the workstream offers five recommendations:

(1) Commission staff should adopt and

implement supervisory stress testing of credit and liquidity risks for all DCOs.

(2) Commission staff should adopt and implement operational and other non-default risk stress testing, leveraging industry exercises covering these risks, where appropriate.

(3) Commission staff should include reverse stress tests in their supervisory stress tests.

(4) The results of supervisory stress tests should be made available to the public in a level of detail determined to be appropriate by Commission staff, within a reasonable time after the stress tests have been conclude.

(5) Subcommittee members presenting end users, FCM, and academia believe that stress tests should be required to take place at least annually. With respect to reverse stress tests, subcommittee members representing DCOs do not believe that the frequency of reverse stress tests should be annual, but rather that the frequency of these tests should be determined by Commission staff.

Let me now return to recovery and wind-down scenarios and analysis. In this area, subcommittee members made two recommendations:

(1) In the final rule, the text of CFTC Regulation 39.39(c)(2) should be amended to require that DCOs conduct scenario analysis that includes extreme but plausible scenarios that could trigger recovery or wind-down.

(2) The final rule should retain the requirement that CITCOs include in their plans an assessment of the financial resources and tools available in the event of recovery and wind-down and how they would address the scenarios identified that could trigger recovery and wind-down.

The third topic is inclusion of non-default losses in recovery and wind-down planning for all DCOs. Here subcommittee members made two recommendations:

(1) The Commission should retain the proposal to require a DCO that is neither a CITCO nor a Subpart C DCO to maintain and submit to the Commission viable plans for orderly wind-down necessitated by default losses as well as non-default losses.

(2) The Commission should retain the

proposed definition of NDLs as applied to all DCOs. The definition of NDL is proposed to include losses arising from risks falling in these five categories: general business risk, custody risk, investment risk, legal risk, and operational risk.

The subcommittee also address the question raised in the NPR and in the comment letters about the provision of data to the Commission and the FDIC for resolution planning purposes. By way of background, the Commission is proposing a new CFTC Regulation 39.39(f) to clarify that the requirement that DCOs have procedures in place to provide information directly to the Commission and the FDIC for resolution purposes means that the DCO must provide such information to the Commission. The Commission would no longer be requiring DCOs to provide information related to resolution planning directly to the FDIC. The Commission provides such information related to the resolution planning to the FDIC under a memorandum of understanding.

Here, the recommendation of the subcommittee members reflects a divergence of views. Subcommittee members representing end users, FCMs, and academia believe that the Commission and FDIC should develop an interagency task force to discuss the sharing of information for resolution planning purposes. However, subcommittee members representing DCOs believe that coordination already occurs between the FDIC and CFTC with respect to CITCOs, that an agency task force is not necessary and that coordination can and will continue to occur through existing channels.

Finally, subcommittee members addressed the issue of the concentration of FCMs as potential vulnerability in the clearing system and formulated proposals to address challenges to porting of customer positions and collateral during the recovery and wind-down. The main recommendation is that the Commission should develop an interagency task force, which should include the National Futures Association, to discuss and address impediments to the quoting of customer positions and collateral in the context of a DCO resolution and clearing member default.

The report also contains some recommendations that are specific to CFTC rules and are a bit technical for the time we have today. For these I refer you to the text of the report.

That is all I have for today. I will hand it over to Elizabeth King.

MS. KING: Thank you and good morning. I am Elizabeth King and I am the Global Head of Clearing at ICE and ICE's Chief Regulatory Officer. Thank you, Commission Johnson, for your leadership on MRAC and for inviting me here this morning to talk about recovery and wind-down from the perspective of a DCO.

As you probably know, ICE operates clearinghouses around the world, and for that reason we are well versed in the development of the international standards and the expectations around recovery and wind-down planning for clearinghouses. ICE operates six clearinghouses, four of which are registered with the CFTC as DCOs.

I am pleased to support the report of the subcommittee that is being considered by the full committee today on DCO recovery and wind-down plans.

I would like to briefly touch on three important topics: one, stress testing; the next, recovery and wind-down scenario analysis; and finally, the porting of customer accounts and collateral.

To turn to testing, ICE supports the recommendations on testing in the report. Clearinghouses have participated in tests conducted by the U.K., the EU, and U.S. regulators, and we understand the importance of these tests, which allow CCPs and the wider market to assess CCPs' resilience, using a common stress testing framework.

Regarding supervisory tests, I would like to emphasize the importance of coordination across regulators. Many clearinghouses are subject to regulations in multiple jurisdictions, as ICE is, and similarly firms that clearing members are regulated by multiple clearinghouses.

So accordingly, a coordinated test can be much more efficient for clearinghouses and market participants to execute. Coordinated tests allow supervisors to incorporate the expertise from multiple regulators and CCPs, which can only enhance the quality of that testing. Another advantage is coordinated testing can make the most of the resources that are expended by the industry on planning and participating in these tests. And there is also the risk that multiple regulatory tests being conducted in a relatively short period of time can reduce the impact and relevance of the tests.

Finally, I would like to note that some of the key issues highlighted by the tests related to topics that may not be CCP specific, nor can they be solved by a single CCP or a single regulator. The market's dependency on a small number of custodians is an example of such an industry-wide issue, and the risks may require the coordination and input from policymakers within the U.S. and across the regulatory landscape in the U.S. as well as outside the U.S.

And in the case of the risks associated with a shrinking number of custodians, new solutions such as Fed account access for non-SIF moves is something that should be considered.

So moving on to wind-down scenarios and analysis, ICE's clearinghouses engage in robust scenario analysis as part of their regular risk management and their recovery and wind-down planning.

We welcome the recommendation in the report on recovery and wind-down plans that is being considered today that the Commission and any rulemaking allow DCOs flexibility to determine the scenarios that could trigger a recovery and wind-down.

Each clearinghouse has different clearing members. It clears a different mix of products. And for that reason the clearinghouse is very well positioned to understand the biggest risks to which it is exposed as well as how those risks may change over time as the market changes.

So for this reason, as with other aspects of risk management, DCOs can best define and identify the scenarios that should be analyzed as part of its recovery and wind-down planning. And a regulatory approach that is too prescriptive could increase risks, that a DCO is not considering scenarios that are most relevant to it.

And finally, turning to porting, while clearinghouse recovery and wind-down planning is an important aspect of risk management -- we all recognize that -- it is also more likely that as in the past a

DCO will be required to manage an FCM failure and to manage that successfully. Porting of customer accounts of collateral should be an available tool in a DCO's management of an FCM failure, and it can minimize, as we have seen, the risk of contagion to other market participants. I can't emphasize this enough, to ensure the continuing availability of porting of customer accounts, and that that is a tool available to clearinghouses.

In this regard, I feel I need to mention that the current BASEL III Endgame proposal changes could have an adverse effect on that and the ability of clearing members' capacity, and thus the willingness or ability of those clearing members to accept porting of customer positions and collateral as part of a clearinghouse's management of an FCM failure.

So thank you again for inviting me to speak today.

MR. SAGUATO: Buongiorno. Good morning. Thank you very much, Commissioner Johnson, Chair Crighton, and CFTC staff for organizing today's meeting. I am delighted to participate, and I look forward to many engaging discussions on this important topic.

I am Paolo Saguato, an Associate Professor at Antonin Scalia Law School at George Mason, today at top 30 law school in the country, so the dean is happy.

My remark will focus on the broader international policy framework for the recovery and resolution of CCPs with a specific focus on the proposed rules on derivatives clearing organization recovery and orderly wind-down plans.

After the adoption of the Dodd-Frank Act, the Commission engaged in extensive rulemaking to implement the multiple provisions of Title VII and Title VIII of the Act, that affect the OTC derivative market structure, and for this presentation the organization and operation of DCOs.

CCPs are a critical financial infrastructure in the modern financial markets, and their resilience does not simply benefit at a micro level the clearing firm itself, but the financial system as a whole at the macro level.

Today I will focus on two areas and provide my personal view.

One, the work on our to-do recovery and orderly wind-down is happening both at the global level and here in the U.S., as CCPs and their members and users are global players and highly interconnected. This policy work is important at both levels, and global coordination is important to level the playing field.

Two, the resilience of CCP is the starting point for all discussions on recovery and orderly wind-down, and let's not forget incentives.

Starting from the international framework, international standard-setting bodies have been quite active on building on the principle that ended up being in the CPMI-IOSCO principles for financial market infrastructure, and in studying, advancing, and proposing alternative options, principal guidelines for the resilience, recovery, and resolution of CCP.

The PFMI stresses the importance of effective governance arrangement for CCPs, the presence of the comprehensive risk management, the proper allocation of loss-absorbent financial resources, and the importance of stress testing for both credit and liquidity exposure. All aspects are critical in planning recovery and resolution.

CPMI-IOSCO also knows the systemic importance of CCP and the necessity for CCP to have effective, transparent stakeholder-conscious recovery plans to support the provision of these critical services.

At the international level, the Financial Stability Board has also been quite active, as well. Recently, the FSB concluded a consultation on financial resources and tools for central counterparty resolution. The consultation received mixed comments by stakeholders, focuses on opportunities for CCPs to add potential alternative financial resources and tools to support CCP resolution. I personally believe the work of the FSB on the matter of CCP resilience and financial resources for recovery and resolution is worth acknowledging, in particular given the importance of a participative and accountable risk management framework for CCP, operating in a market environment characterized by the presence of a clear mandate.

The second point I would like to make is to stress the importance of the investment by the Commission CCPs clear members and users in working on resilience together with recovery and wind-down planning. Despite recovery being considered a tail event for CCP and resolution being a tail of a tail event, their effect could be disastrous, and therefore resilience in our central clearing infrastructure is and must be the first line of defense, a focus that reduces the likely need for recovery, much less for orderly wind-down.

The CFTC and the DCOs have made efforts to build that resilience, but risk management involves being prepared for things to go badly wrong. As the Roman said, "*Si vis pacem, para bellum,*" "If you want peace, prepare for war." So even if those tail events are low probability if they occur, the effects would be highly adverse.

Preparing for them also helps align incentives for both DCOs and their stakeholders and the official sector to have strong risk management regime and to reduce the moral hazard of implied support.

In this direction, stress testing is an

important tool to support the predictability of the operational of the recovery and resolution planning. A principle-based approach, rather than a more prescriptive framework, would offer the whole industry more space to internalize the differences of specific products and market structure. Yet the Commission should support the balancing of interest and incentive that the clearing mandate and the evolution of non-member-owned clearinghouses might misalign with respect to risk management.

