MINUTES OF THE TENTH MEETING OF THE
U.S. COMMODITY FUTURES TRADING COMMISSION'S
MARKET RISK ADVISORY COMMITTEE (MRAC)
December 4, 2018

The Market Risk Advisory Committee ("MRAC") convened for a public meeting on Tuesday, December 4, 2018, at 9:34 a.m., at the U.S. Commodity Futures Trading Commission's ("CFTC" or "Commission") Headquarters Conference Center, located at Three Lafayette Centre, 1155 21st Street, NW, Washington, DC. The meeting consisted of a report from MRAC's Interest Rate Benchmark Reform Subcommittee ("Subcommittee") and four panels. Panel I provided an overview of current clearinghouse risk management and governance issues. Panel II examined approaches to the management of non-default losses generally, as well as in recovery and resolution. Panel III discussed the most recent relevant reports from global standard-setting bodies that have an impact on central clearing and prudential regulators proposed ules to update the calculation of derivative contract exposure under the regulatory capital rules . Panel IV discussed the oversight of third party service providers and vendor risk management.

MRAC Members in Attendance

B. Salman Banaei, Executive Director, Global Head of Clearance and Settlement, IHS Markit
Stephen Berger, Managing Director and Global Head of Government & Regulatory Policy, Citadel
Lee Betsill, Managing Director and Chief Risk Officer, CME Group
Isaac Chang, Managing Director and Co-Head of Trading, AQR Capital Management, LLC
Biswarup Chatterjee, Global Head of Electronic Trading & New Business Development, Credit Markets, Citigroup
Alicia Crighton, Chief Operating Officer, Prime Services, US Clearing, Goldman Sachs, Futures Industry Association
Matthias Graulich, Member of the Executive Board and Chief Strategy Officer, Eurex Clearing AG
Frank Hayden, Vice President, Trading Compliance, Calpine Corporation
Lindsay Hopkins, Clearing House Counsel, Minneapolis Grain Exchange
Annette Hunter, Senior Vice President and Director of Accounting Operations, Federal Home Loan Bank of Atlanta
Demetri Karousos, Chief Risk Officer, Nodal Clear LLC and Managing Director, Market Administration and Surveillance, Nodal Exchange LLC
Sebastiaan Koeling, Chief Executive Officer, Optiver US LLC, Futures Industry Association – Principal Traders Group
Derek Kleinbauer, Global Head – Rates and Equity e-Trading, Bloomberg LP and Vice President, Bloomberg SEF LLC
Craig Messinger, Senior Advisor, Virtu Financial
Dale Michaels, Executive Vice President, Financial Risk Management, The Options Clearing Corporation
Dennis McLaughlin, Group Chief Risk Officer, LCH Group
John Murphy, Managing Director and Global Head of the Futures Division, Mizuho Americas, Commodity Markets Council
Dr. Thomas Philippon, Max L. Heine Professor of Finance, New York University-Leonard N.

Stern School of Business (Special Government Employee)
Jonathan Raiff, Senior Managing Director, Head of Global Markets Americas, Nomura Securities International, Inc.
Marnie Rosenberg, Managing Director and Global Head of Clearinghouse Risk & Strategy, JP Morgan
James Shanahan, Vice President, Financial Regulatory Compliance, CoBank ACB
Dr. Betty Simkins, Head of Finance Department, Professor and Williams Companies Chair in Business, Oklahoma State University, Spears School of Business (Special Government Employee)
Tyson Slocum, Director, Energy Program, Public Citizen
Dr. Marcus Stanley, Policy Director, Americans for Financial Reform
Robert Steigerwald, Senior Policy Advisor, Financial Markets, Federal Reserve Bank of Chicago
Kristen Walters, Global Chief Operating Officer of Risk and Quantitative Analysis Group, BlackRock
Suzy White, Chief Risk Officer, Global Banking & Markets and Commercial Banking, Americas, HSBC
Rana Yared, Managing Director Principal Strategic Investments Team, Securities Division, Goldman Sachs
Luke Zubrod, Director of Strategic Initiatives, Chatham Financial

CFTC Commissioners and Staff in Attendance and Speakers
J. Christopher Giancarlo, Chairman, CFTC
Rostin Benham, Sponsor of the MRAC and Commissioner, CFTC
Dan Berkovitz, Commissioner, CFTC
Dawn D. Stump, Commissioner, CFTC
Alicia Lewis, MRAC Acting Chair/Designated Federal Officer ("DFO"), Special Counsel, Office of Commissioner Behnam
Julie Mohr, Deputy Director, Examinations Division of Clearing and Risk, CFTC
Sayee Srinivasan, Deputy Director, Risk Surveillance, Division of Clearing and Risk, CFTC
Robert Wasserman, Chief Counsel, Division of Clearing and Risk, CFTC

Invited Speakers in Attendance
Thomas Wipf, Subcommittee Chairman, Vice Chairman, Institutional Securities, Morgan Stanley
Teo Floor, Systemic