Thank you very much for the opportunity to present my ideas, and I really look forward to continuing to work with you and to answering any questions.

MR. DUMAS: Hello. My name is Cantrell Dumas. I am a Director of Derivatives Policy at Better Markets. Thank you, Commissioner Johnson, for inviting me to this committee and for bringing me here to speak. My remarks will focus on better market support to the CFTC proposed rulemaking regarding DCOs' recovery and orderly wind-down plans.

A cornerstone of Dodd-Frank derivatives

reforms was the introduction of central clearing for derivatives contracts. Mandating that certain derivatives be cleared through regulated clearinghouses, the legislation aimed to bring greater transparency and risk mitigation to a previously murky and perilous market.

The central clearing requirement ensured that these contracts would be processed and settled through intermediaries known as DCOs, which would act as guarantors of trades, effectively standing between counterparties. DCOs can be liken to the financial systems pawning, often overlooked but nonetheless indispensable.

One of the pivotal provisions of Dodd-Frank was granting authority to the Commission to promulgate and enforce regulations governing DCOs. These regulations were pivotal in establishing the rules and standards by which DCOs would operate. They laid the foundation for the safety and soundness of DCOs, ensuring that they would effectively manage risk, provide stability to the financial system, and respond to market stress with resilience. Indeed, these regulations were indispensable in bolstering the stability and resilience of the financial system, particularly in times of economic turbulence and stress.

DCOs play an indispensable role within our financial markets, serving as the linchpin for central clearing and market infrastructure. During moments of heightened stress and uncertainty, DCOs assume a critical role of providing the vital services necessary for maintaining continuity in the financial markets they serve.

The global adoption of central clearing mandate has ushered in notable escalation in clearing volumes across the swaps markets. In recognition of this, market regulators must take rapid measures to ensure that clearinghouses are not merely commercially viable entities but also well-prepared to operate effectively and provide their indispensable services, as anticipated, even when confronted with extreme market stressors.

This critical role of DCOs in maintaining market stability during challenging times underscores better market support for the proposed rule. The proposal seeks to codify and expand upon existing staff guidance, setting forth explicit requirements for CIGCOs and Subpart C DCOs in terms of providing information to the CFTC for resolution planning. By enhancing risk management, bolstering resilience, and fortifying contingency planning across these vital entities, the proposed rules ensure a greater level of predictability in the event of unforeseen disruptions to DCO operations.

Clearinghouses should have a robust recovery and wind-down plan as part of maintaining a sound risk management framework. Recovery and wind-down plans are essential prevent losses across our markets and any spillover effects into other markets. An effective wind-down plan promotes the goal of ensuring, at a minimum, that DCOs have sufficient resources, capabilities, and legal authority to implement the tools and procedures for orderly wind-down activities. It is imperative that DCOs, not just the largest ones, have orderly wind-down plans in place to prevent significant market disruption throughout our financial system. The scenarios outlined in the proposed rules would necessitate a comprehensive assessment of a broad range of relevant risks.

Regulation 39.39(c)(1) presently mandates that CITCOs and Subpart C DCOs create both recovery and orderly wind-down plans. These plans must encompass various scenarios that might impede their ability to meet obligations, deliver critical services, and assess recovery or wind-down options effectively.

Initially, when the Commission introduced 39.39(c)(1), there were requests from stakeholders for more explicit requirements regarding recovery plans. However, the Commission refrained from providing such specifics because the relevant international guidance had not been finalized when the regulation was adopted in 2013. Subsequently, after international guidance became more defined, the CFTC issued CFTC Letter #1661, offering informal guidance on these elements. Notably, the proposed rule highlights that the Commission's supervisory experience suggests that recovery and orderly wind-down plans of CITCOs and Subpart C DCOs tend to be in accordance with the principles outlined in Letter #1661.

Consequently, most, if not all, of the requirements proposed are already incorporated into the plans submitted by DCOs currently under the purview of 39.39. The CFTC proposed then to formally include staff guidance in the Commission's Part 39 regulations, thereby specifying the necessary elements that CITCOs and Subpart C DCOs must include in their recovery and orderly wind-down plans.

Better Markets strongly encourages that the CFTC to adopt the proposed changes. These changes align with international standards for recovery plans and orderly wind-down plans while also drawing upon developing DCR staff guidance outlined in CFTC Letter #1661.

The new requirement encompassed critical elements such as the identification of DCOs' critical operations, staffing arrangements, stress scenario analysis, descriptions of governance arrangements, and more. These proposed enhancements are essential for ensuring the viability and effectiveness of these plans, reflecting the minimum standards for CITCOs or

Subpart C DCOs should include their recovery and orderly wind-down plans. By formalizing these requirements, the Commission would promote clarity, transparency, and consistency in risk management practices across the industry. This, in turn, would contribute to the overall resilience and stability of the financial systems.

Better Markets fully supports the adoption of these changes to safeguard the integrity of our markets. Thank you.

CHAIR CRIGHTON: Great. Thank you Elizabeth, Paolo, and Cantrell. At this time I will open the floor to questions, comments, and discussion from the committee members.

[Pause.]

CHAIR CRIGHTON: Marnie?

MS. ROSENBERG: Thanks, Alicia. JPMorgan commends Commissioner Johnson for her sponsorship of the MRAC and Alicia Crighton as the MRAC Chair for the continued focus of the CFTC's CCP Risk and Governance Subcommittee on Enhancing CCP Risk Management. We support the important work that has been done through the recovery and resolution workstreams. We agree that resilience measures, such as maintaining adequate margin and collateral, can reduce the likelihood of a recovery or resolution, and from this perspective we continue to support the work of the margin and collateral workstream, which we believe should progress on important matters such as transparency and addressing margin per cyclicality in parallel to the ongoing international work.

Notwithstanding the focus on resilience, we believe it is important to be prepared for a tail event rather than to be caught unprepared. To this end, we support the inclusion of non-default losses, or NDLs, in recovery and resolution planning, and believe that it is important to provide clarity on potential impact that NDLs, such as cyber and international events, can have on market participants.

We also believe that it is equally important for there to be information shared directly with the FDIC to ensure the efficacy of resolution planning.

And thank you, Alessandro Cocco, for leading this subcommittee. We also look forward to seeing the recommendations of the margin and collateral workstream in the coming months. Thank you.

CHAIR CRIGHTON: Thanks, Marnie. Are there any other comments before we move to a vote?

[Pause.]

CHAIR CRIGHTON: Okay. So we have discussed at length the recommendation on DCO recovery and resolution. Is there a motion from the body to adopt this recommendation and submit the recommendation to the Commission? I note there is a sample motion included in your printed materials, so that is the format that we will need to receive that motion.

So again, we are looking for a motion and then ultimately -- oh yes.

MR. CHATTERJEE: I am happy to make the motion, yes. So I move that the committee adopt the subcommittee's recommendation on DCO recovery and resolution, as amended, and that the committee submit the recommendation to the Commission for consideration.

CHAIR CRIGHTON: Thank you, Bis. Do we have a second?

MR. BERGER: Second.

CHAIR CRIGHTON: Great. Thank you. It has been moved and seconded. Are there any additional questions or comments?

[No response.]

CHAIR CRIGHTON: Okay. Seeing none, committee members, are you ready -- oh sorry, Juan. I apologize.

MR. BLACKWELL: No, no problem at all. I just wanted to echo Elizabeth's comments with respect to the potential impact of Basel III Endgame. I chose to wait until after the vote to make the comment because I realized that it is not just something that can be influenced by the CFTC. But the biggest thing worrying end users -- I represent one of them -- is potential contraction in FCM offering.

CHAIR CRIGHTON: Thank you, Juan.

Okay. Not seeing any other comments we will go ahead and move to a vote. The motion on the floor is for the committee to adopt the subcommittee recommendations on DCO recovery and resolution and to submit the recommendations to the Commission for consideration.

As a reminder, abstentions are not counted as a vote, and as a point of order, a simple majority vote is necessary for the motion to pass.

I will turn it over to Tamika Bent, DFO, to conduct a roll call vote.

MS. BENT: Hi. I just want to take a minute to go back to attendance. I want to make sure that we capture on the record all of the subcommittee members that are present. So there are two members that did now acknowledge their presence. Elisabeth Kirby, if you are present please just acknowledge.

MS. KIRBY: Present.

MS. BENT: Thank you. Eileen Kiely?

MS. KIELY: Present.

MS. BENT: Thank you. Okay, I am ready to move forward with the vote.

Thank you, Chair Crighton, committee members. When I call your name please indicate your agreement with Aye, your disagreement with Nay, or indicate Abstain if you are abstaining from the vote. Also, please remember to unmute your audio and to turn your video to indicate your vote, and to mute your audio and turn off your video once you have finished voting.

So I am just going to run through the names of all the MRAC committee members.

Robert Allen?

MR. ALLEN: Aye.

MS. BENT: Stephen Berger?

MR. BERGER: Aye.

MS. BENT: Bis Chatterjee?

MR. CHATTERJEE: Aye.

MS. BENT: Alicia Crighton?

CHAIR CRIGHTON: Aye.

MS. BENT: Tim Cuddihy?

MR. CUDDIHY: Abstain.

MS. BENT: Graham Harper?

MR. HARPER: Aye.

MS. BENT: Lindsay Hopkins?

MS. HOPKINS: Aye.

MS. BENT: Annette Hunter?

MS. HUNTER: Aye.

MS. BENT: Demetri Karousos?

MR. KAROUSOS: Aye.

MS. BENT: Elisabeth Kirby?

MS. KIRBY: Aye.

MS. BENT: Ernie Kohnke?

MR. KOHNKE: Aye.

MS. BENT: Chip Lowry?

MR. LOWRY: Aye.

MS. BENT: Purvi Maniar?

MS. MANIAR: Aye.

MS. BENT: Andrew Park?

MR. PARK: Aye.

MS. BENT: Marnie Rosenberg?

MS. ROSENBERG: [Inaudible.]

MS. BENT: Ty Slocum?

MR. SLOCUM: Aye.

MS. BENT: James Andrews?

MR. ANDREWS: Aye.

MS. BENT: Richard Berner?

MR. BERNER: Aye.

MS. BENT: Alessandro Cocco?

M$. COCCO: I serve as a non-voting member on this matter, like my predecessor. Thank you.

MS. BENT: Thank you, Alessandro. Neil Constable?

MR. CONSTABLE: Abstain.

MS. BENT: Ed Dasso?

MR. DASSO: Aye.

MS. BENT: David Horner?

MR. HORNER: Aye.

MS. BENT: Eileen Kiely?

MS. KIELY: Aye.

MS. BENT: Derek Kleinbauer?

MR. KLEINBAUER: Aye.

MS. BENT: Craig Messinger?

MR. MESSINGER: Abstain.

MS. BENT: Andrew Nash?

MR. NASH: Aye.

MS. BENT: Thank you. Jessica Renier?

MS. RENIER: Aye.

MS. BENT: Kristin Smith?

MS. SMITH: Aye.

MS. BENT: Elizabeth Sprague? Susan. I'm so sorry. Suzanne Sprague.

MS. SPRAGUE: That's okay. Aye.

MS. BENT: Okay. So we have no Noes, 3 abstentions, and then sort of everyone else has voted in support of the motion. So in this case, I guess it's over to you.

CHAIR CRIGHTON: Thank you for carrying out the vote. The ayes have it and the motion carries. The subcommittee recommendations on DCO recovery and resolution have been adopted by the committee, and will be submitted to the Commission for consideration. Thank you for that vote, and again, thank you, Alessandro, for leading the efforts of the subcommittee.

SECTION TWO: FUTURE OF FINANCE SUBCOMMITTEE

CHAIR CRIGHTON: We will now turn to a presentation of the Future of Finance Subcommittee of its workplan relating to artificial intelligence or AI. We will hear from Kalbaugh, Deputy General Counsel and Director at ING Financial Holdings Corporation.

MR. KALBAUGH: Thank you very much, and thank you for this opportunity to address the Market Risk Advisory Committee on behalf of your Future Finance Subcommittee.

So what is before you? What is before you is a preliminary workplan. This provides a framework for next steps. For now we are focusing on two elements of what generically people have termed AI. Now some people technically would say that the second one isn't AI, but we have seen that the usage is somewhat expansive. And the first it generative AI, and the second is those sets of machine learning that train with low or no human supervision.

We had our inaugural meeting on March 15, 2024. It was attended by subject matter experts, industry leaders, and regulatory leaders. The subject matter experts included, for example, Ph.D.'s in mathematics. So we really had a broad array of disciplinary input.

What occurred at that meeting was we heard presentations from people in and around disciplinary fields, and we engaged in discussion. Subsequently, there was a determination that a preliminary workplan is needed. And if I could take a moment to explain why we are submitting it to, because it is March 15th, it is early.

The goal is to, as early as possible, give a sense to the MRAC of what some of the focus is and what some of the explorations of the subcommittee will be. For us that is a major component of fostering transparency, and I think you can expect that these uptakes to the MRAC will be somewhat frequent so that we keep everyone in the loop on direction and on what has been achieved.

The preliminary workplan's goal is to guide the subcommittee, provide focus, and provide awareness to the MRAC, and also to foster just general transparency. In our view it is important to do this early in the process. Otherwise it ends up being a fait accompli, if you already have developed more advanced conclusions or an advanced focus, and then there's something more that develops. So we thought it best to do this early in the process and engage in this dialogue.

So how is this done? How is this preliminary workplan prepared? We integrated it into dialogue that is already existing in the regulatory community. So first we looked at, for example, the Treasury's recent paper, FSOC's 2023 annual report, the principles based framework enunciated by Commissioner Johnson on multiple occasions. So in addition to be guided by that existing corpus of regulatory works we also pulled the resources of our membership. We have a diverse membership with an array of perspectives, and so we leveraged that to the benefit of the committee.

What is the actual plan comprised of? What is a preliminary workplan comprised of? There are two major elements. One element is a survey on the use of AI in CFTC-regulated markets. Now the purpose of this survey, or what's going to be evaluated, potentially, and still is under discussion, so the idea of a survey is something we think is helpful as an adjust to the request for comment from the CFTC.

And in this survey some of the things we are evaluating are the design of it, the audience, the scope, should there be a recommendation for a mandatory one to the CFTC or should it be voluntary? Those are questions that are still under consideration. But part of our goal is to get as much external input from as diverse constituencies as we can. So this is one pillar in that effort.

The second element of the preliminary plan is considering recommendations to the CFTC. To be clear, this could be new guidance. It could be a recommendation for advisories, recommendations for rulemakings, even to keep the existing framework. That is not off the table. But these are all of the items that are under consideration and that we, in our preliminary plan, want to focus the work of the Future Finance Subcommittee on in this area.

So focuses of the subcommittee right now are whether CFTC registrants should be required to disclose or explain key attributes, risks of models, and this is often called explainability or intelligibility. And so the question is to what extent are additional requirements necessitated, because maybe there is a qualitative difference in the use of these technological tools compared to the historic use of algorithmic tools or more simple levels of machine learning when computer processing power had not achieved the levels it has now, particularly with leveraging of GPUs.

The second area is whether additional

requirements regarding testing and monitoring of AI models as used in CFTC-regulated activities is needed. And some of those area would be cybersecurity, data controls, bias in areas like margin decision, potentially, privacy, output consistency -- can something be replicated for a regulator. And these are questions that are already being asked by many people in the community, of course, who are looking at the questions of artificial intelligence and their role. And the idea is to put a more focused spotlight on that particularly.

The third is oversight and governance of models in CFTC-regulated activities. For example, does a comprehensive governance framework, is that necessitated, maybe designated personnel focused on AI oversight? How does senior management have sufficient functional understanding to adequately supervise artificial intelligence? For example, even with relatively simple generative AI models, the hidden layers, for example, are very complicated and require a pretty deep understanding of linear algebra. So to what extent does senior management have insight into that, that can credibly allow them to supervise the activities?

And of course there is always a concern of concentration risk. Is that through computer processing power? Is it through intellectual property? These are concerns that we want to look at.

How will we do this? There are really five elements for how we intend to approach this, and all of these elements are guided by a central principle of getting very diverse input from a broad array of constituencies, both public and experts.

The first is investigations and information sharing by members. The members of the Future Finance Subcommittee represent and reflect a variety of backgrounds that we, of course, want to leverage, and a variety of competencies that we want to leverage.

The second is solicitation of expert input. We have access to a reasonable network of experts. Some of there were at our initial meeting, and we intend to continue to leverage the benefit of experts and to expand our community of experts with whom we consult.

Also fomenting dialogue with similar working groups, whether at other U.S. government agencies or international regulators. We think it is important to be a source of dialogue formation.

The fourth item is reviewing responses to the CFTC's request for comments on the use of AI. I think we are all looking forward to seeing some of the responses to that, and that will be an extremely useful informational device.

And, of course, if a survey is conducted, reviewing the survey responses.

Although not explicitly in a workplan, as an adjunct to the above we have also discussed potentially having more public meetings or public meeting roundtables, and other similar initiatives.

With that I cede the rest of my time, and I thank you for your attention. I don't know if anybody has any questions.

CHAIR CRIGHTON: Great. Thank you, Gary. We will now open the floor to MRAC members for discussion.

Thank you, Chip.

MR. LOWRY: Gary, thank you for that. It was really interesting. And I think there is an opportunity to add a lot of value here for the industry, especially when we are talking about governance and oversight.

One thing that might be constructive for the subcommittee to pursue is an interagency dialogue that would include the SEC and the Federal Reserve. The Federal Reserve owns supervisory-level Letter SR 11-7, which talks about model risk, including model validation. That goes back to a time when models were much simpler than what we are seeing in AI, with linear algebra and hidden layers, and they were just sort of more related to stochastic type models. And the documentation and explainability that is required there, it is another level when it comes to AI.

So if we could help with an industry dialogue around what model validation means in terms of explainability for these types of models, that would be much appreciated by the community that is covered both by the CFTC and the Fed, and I think would just be a great addition to the industry.

So thank you for the work you are doing on that.

MR. KALBAUGH: Thank you, Chip. You may have seen me frenetically taking notes. Absolutely, we will be taking it up. We will be reaching out to the SEC and the Federal Reserve for this exact purpose, and especially your point on model validation, what that means in terms of explainability and intelligibility. That certainly is an avenue that we need to need to explore, so thank you for identifying that and highlighting that.

CHAIR CRIGHTON: Thank you, Chip. Annette?

MS. HUNTER: Thank you. Thank you, Commissioner, and thank you for this subcommittee. I don't have prepared remarks but I would like to submit and let you know of my support of this subcommittee, the support of what we are doing, the method by which we are moving forward, and doing it in a very deliberative way.

AI is a topic at the Home Loan Bank of Atlanta. It is a big topic. What are the risks around it? How can we be better prepared for artificial intelligence and machine learning? So I am very supportive of moving this forward, and that is really all I have to say on this.

MR. KALBAUGH: Thank you. Thank you very much.

CHAIR CRIGHTON: Thanks, Annette. Purvi?

MS. MANIAR: Thank you. Thank you, Commissioner Johnson and Chair Crighton, for the meeting today, and thank you, Gary, for your comments from the subcommittee's perspective, as well.

We are supportive of a survey, particularly given our unique space in this ecosystem, being both a traditional type of registered intermediary but also one in a novel asset class. What we have found that has been particularly helpful for us in our journey has been an engaged dialogue with our regulators around what we are doing and how we are doing it, and we find that the survey will be a useful way for us to be able to provide information to the Commission about where we might find uses cases for this emerging technology and novel technology. That will likely make any, whether it is new regulation or application of existing processes, such as new product approval committees or model validation processes, actually fit for purpose, which is the most important outcomes, we think, in terms of how we look at the applicability of both AI to regulated activities and their regulation thereof.

Thank you.

CHAIR CRIGHTON: Thank you. Jennifer?

MS. HAN: Sure. So I know that the CFTC currently has an open rulemaking or notice of proposed rulemaking. How does this workstream intersect, or how do they relate and how do they connect?

MR. KALBAUGH: I'm sorry. So the rulemaking you are referring to?

MS. HAN: The CFTC has a proposal of advanced notice for proposed rulemaking on use of AI. How does this workstream -- I guess because that's out there, why is this one needed? I'm just trying to understand how they intersect.

MR. KALBAUGH: Sure. Understood. I think we need to be an adjunct supporting and helping the CFTC in its efforts. I can't speak for the CFTC, and neither of us can, but I would imagine that if I were to look at it from the CFTC's perspective I would want a multipronged effort, and I think that's what this provides.

An advanced notice of proposed rulemaking is a means of what I would call structured dialogue, and structured dialogue with regulatory community is important. But I am going to emphasize "structured." We have a lot more flexibility to engage in a broader discussion with the regulatory community, both on and off the record, without having the formalities that the Administrative Procedure Act for how folks are forced to submit comments and how they are forced to submit the input. And I think that's important and I think that gives us the flexibility that can support and help this critical CFTC effort in this area.

MS. HAN: Just some additional comments as we move on. As you proceed, I hope you will take a look at what existing rules may already cover oversight of use of AI. I also think that AI, as a general matter, is a very, very broad topic, so what becomes included, because again, I hear people as they write letters, they put it into ChatGPT for grammatical errors and just recommendations how to improve their letter. So that seems like a very broad scope.

I also think that as I look at the other workstreams here, that we have, and you have concerns about decreasing number of FCMs and other registrants. So while every time we layer on additional regulation it seems that it puts more burden on market participants. So I would really look to see what do we already have that covers it, because certainly this is an area, as is technology, that continues to evolve. And if you have to write a rule every time, it just becomes a lot more burdensome. It seems like rules that we have on the books should be principles-based so that they last for years to come.

Machine learning has used for 30, 40 years already. It is not new. So surely those risks have been managed, and I think it's important for any group to look at how those are being managed right now. And I think, again, if we all think that AI is the future, I think one day it is not a matter of if you are using it but who is not using it and why aren't you, right.

So I think it is a step in the evolution of technology, so we should keep that in mind as we think of rules that are principles-based. Hopefully we already have them on the books. That will serve us well moving forward. Thank you.

MR. KALBAUGH: So this is such helpful commentary, and thank you for it. I just want to note that it is reflective of my discussion earlier, because, of course, one of the considerations, I mentioned new guidance, advisories, rulemakings, but also keeping the existing framework. So that is, of course, on the table.

I think part of that requires us to look at is artificial intelligence qualitatively different. And candidly, I'm just going to say, I think there are some arguments for why it is qualitatively different and therefore may merit a distinct regulatory assessment. But the question is still out there.

You also raised, and I think correctly, and I thank you for raising it, you are saying that AI is very broad, machine learning is not new. And I want to ask you, if I may, our focus right now is on generative AI and machine learning training with low or no human supervision. And that's use in the financial markets is more recently. I did research, and something I've written, going back to the 1960s we can find the first example of machine learning's use in the financial markets. So, of course, I completely agree with you. Machine learning, categorically, is not new, but with the very low level of human supervision I think that is a more recent phenomenon in the financial markets.

And I just want to ask you, do you think that is the first narrowing of the definition of artificial intelligence, to narrow it to generative AI and those types of machine learning training with low or no human supervision?

MS. HAN: I certainly think narrowing it is very important. I think the other step is making sure that we can all come to an agreement, because it seems like there are so many different agencies looking at it, and how you define generative AI. We have taken a look at it, and there isn't a standard definition. So I think all of us agreeing on the right terminology is probably the right first step, so we are all talking apples to apples.

MR. KALBAUGH: I think that's right. That makes a lot of sense. Thank you for that input. Great.

MS. BENT: First of all, indeed there is a request for comment on AI that is outstanding. I know that the subcommittee members discussed the interplay between that RFC or RFI and the survey, the idea of the proposal to conduct a survey.

So I just wanted to take a moment -- I think Gary did a really great job of explaining the work of the subcommittee -- but I wanted to take a moment to open it up for other subcommittee members who might want to contribute and sort of explain the deliberative process, to offer their feedback. I know Jai is here, and I see that she has something that she would like to contribute, so I would just like to turn it over to her to contribute briefly.

MS. MASSARI: I was just going to echo Gary's comments, and thank you, Jennifer, for the question. I think it is a really good one, and it is a point that we thought about a lot, which is how can the subcommittee and the committee contribute to the discussion of AI and the use of AI in CFTC-regulated markets.

The discussion about AI is the hot topic of the day, right. And so that discussion is happening across the U.S. government, across the private sector, in academia, everywhere. And the purpose of the recommendations is not to duplicate or in any way redo work that's already being done either by the CFTC or other government agencies but instead to sort of sharpen the focus on how AI is being used in CFTC-regulated markets to better understand that use today, to try to identify any gaps -- if there are any, to your point -- in regulation that exists, and to try to help steer the work of the Commission as it goes through the RFI process, whether to a rulemaking or not, but just to sort of sharpen and focus the work that we can do to contribute to the process overall, including all of the points that you made about really do we understand how the technology is actually being used today, what the future uses might look like, and should anything be done about those, and if so, what. And the first step to that in the workplan is to recommend a survey to be done of actually just that --

how is the technology being used in CFTC-regulated markets.

CHAIR CRIGHTON: Thank you. Stephen?

MR. BERGER: First I would like to thank the subcommittee for all their efforts on this important topic, and really do appreciate the presention and sharing of the workplan to provide all of us with transparency and an opportunity for feedback.

I just wanted to share one initial reaction, which somewhat builds on the conversation we have just had. As I read the end of Footnote 1 it says that, quote, "The preponderance of the conclusions will apply to any training technology regardless of whether it specifically uses AI."

So I think the one piece of feedback I would provide is I think it is important to appropriately scope the exercise in terms of what's being looked at here. There is another regulator across town that has a rulemaking on, quote/unquote, "predictive data analytics," but it includes a definition of covered technology that includes just using math in the investment process.

I don't think that's what the efforts here are of this subcommittee, and maybe I misread the language there at the end, but I would just encourage sort of a discipline in terms of what's being focused on.

MR. KALBAUGH: Thank you.

CHAIR CRIGHTON: Thank you. Any other comments? Jennifer?

MS. HAN: Maybe just add to my comment, again, just thanking the Commission for taking such a thoughtful process as opposed to jumping ahead. And I really do think the first step is understanding how the technology is being used, what is happening, before diving into rulemaking. So I very much appreciate the thoughtful approach the Commission has taken.

CHAIR CRIGHTON: Stephen, do you have a follow-up. Okay, great. Thank you.

Okay. Seeing no other comments, we appreciate that discussion. I think that's been very helpful in regard to the workplan for the Future of Finance Subcommittee.

I think at this stage the Future of Finance

Subcommittee will continue to develop the workplan as it has been discussed today, and further report back to the parent committee. Thank you.

SECTION THREE: MARKET STRUCTURE SUBCOMMITTEE

CHAIR CRIGHTON: Moving on to our third subcommittee, the Market Structure Subcommittee, we will present its analysis on FCM concentration and capacity, and we will hear two brief workstream updates. First we will hear from Ashwini Panse, Head of Risk Oversight for ICE Clear Netherlands and Chief Risk Officer for the North American Clearinghouses Intercontinental Exchange. Ashwini?

Part One: FCM Concentration and Capacity Analysis

MS. PANSE: Thank you, Commissioner Johnson and Chair Crighton for your leadership and for the opportunity to speak on such an important topic today. I would also like to thank Market Structure Subcommittee leads Bis Chatterjee and Ann Battle and all of the FCM workstream members for their valuable input and support.

As noted in Commissioner Johnson's opening remarks, the Market Structure Subcommittee's FCM capacity workstream met several times to analyze the increasing decline of futures commission merchants in the U.S. and global derivatives markets and presented its initial observations at the December 2023 MRAC meeting.

Subsequently, on April 3, 2024, the Market Structure Subcommittee voted to approve the distribution of the letter which articulates the workstream's findings to the MRAC. Today I will share the workstream's findings.

As a background, the workstream sought to examine the structural changes that have occurred within the FCM industry over the last 20 years. To facilitate its analysis, the workstream assembled a database from reports prepared by the Commission that are available publicly and which contain select financial information taken from an FCM's regulatory findings.

The letter includes analyzed data and charts that capture trends relating to the number of FCMs' activity over the years, client margins, and capital requirements. The letter also incorporates qualitative feedback and input received from the dealer and buy side representatives on the subcommittee.

The headline, there has been significant consolidation of FCMs overall. To highlight some data points, we have observed a 69 percent decline in the total number of FCMs, primarily led by the exit of many independent FCMs who are neither dually registered as broker-dealers nor affiliated with banks or bank holding companies. But more strikingly, we have seen a 58 percent decline in an important group of FCMs who hold customer funds intended for futures trading.

Also, when we look at firms doing cleared swap business we have observed exits and downsizing by some notable firms in recent years, including BNY Mellon, State Street, Jeffries, Nomura, RBS Securities, NewEdge, who exited the cleared swap business in 2015, followed by Deutsche Bank Securities in 2017, and Credit Suisse, as you are all aware, have begun reducing their activity even prior to the sale.

The workstream explored the potential underlying causes for the consolidation I just noted.

The analysis highlighted two notable regulatory initiatives. The first followed the 2008 financial crisis and the second resulted from the failure of two significant FCMs after those FCMs faced catastrophic losses resulting from fraudulent activities and misconduct involving customer funds.

Two essential safeguards have been applied to FCMs. One, to protect the integrity and to promote the resilience of the broader financial system, FCMs were required to maintain minimum level of capital, which provides a layer of protection to an FCM's customer base. And two, to protect customers' assets, FCMs were required to segregate customer funds from proprietary funds and trading activities of their FCM and its affiliates.

Contemporaneous with the decline in the total number of FCMs, we observed regulatory obligations that increased minimum capital requirements. We believe that these increases may be among the factors influencing the viability of shell FCMs. Also, following the adoption of Basel, bank capital requirements, and certain leverage limitations, some bank-affiliated FCMs have exited the futures business. Discussions with some of the FCMs suggest carrying futures accounts to be insufficiently profitable.

Also, contemporaneous with the decline in the total number of FCMs, we observed a marked increase in the volume of cleared activity and customer funds by the FCMs. To highlight some data points, we observed an increase of more than 700 percent in the holding of customer funds. Twenty years ago client margin requirements in the aggregated totaled more than $60 billion. In 2023, FCMs managed more than $500 billion in client margin requirements. This is the highest level of client margin held by FCMs to date.

Alongside significant consolidation of FCMs, the workstream also observed structural changes. Among the structural changes the workstream noticed an increased concentration of bank-affiliated FCMs and FCMs that are dually registered as broker-dealers. To highlight some data points, a large percentage of remaining FCMs are affiliated with larger banks and broker-dealer FCMs who now hold all top ten industry positions in terms of customer funds. The top ten FCMs account for more than 80 percent of all customer funds.

The workstream also observed a contemporaneous increase of 296 percent in firms' adjusted net capital. Going back 20 years ago across the firms' adjusted net capital was $45-plus billion U.S. dollars. In 2023, it is north of $179 billion U.S. dollars. As a whole, the remaining FCMs are well capitalized, and most hold significant excess capital relative to the CFTC minimum requirements.

Healthy levels of capital support FCMs' financial solvency, reduce systemic risk, and enable them to meet rising costs stemming from regulatory requirement and technological advances. Data has remained supportive of the fact that overall FCM business continues to be very competitive.

FCMs continue to compete on the basis of fees charged for brokerage and clearing quality of trade execution, market access, funding and lending support, collateral management, and customer service and advice. FCMs across the board have been able to absorb the growth in client activity, and meet margin requirements, including periods when margin levels increased sharply due to market volatility.

The workstream has rationalized why there are fewer new entrants. Providing FCM services has become an increasingly high fixed cost business. This makes skill critical to running a successful FCM. As a result, smaller FCMs may not be able to generate enough revenue to justify the cost of operations.

There are some instances where bank-affiliated FCMs may have elected to restrict the services offered, particularly following the implementation of new capital framework for the calculation of counterparty credit risk, known as SA-CCR, which influenced the cost factor for offering these services. In other instances, some of the FCM businesses migrated to the uncleared over-the-counter market, and some market makers may have exited markets where capital requirements increased, impacting liquidity and the cost of hedging for commercial participants.

Also, as a result of heightened volatility in certain energy markets, many commercial participants using cleared markets to hedge commercial price risk have hit binding thresholds, such as capital thresholds, with their FCMs. The result is that these commercial participants either migrated their hedges to uncleared OTC products or in some cases took the hedges off altogether. Tying up too much capital has the effect of reducing the headroom available when market stresses occur.

The workstream also highlighted that given the current market structure and level of FCM concentration, porting of client positions may become challenging. The obligation to allocate capital, maintain liquidity, and ensure G-SIB capacity for their businesses may limit some FCMs' ability to accommodate additional client clearing business in the event of an FCM default. In this context, it is also unclear whether a prearranged clearing arrangement with an alternate FCM will be available for porting an entire client's portfolio.

The more recently proposed capital rules like the Basel III Endgame could impact client clearing and have the potential to reduce further capacity in the cleared markets. The report recognizes that an uplift in capital can have a real impact on the business on a desk-by-desk basis and on a business-by-business basis. As the hurdle rates change for those business, firms will have to make decisions about where to grow and invest relative to where to reduce or eliminate certain activity that they do.

The report recognizes why it is increasingly critical that capital rules remain risk-sensitive and incentivize clearing. There is a need to make sure that derivatives activity is appropriately capitalized, but that needs to be done in a way that recognizes existing risk mitigants in the system and in a way that is consistent with broader policy objectives.

Lastly, the report recognizes that there is an extensive focus over several years on the interplay of FCM broker-dealer and bank holding company regulatory standards as they apply to client clearing franchises. As a next step, the workstream recommends additional analysis to understand where the introduction of new mandates and regulatory reforms would impact FCMs' risk profile and FCMs' clearing capacity, efficiency, or market structure.

That summarizes the gist and the substance of the FCM capacity report included in the materials, and concludes my remarks. Thank you.

CHAIR CRIGHTON: Thanks, Ashwini. We will now open it up to MRAC members for discussion. Chip, we will start with you.

MR. LOWRY: Ashwini, thanks very much for that. It reminds me a lot of what's going on sort of just in the general banking world, so the top five banks control 50 percent of the deposits in the United States, yet there are over 4,000 banks in the United States. So clearly there has been a trend of consolidation over the years.

Did the subcommittee take any view on what's the lowest number of FCMs we get to before we're into sort of a market risk issue here?

MS. PANSE: No. That's the analysis that we'd like to do, moving forward. Also given the Treasury clearing out there, and depending on where we go with the capital rules, some of those aspects we'd like to consider. So that's our next step.

MR. LOWRY: Thank you very much.

CHAIR CRIGHTON: Go ahead.

MR. PARK: Thank you, Chairman. So I guess I've heard a couple of times now these arguments that Basel III Endgame would really be kind of negatively affecting clearing. So I just wanted to kind of challenge that a little bit because at least from the numbers that I've seen -- and I'd be curious as to what others have seen, as well -- we'd be talking at the upper end of the estimates that I've seen from various people in the industry about $7 billion in additional capital across six G-SIB banks.

So that number sounds big but if we look at that in the scheme of things, so let's just take a number like the $2 trillion gross market value of the derivatives market, we are talking less than half a percent. And so in the scheme of things, the $7 billion is still a relatively small cost compared to the risks that we are also talking about from derivatives clearing that, I think still have not been quite addressed.

So one of them has been raised by the Financial Stability Oversight Council's 2023 annual report, where they have mentioned that default estimates have been rising across various CCPs. They attribute that heavily to the volatility that has been rising in 2022, especially in the LME, with the nickel market, where obviously everyone is aware of how the nickel market had to be basically frozen for some time.

So there is obviously a concern there, not only of counterparty defaults rising but also given the implications to other market participant there are across-the-fault risks that must be considered, as well, here.

So I think this whole notion that the Basel III Endgame is going to be really negatively affecting clearing without considering the benefits of that I think really have to be considered. So thank you.

CHAIR CRIGHTON: I'll recognize Tyson, and then we'll come back to maybe discuss those comments, as well. Tyson?

MR. SLOCUM: Great. Thank you so much. I really appreciate the efforts of the folks involved in this workstream. The report appears to strongly suggest that significant FCM consolidation is caused by increased regulatory obligations, and the problem that I see with that conclusion is the report or letter appears to document a correlation between consolidation and various regulatory obligations, but I'm not seeing any evidence of causation. And I think until the data or analysis strongly shows causation, I would have to vote against adoption of anything that suggests that regulations have been the trigger for the consolidation.

CHAIR CRIGHTON: Thanks, Tyson. Are there any other comments around the table? Sorry, Annette.

MS. HUNTER: Thank you. I appreciated this report. I saw this report as information. I thought it was very enlightening information, and it certainly is applicable for at least Federal home loan banks, because we have lost FCMs.

My concern is all the concentration risk we now have. We have gone from where our risk was spread about to more of a concentration risk so that if another FCM goes under, I'm concerned we may not be able to port. Whether we will not be able to port because of Basel III, I don't know, or if it's regulation that's causing the FCMs to shrink. I don't know that either. I'm really hoping that this subcommittee or Commission can help resolve some of this what I consider concentration risk in the industry.

But thank you for all of your work on that, and I really appreciate it.

CHAIR CRIGHTON: Great. Thank you. Any other comments?

Maybe, Andrew, if I can, just come back to one of the comments you made, and I think some of the data that we've supplied, particularly FIA, in the comment letters back to the capital proposals, while you do reference the amount of aggregate capital it is an increase of 80 percent represented to kind of FCM capital. And you have to remember that FCMs are making a series of risk and economic decisions in terms of the businesses that they support, and I think increases in capital, depending on how banks or other companies may allocate the cost of capital down to those individual businesses, I think as Ashwini rightly points out, it becomes more and more difficult to hit that kind of cost of capital and get to the right return metrics.

So I think it is a much broader and deeper conversation. I think these are all healthy questions to ask, and I think we're always happy to discuss those. I think the FIA letter, in particular, does a very good job of laying out some of the considerations that we think about and what the impacts are of both the Basel III Endgame and the G-SIB surcharge proposal. And I think it is a series of factors that have really caused that consolidation in this space, not only bank capital regulation, margin, and I think a lot of the other factors that you hit on. I think it is very well rounded in the number of considerations that you've walked through.

COMMISSIONER JOHNSON: As a really quick point of information, and Ashwini might be a better person to speak to this than I would be -- I'm happy also to defer to subcommittee members or the ADFO for the subcommittee or the DFO for MRAC -- I want to go to Ty's question specifically.

We were initially organizing a report, and in part decided that this information should come forward in a staged process, with a series of letters to the Commission that offer feedback, largely because, Ty, your point regarding pointing to a specific factor as causal, especially in light of how eloquently Alicia just described the diversity of variables that are deeply impacting markets, market structure, and in fact the exogenous factors well beyond regulation -- the onset of the COVID-19 pandemic, geopolitical events, and many other factors deeply impacting sort of the trajectory and trends in the context of the FCM space, we were thoughtful about transitioning to a space where we could outline these diverse variables and how they might be impacting the market much more so than articulating a singular causal factor.

So I just want to share that, Ty. I don't know that it should impact how you are reflecting, because I think you offered a very thoughtful commentary. And if the language in the letter is not effective to that, one of the things I also want to offer as a point of information is that with respect to the recovery and resolution recommendations that Alessandro Cocco presented on behalf of CCP Risk and

Governance and the workstream in that space, and also in the context of the letter, we note MRAC members received these documents only a short time ahead of the meeting, and we welcome the continued comments and feedback as we finalize these documents. They won't be presented to the Commission until everyone has had a chance to share their feedback.

So we welcome that continuing dialogue. Today doesn't end that dialogue. It really just opens up a very formal space to begin that dialogue.

With that I will pause.

CHAIR CRIGHTON: Thank you, Commissioner. Are there any other questions or comments on this analysis?

Seeing none, we have now discussed at length the subcommittee's FCM Capacity and Concentration Analysis. Is there a motion from the body to adopt this report and submit the report to the Commission, and again I'll note that the sample motion is included in the printed materials.

So do we have a motion? Demetri?

MR. KAROUSOS: I move that the committee

adopt the subcommittee's FCM Capacity and Concentration Analysis and that the committee submit the analysis to the Commission for consideration.

CHAIR CRIGHTON: Thank you. Do we have a second?

MR. CHATTERJEE: Second.

CHAIR CRIGHTON: Thank you, Bis.

It has been moved and seconded. Are there any additional questions or comments?

[No response.]

CHAIR CRIGHTON: Okay. The motion on the floor is for the committee to adopt the subcommittee's FCM Capacity and Concentration Analysis and to submit the analysis to the Commission for consideration.

As a reminder, abstentions are not counted as a vote. As a point of order, a simple majority vote is necessary for the motion to pass. And I will turn it over to Tamika Bent, DFO, to conduct a roll call vote.

MS. BENT: Thank you, Chair Crighton. Committee members, when I call your name please indicate your agreement with Aye, disagreement with Nay, or indicate Abstain if you are abstaining from the vote. Also, please remember to unmute your audio to indicate your vote and to mute your audio once you have finished voting.

Robert Allen?

MR. ALLEN: Aye.

MS. BENT: Stephen Berger?

MR. BERGER: Aye.

MS. BENT: Bis Chatterjee?

MR. CHATTERJEE: Aye.

MS. BENT: Tim Cuddihy?

MR. CUDDIHY: Aye.

MS. BENT: Graham Harper?

MR. HARPER: Aye.

MS. BENT: Lindsay Hopkins?

MS. HOPKINS: Aye.

MS. BENT: Annette Hunter?

MS. HUNTER: Aye.

MS. BENT: Demetri Karousos?

MR. KAROUSOS: Aye.

MS. BENT: Elisabeth Kirby?

MS. KIRBY: Aye.

MS. BENT: Ernie Kohnke?

MR. KOHNKE: Aye.

MS. BENT: Chip Lowry?

MR. LOWRY: Aye.

MS. BENT: Purvi Maniar?

MS. MANIAR: Aye.

MS. BENT: Andrew Park?

MR. PARK: Nay.

MS. BENT: Marnie Rosenberg?

MS. ROSENBERG: Aye.

MS. BENT: Ty Slocum?

MR. SLOCUM: Nay.

MS. BENT: James Andrews?

MR. ANDREWS: Aye.

MS. BENT: Richard Berner?

MR. BERNER: Aye.

MS. BENT: Thank you. Alessandro Cocco?

M$. COCCO: I serve as a non-voting member.

MS. BENT: Again. Thank you for the reminder. Neil Constable?

MR. CONSTABLE: Aye.

MS. BENT: Ed Dasso?

MR. DASSO: Aye.

MS. BENT: David Horner?

MR. HORNER: Aye.

MS. BENT: Eileen Kiely?

MS. KIELY: Abstain.

MS. BENT: Derek Kleinbauer?

MR. KLEINBAUER: Aye.

MS. BENT: Craig Messinger?

MR. MESSINGER: Aye.

MS. BENT: Andrew Nash?

MR. NASH: Aye.

MS. BENT: Jessica Renier?

MS. RENIER: Aye.

MS. BENT: Kristin Smith?

MS. SMITH: Aye.

MS. BENT: Suzanne Sprague.

MS. SPRAGUE: Aye.

MS. BENT: I'm sorry. Can you please repeat that?

MS. SPRAGUE: Aye.

MS. BENT: Okay. Thank you. So, Chair Crighton, you have 24 yes votes, 2 no votes, and 1 abstention.

CHAIR CRIGHTON: Thank you. The ayes have it and the motion carries. The subcommittee FCM Capacity and Concentration Analysis has been adopted by the committee and will be submitted to the Commission for consideration.

Okay. Thanks, everyone.

Part Two: U.S. Treasury Cash-Futures Basis Trade Presentation

CHAIR CRIGHTON: We will now turn to the Market Structure Subcommittee workstream for a presentation on the U.S. Treasury Cash-Futures Basis Trade from Nate Wuerffel, Head of Market Structure at the Bank of New York Mellon.

MR. WUERFFEL: Thank you, Commissioner Johnson and Chair Crighton. As Ann Battle noted at the December meeting of the MRAC, the Treasury reform workstream of the Market Structure Subcommittee has been studying the Treasury cash-futures basis trade over the last few months. The basis trade has garnered significant attention, particularly since March of 2020, including by the media, academics, market participants, and regulators. And in recent months some key indicators have suggested that the basis trade has again reached high levels in the market.

The Treasury market ecosystem, including the cash and derivatives markets as well as the basis trade between them, play an important and critical role in financial markets, financing the government, underpinning monetary policy implementation, and as a source of safety and liquidity for investors around the globe. Given the criticality of the Treasury market ecosystem, it is no surprise that much of the attention on the cash-futures basis trade has focused on the potential for financial stability or market functioning concerns associated with the basis trade.

Our workstream seeks to provide a balanced and factual picture of the basis trade, including with a focus on aspects of the trade that are less well understood. These include the trading positions that contribute to the existence of the basis, including the role of long positions and Treasury futures, the benefits of efficient pricing between the markets, the specific risks to which long futures, short futures, and repo funding positions are exposed, and the practices for effectively managing these risks.

This last piece, the practices for managing these risks, is novel because there is relatively little written about how the basis and associated trading positions can be well managed. Our view is that this is important because if we are to realize the benefits of basis trading between cash and futures markets, and we believe there is a benefit to the Treasury market ecosystem, then we should all want the basis trade and associated positions to be well and safely managed.

To tackle this work we have had a working group that benefits from diverse participation. Working group members have also had conversations with other market participants not on the working group, so we have had a wide range of input on the work.

The slides we distributed cover these key topics. I won't go through them all today, but I do want to highlight some briefly that include some of the key aspects of the work.

First, starting on Slide 6, we explain what the basis is, which is a position established through the purchase of a Treasury security, financed in repo, along with the simultaneous sale of a Treasury futures contract. Because Treasury futures contracts trade at a premium to their economically equivalent cash bonds, participants in the cash-futures basis trade can generate returns from the trade. Leverage is generally required to make the basis trade economically viable because the difference in price between the Treasury future and the bond is generally small.

Second, on Slide 10, we explore what creates the basis. CFTC data show that persistent demand for long futures positions, particularly by asset managers, contributes to the spread or the basis between the cash and the futures market. There are a few key reasons that asset managers take long futures positions. For example, managers of portfolios of securities seeking to track to a benchmark index, they may invest in shorter duration corporate or mortgage securities with higher returns and then use Treasury futures to adjust the portfolio's overall duration. Treasury futures are also used to quickly gain or reduce exposure to duration in response to large inflows or outflows. And in certain cases, asset managers may also use Treasury futures to obtain leverage and a higher rate of return.

On Slide 13, we highlight some of the important benefits of the cash-futures basis trade. These include improving the price efficiency between cash and futures markets, which contributes to, importantly, the depth and the liquidity of the Treasury futures and also the cash Treasury market. Because the cash-futures basis trade involves a long cash position, the basis trade can also contribute to lower government funding costs, creating demand for Treasury securities. The trade also improves portfolio optimization and capital formation.

On Slide 14, we highlight some of the key risks of the positions associated with the basis trade. These include price volatility associated with levered futures and cash positions, repo financing and rollover risks, margin volatility risks, risks around the securities that will be cheapest to deliver into the futures contract, and counterparty credit risk in the event of default.

On Slides 17 and 18, we discuss practices for effectively managing these risks, a set of best practices you might call them. These include market participants should assess and manage the risks associated with the basis trade, including the long futures position, the basis trade positions, and the dealer funding risks. Cash flow modeling and stress scenario analysis should be performed to understand and manage the individual and portfolio risks associated with the basis trade. Tolerances to those risks should be established. Liquidity risks should be managed at the inception and during the lifetime of the trade. Market participants should do mark-to-market attribution daily to reduce counterparty risks. Trades including the futures and repo trades should be appropriately collateralized to protect against the risk of losses due to counterparty default. And managers should consider strategies to manage potential portfolio concentration risks.

Finally, on Slide 20, we highlight some other potential recommendations that could be made related to the basis, including seeking more data be made available to the official and private sectors, reviewing the accounting and reporting practices that drive the price discrepancies between cash and futures. We did not include it in this version, but we also received feedback that the pro cyclicality of margin practices could be highlighted in future versions of this section.

In terms of next steps, we plan to incorporate feedback on the presentation and would welcome that. We also want to solicit input as a next step whether it would be useful to turn the presentation into a white paper.

And that concludes my report.

CHAIR CRIGHTON: Thanks a lot, Nate. We will open it up for member discussion, if there are any comments, questions.

[No response.]

CHAIR CRIGHTON: All right. Well, seeing none, thank you again.

Part Three: Block Implementation Workstream Update

CHAIR CRIGHTON: We will next hear from Bis Chatterjee, Managing Director and Head of Innovation for Global Markets Division at Citigroup, giving an update on the block implementation workstream.

MR. CHATTERJEE: On behalf of the Market Structure Subcommittee, our working group members, my co-chair Ann Battle and I would like to thank our sponsor, Commissioner Johnson, MRAC Chair Alicia Crighton, and designated officers of the MRAC, and would seek to provide an update on our ongoing work in block sizes.

At the December 2023 MRAC meeting, this subcommittee and group noted ongoing comments raised by market participants on how block sizes impact the ability of market participants to efficiently execute large-size swap transactions and impact their ability to hedge risk through swap trades. It also acknowledged and strongly supported the CFTC's extension of the new block thresholds from December 2023 to July 2024, and noted that the analysis of trading volumes and other data for certain products will be required as the industry works to understand the impacts that higher block thresholds would have on market structure and liquidity.

Since December, market participants,

including institutions represented on the MRAC's Market Structure Subcommittee, have worked closely with representatives of the Commission's GMAC Market Structure Subcommittee, other market participants, and industry associations such as ISDA to coordinate discussions regarding the associated data analysis.

The ongoing discussions on data analysis have been structured to focus on two aspects. First, examining the volume and notion of trades across the industry below the current block sizes, between the current block sizes and the new proposed block sizes, and above the proposed block sizes. This analysis is similar in nature to the one conducted internally and independently by two trading venues that are part of this working group.

Secondly, the data analysis will focus on studying the composition of datasets that form the basis of the block analysis and are used to establish the thresholds. It will seek to ensure that the different types of trades that are included and reported in these data set are classified appropriately. The work across the industry participants is ongoing, and we will continue to update the MRAC on a regular basis regarding progress. Thank you.

CHAIR CRIGHTON: Great. Thank you, Bis. Will you please also provide an update on the post-trade risk reduction workstream. Unfortunately, Guy Rowcliffe, noted in the agenda, is unable to present.

Part Four: Post-Trade Risk Reduction Workstream Update

MR. CHATTERJEE: Thank you, Alicia. Regarding post-trade risk reduction, or what is referred to as PTRR, the working group and subcommittee is broadly aligned at a high level on PTRR benefits for the market, and therefore continues to examine how PTRR activities can be expanded in a safe and sound manner by addressing inefficiencies.

To recap, PTRR does not change directional risk. Parties cannot post bids and offers or negotiate during PTRR exercises. The PTRR exercises are based on predetermined and transparent rules and run on predetermined and published cycles.

The working group is conscious of the importance of Title VII in Dodd-Frank and the associated CFTC rules. Therefore, the working group on PTRR will examine how these activities can benefit from exemptions from any requirements for clearing, CDF trading, registration, and real-time public reporting without -- and I emphasize, without -- compromising on the principles of safety and soundness of Dodd-Frank Title VII and CFTC rules.

The working group next will look at possibilities for various processes and compensation controls that may be needed to help ensure that any possible requests for exemption helps address any concerns there may be regarding noncompliance with Title VII principles. Thank you.

CHAIR CRIGHTON: Great. Thanks a lot, Bis. Are there any questions, comments from the committee? Tim?

MR. CUDDIHY: Thanks, Alicia. Just one thing that Bis talked about as it relates to post-trade risk reduction that is a challenge is that many of these trades are both potentially in cleared and uncleared markets, and that certainly just presents a challenge in terms of risk reduction and reporting, given the fact that some may be in one regime and in another regime.

CHAIR CRIGHTON: Thanks, Tim. Any other comments before we move along? Great.

SECTION FOUR: CLIMATE-RELATED MARKET RISK SUBCOMMITTEE PRESENTATIONS

CHAIR CRIGHTON: We are moving on to our fourth section of the day which will cover matters relevant to Climate-Related Market Risk Subcommittee. We will begin with a presentation from Dale Lewis, Chief Executive Officer at Community Markets for Conservation, before turning to Holly Pearen, Lead Counsel at the Environmental Defense Fund, and Jessica Garcia, Senior Policy Analyst for Climate Finance at Americans for Financial Reform Education Fund.

Dale, we will turn it over to you.

MR. LEWIS: Well, thank you so much. I should first say that I am the farthest away from being a commodity analyst, but you have actually kept me awake. I went to bed quite late last night and I thought you just might put me to sleep, but far from the truth.

I have lived and worked in Zambia quite a long time, working with small-scale farmers, and I just want to bring out a couple lessons because listening to you it is very much, in fact, about commodities trade. And let me just simplify it.

In my world, and in terms of the carbon markets that I think you are interested in, let's just simplify that the commodity really are the forests, and they do hold the land together, and do support small-scale farmers. And we have seen the effects when the forests are removed, out of negligence or out of greed, the small-scale farmers will suffer.

So this is the challenge that we have, and underlying that challenge is really rural poverty. And despite many different companies that have been able to buy and promote various commodities, the practices that were used in producing these farm commodities were not simpatico or compatible with good land management, and we have seen the quality of the soils decline and poverty continue, particularly in Zambia.

So our model is a very different kind of commodity type business, as you may want to call it, in that we are dealing with a way that we can use commodity trade through agricultural products that are derived from farmers that have historically been farming the wrong way. We offer an incentive through better pricing when communities of small-scale farmers can demonstrate the right type of farming practices that restore the soil and help restore the land.

And that is part of how we try to encourage farmers not to cut down trees in a wasteful way, particularly for making charcoal. It is a terrible problem that we have in Zambia. And if you think about it, a farmer who is poor and not well-skilled can cut down a tree, turn it into charcoal, the tree will be for free, turn it into charcoal and make money, and yet ask yourself why would that farmer wait for five years for a carbon credit? Of course he is not.

So it puts a great deal of pressure on our planet to find a solution that can mitigate this risk. And we try to hedge this risk using the combined forces of the kind of agricultural, value-added markets that we have created as COMACO around the brand called "It's Wild!" And the carbon follows that.

I think this is one of the lessons that I often preach to people, that if you are looking at carbon markets in the space of rural Africa, a lot of the for-profit carbon companies take a very different approach. They move very quickly to try to turn the whole system around, and of course you cannot do that. These systems have a history of farming their own way, and it takes market drivers to change that.

We have been at it for 29 years, and the COMACO business itself has been in existence for 20 years. And I think the story that I'm telling is that as we try to invest in better models and systems, short-term donor projects that try or attempt to address these problems are never going to work because you really have to turn this very long ship around with regard to impacting on scale of ecosystems, large landscapes that do hold together the fabric of the ecosystem that, of course, provides a number of services, ecosystem services, the biodiversity, the water, and again carbon.

So it's a very interesting story that I could tell. I've only been given 10 minutes. Our website is itswild.org.

But I just have found that this discussion that you've been having is really very interesting to me in looking at commodity trade and the risk of losing the valuable commodities, for commodities that are largely illegal and that cannot be easily replaced. And the bottom line, I'll say, is that so much of which direction this country will take is largely in the hands of government to partner, to work with the communities of small-scale farmers.

When we handed over the first carbon payment -- we have done three so far, three different verifications -- on top of our agricultural value-added approach, the level of community unification and commitment to doing what's right for the land changed on a hundred-fold level, which just has been amazing. There is no charcoal. The forests are protected. We have wildlife returning. Farmers' incomes have improved, diversified from forest products and agricultural products.

So I think there is a solution out there. It does take time. And above all, for my company it really takes affordable finance. This is one of the biggest problems I have because we give our money away to support and sustain conservation.

It has been a pleasure. I don't know if it's been 10 minutes, but I should stop there, I suppose. Thank you.

CHAIR CRIGHTON: Thank you very much, Dale. We will now turn to a recorded presentation from Holly.

MS. PEAREN: A remote greeting to you all, and a tremendous thank you for allowing me to participate today on video. I'd like to first express my gratitude to the committee for including EDF in this meeting and for the Commission's broader engagement on climate risk, and particularly its leadership in the carbon markets space.

I cannot attend today in person because I am in transit to Singapore, which aims to be that region's carbon services and finance hub, and in order to attract climate capital at scale has invested in a regulatory ecosystem to build a higher integrity carbon market.

There is actually broad consensus that both buyers and sellers will have more certainty in transacting thanks to the regulatory wrapper around traded carbon credits, and be more willing to participate in a marketplace that is scrutinized by an independent financial services authority. The theory of change is that trust will result in scale of climate action and impact, which is essential today. And I commend the committee and the Commission on ensuring that U.S. markets keep pace with that trend.

The engagement in the VCM is well timed, and there are signs emerging in the first quarter of 2024 that indicate the market is starting to rebound. Demand is returning. Recent data shows that retirements reached record levels in December 2023 and January 2024, and this trend is likely to continue, driven by a convergence of compliance in voluntary markets and implementation of the aviation industry's offsetting plan, which commenced in January of this year.

More than half of the world's 2,000 largest companies have set net-zero targets and need credible tools to deliver on those commitments. Carbon credit provide an obvious bridge between corporate demand for emission reductions and nature's need for finance. These purchases could make a significant contribution to providing the estimated $41 trillion needed to close the climate funding gap.

And the market is maturing. At COP28, the six major registries announced they were aligning their certification standards to reduce market fragmentation, previously a key barrier for new companies seeking to enter the market. Long-awaited quality assurance labels will also enter the market this year, making it easier for companies and intermediaries to identify high-quality credits and to demonstrate their responsible use of those credits.

On the supply side, the Integrity Council for the Voluntary Carbon Market will begin identifying credits that meet its core carbon principles this spring.

On the demand side, the Voluntary Carbon Markets Integrity Initiative has started verifying companies' claims about their use of offsets. Global management consultancy Bain & Company made the first VCMI carbon integrity platinum claim last month, with other organizations expected to follow soon.

CFTC activities in 2023, notably the formation of the Environmental Fraud Task Force and proposed VCC guidelines, have also played a role in the VCM course correction by establishing a strong foundation for efficient, effective enforcement and oversight of the spot and derivatives markets, respectively.

The formation of the Environmental Fraud Task Force well positioned CFTC to deter, detect, and respond to fraud and manipulation in the spot VCM. The experience with the EU ETS demonstrates that carbon credits can be subject to all the traditional forms of white-collar crime, and they should be enforced upon.

In addition, the task force can boost credibility and integrity in the VCM right now by addressing low-hanging fruit around investments, even well-intentioned, valuable conservation investments, that are incorrectly billed as quantifiable credits that can be used to offset emissions.

The basic characteristics that these may be lacking track and dovetail with the quality, inspection, and delivery point elements identified in the CFTC's proposed VCC guidance. They are quantified using approved and standardized quantification methods, they are verified by accredited, independent third parties, and tracked and traded in a transparent registry.

Establishing a record of enforcement demonstrating these principles and their materiality to the derivatives markets for VCCs will provide a clear signal to market participants about the boundaries of activity and what constitutes an acceptable product and what is fraud and greenwashing in the VCM.

Similarly, the proposed VCC guidance accurately captures the global benchmarks for high integrity carbon credits as set forth in the ICVCM's Core Carbon Principles, all but for CCP 9 and 10, and as members of ICVCM, EDF particularly appreciates the overlap between the three broad categories of guidance around quality, delivery points, and inspection, to the defining hallmarks of high integrity credits.

CFTC's 2023 activity demonstrates that the Commission is on strong footing to provide necessary oversight, and there is still work to be done. The Taskforce on Scaling Voluntary Carbon Markets identified six topics for action in its initial report. Carbon integrity was the first, and it's an incredibly important topic, as borne out by the market performance last year. Two of the other topics for action address the demand signals and are the subject of VCMI credit claims guidance and greenwashing rules in California, the EU, and potentially the FTC Green Guides.

But three topics for action remain unaddressed in a robust way. They are market intermediaries, market infrastructure addressing trade, post-trade financing, and data, and market integrity assurance. I note that Commissioners Johnson and Goldsmith Romero have demonstrated thought leadership around these issue and well-received public remarks.

EDF believes carbon markets can help bridge the financing gap for both technology-based and nature based climate solutions. However, the growth and potential of the carbon markets are tethered closely to the clarity and robustness of their governing frameworks and standards, including underlying legal framework. Without legal and regulatory clarity carbon markets, taken as a whole, face fragmentation, inefficiency, and diminished trust among participants, undercutting their strength as a tool for driving climate action.

The Commission has a correspondingly important and unique role in creating the enabling conditions to support a public market that is attractive to capital, safe to transact, low friction, and allows customers to manage risks.

I look forward to engaging further with the committee, panelists, and others interested in ensuring that commodity markets not only remain robust, transparent, and dynamic in the face of climate risk but also deliver on their potential to mitigate that risk. Thank you.

CHAIR CRIGHTON: Great. Thank you, Holly. We will now turn to presentation by Jessica Garcia.

MS. GARCIA: Good morning. I'll wake you all up a little bit. I think I have the last speaker slot before lunch, so bear with me a little bit.

Good afternoon and good morning. My name is Jessica Garcia. I am a Senior Policy Analyst for Climate Finance at Americans for Financial Reform Education Fund.

To start, well, I want to thank Holly and Dale for their comments and their perspectives, and I plan to really build off of what they already shared.

I want to recognize and appreciate the Commission's attention to voluntary carbon markets and of MRAC for exploring its specific ties to market risk. I also believe it is critical that the Commission and advisors look at all other climate-related market and prudential regulatory priorities within the CFTC's jurisdiction. Challenges with transparency and integrity in voluntary carbon markets is a small slice of the overall climate-related financial risks facing these markets.

As noted, in this Climate-Related Market Risk Subcommittee's 2020 report on managing climate risk in the U.S. financial system, U.S. financial regulation must recognize that climate change poses serious emerging risks to the U.S. financial system, and they should move urgently and decisively to measure, understand, and address these risks.

In the few years since that report was published, the consequences of climate change have only grown. In the United States, physical risks alone set an unfortunate record in 2023, with 28 weather- and climate-related disasters, with each disaster inflicting $1 billion in direct damage, not including the many indirect damages and disruptions to follow. Physical and transition risks pose systemic threats to the financial system.

The 2020 report offers that regulators should recognize that the financial system itself can be a catalyst for investments that accelerate economic resilience and the transition to a net zero emissions economy. Voluntary carbon credits and their derivative products are touted as one of the potential solutions in that vein. But there are significant unaddressed integrity problems within these markets, and the CFTC has rightly moved to address them.

Alongside partner organizations, we have previously recommended that the Commission generally disallow carbon credit derivatives trading unless and until the integrity challenges within the underlying markets are reasonably resolved. Instead, the Commission has chosen to provide guidance to designated contract markets. This action, while important, is a small step in dealing with the persistent problems within the voluntary carbon markets. To contain this risk, urgent action from the Commission, Congress, and other Federal regulators is required.

I want to highlight two recommendations for commodity characteristics that were not listed in the proposed voluntary carbon credit derivatives guidance but should be included. First, the final guidance should include a leakage risk as separate from additionality and permanence under quality standards. Leakage occurs when efforts to reduce emissions in one place simply shift emissions to another location or sector, where they remain uncontrolled or unaccounted for. It is a commonly cited integrity concern, particularly with carbon credit from land-based projects such as forestry and agriculture.

Second, the Commission should be clear that a DCM must consider whether a crediting program has implemented social and environmental safeguards. Those safeguards are material terms and conditions and required by most reputable private sector and multinational development initiatives to improve the chances that financed projects will not be undermined by violations of human right, land rights, and labor rights, all of which could increase risk of fraud and manipulation, and in turn decrease investor confidence and result in a decline in value of carbon credits.

The CFTC is not alone. It is in good company among financial regulators paying attention to the lack of quality in the voluntary carbon markets. Disclosure requirements or recommendations for any aspect of voluntary carbon markets proposed by any government or standard-setting body should be considered by this committee as pertinent to market risk. The subcommittee should engage with the Department of the Treasury, particularly related to its published Principles for Net-Zero Financing and Investment, which note voluntary carbon market challenges and make it clear that any voluntary use of carbon credits should be accompanied by sufficient detail on the nature and integrity of those credits.

As alluded to by Holly, California Assembly Bill 1305, which was signed into law in October 2023, requires that any entity doing business in California, regardless of revenue, must disclose detailed information regarding their marketable voluntary carbon offsets on their website.

Just last month, the SEC promulgated its final rule on climate-related financial risk disclosure from public companies, including disclosure around carbon offsets usage and expenditures, when they are a material component of a company's plan to achieve climate-related targets or goals.

Finally, in its recent consultation report on VCMs, IOSCO acknowledged that many offset projects are failing to deliver promised emission reductions, and some carbon credits may amount to little more than greenwashing. IOSCO also says authorities with enforcement power can play a significant role in preventing fraud, protecting market participants from misleading claims, and instilling greater confidence in the integrity of the VCMs.

The CFTC should be on the lookout for outright fraud that may already be occurring. For example, there are credible reported cases of fraudulent sale of phantom carbon credits, and if these occur in a spot market used for a derivative contract the Commission should pursue that type of case.

As Commissioner Johnson has stated, while the Commission's authority to introduce regulation is limited to community derivatives, the Commission has broad authority to address fraud and market manipulation in the spot market. In that vein, a applaud the Commission's establishment of the Environmental Fraud Task Force and anticipate future enforcement action.

In recognizing the extent of the problems within the underlying voluntary carbon markets, the Commission should continue to caution all of its regulated entities, in the strongest possible terms, about well-founded concerns on transparency, credibility, greenwashing, and environmental injustice in voluntary carbon markets. The Commission should plan to engage in significant oversight to prevent fraudulent and misleading claims, market manipulation, and undisclosed financial risk.

Finally, as the Commission finalizes the voluntary carbon credit derivatives guidance, it should closely monitor and bring appropriate enforcement action in cases of DCMs' non-adherence to the core principles.

Thank you for your time.

CHAIR CRIGHTON: Thanks, Jessica. We will now open it up to MRAP members for discussion.

[No response.]

CLOSING REMARKS AND ADJOURNMENT

CHAIR CRIGHTON: And that concludes our meeting today. I'd like to say a big thank you for the insights of our guest speakers today as well as the thoughtful contributions from our MRAC members.

Commissioner, do you have any last remarks?

COMMISSIONER JOHNSON: I will, and in fact I want to just, as a point of order, offer a response to a question we received regarding the details related to the membership of the Future of Finance Subcommittee. So before delivering any closing remarks I just want to allow Julia Welsh, who is on my staff, and also acting as Alternate Designated Federal Officer for the Future of Finance Subcommittee, or Jai, you are still here. Yes, would you please. Jai is going to share with us the membership list.

MS. MASSARI: Julie, I didn't want to steal your job.

COMMISSIONER JOHNSON: Oh, she's got plenty of work.

MS. MASSARI: Yeah, I assumed. So I will just read out the list of the members of the Future of Finance Subcommittee for the record.

Tim Cuddihy -- sorry if I butchered your last name -- DTCC; Ed Dasso from the NFA; David Horner from the London Stock Exchange Group; Kristin Chain, Blockchain Association; Purvi Maniar from FalconX; Kevin Werbach from the Wharton School at UPenn; Tyson Slocum from Public Citizen; Alessandro Cocco from Treasury; Jessica Renier from IIF; me, Jai Massari at

Lightspark; Rebecca Rettig, Polygon Labs; Petal Walker, Liquidity Lock Global Markets; Gary Kalbaugh, ING Financial Holdings; Yesha Hadav from Vanderbilt Law School; and last but not least, Mark Hays from Americans for Financial Reform.

COMMISSIONER JOHNSON: Thanks so much, Jai. We are excited for the work that you are doing and grateful for the two subcommittees that have taken on formal workstreams at the beginning of this year, and anticipate great and very high quality recommendations coming from those subcommittees.

I want to just reiterate something I mentioned earlier in the context of the FCM capacity and concentration report, which I signaled was applicable across the board, I think, for all of the matters that have come before MRAC members today. That would include the recovery and resilience recommendations and also includes the working plan of the future of finance AI workstream.

I think all of these are works in progress, just at different stages, and for each of them, to the extent that there are members or stakeholders that would like to ensure their thoughts, reflections, or viewpoints are accurately captured in any of the work product, we welcome the distribution of that information. Tamika Bent of my office acting as ADFO for the MRAC is fielding calls and happy to be available to offer additional explanation or to receive additional comment. But so too are the co-leads for the relevant workstreams.

So again, for CCP Risk and Governance that would be Alessandro Cocco and our Chair, Alicia Crighton. For Market Structure that would be Bis Chatterjee and Ann Battle. For the Future of Finance Subcommittee it's Jai Massari and Rebecca Rettig. And we are hopeful that if you have comments or feedback for the Climate-Related Market Risk Subcommittee that you will direct those to Peter Janowski, who supports the MRAC as ADFO but also serves as Trial Counsel in the Division of Enforcement.

So there are agents standing at the ready to receive your comments and feedback and to ensure that ahead of transmitting anything to the Commission we have gotten every bit of feedback that the MRAC members might want to share. So I wanted to share that ahead of everything else.

I am really grateful that you are rolling up your sleeves, as MRAC members, and want to encourage anyone who is interested in serving on any of the subcommittees to please make yourself known to Tamika or to share with my office your interest in serving on a subcommittee. There is, as you have seen over the course of today's meeting, plenty of work to do. Our sleeves are rolled up, we have begun to chart a course, we are developing important work.

And we really very much want to ensure, consistent with the MRAC's charter, that every viewpoint and perspective is represented, inclusive of perspectives that may not be part of a consensus, that maybe part of a minority. Those viewpoints also are intended to be captured in any final distribution to the Commission. So we want to ensure that if you feel there is a subcommittee that has a missing viewpoint or should include a perspective, we would welcome that, as well.

At the beginning of the meeting I said very quickly, at the end of my remarks, a thank you to the logistics and administrative staff and the contractors who ensure that our physical conference room and our virtual conference room are ready to go for each and every meeting. I'd like to take just a moment now to thank them again by name, largely because they support not just the MRAC or the other advisory committees of the Commission but every public meeting that the Commission hosts, the same group of folks works tirelessly behind the scenes to ensure seamless execution of those meetings.

So Altonio Downing, Monet Mills, Andy Brighton, Keane McBride, Venise Raphael-Constant, Margie Yates, Jean Cespedes, Pete Santos, and Ty Poole, thank you very much for the work that you are doing behind the glass here in the room and across the country as you support the execution of our meetings, today for MRAC, tomorrow for EMAC, Thursday for the Agricultural Advisory Committee, and then I think shortly not long thereafter for TAC, as well. So thank you so much for your tireless efforts to ensure our meetings run smoothly and effectively.

With that I would just like to thank everyone working on a workstream, all of those who have contributed feedback today or might suggest or offer feedback in the coming weeks. We are grateful for your time.

And I think, in a first instance ever, we are actually closing our meeting out ahead of time rather than begging people not to run off to their trains. So we hope you will remember this moment of grace at a future moment when we are running behind schedule.

But thank you so much for your service. We recognize you have full-time day jobs, and we appreciate that you've taken time, your expertise, and your talent to help facilitate the Commission's successful execution of its work in accordance with its statutory mandate and regulations.

I am going to turn the meeting back over to the DFO and ADFO who might have closing words to end the meeting.

MR. JANOWSKI: Thank you, Commissioner. Thank you, Chair Crighton. I want to thank everyone for attending the first MRAC meeting of 2024, and the meeting is adjourned.

[Whereupon, at 11:54 a.m., the meeting was adjourned.]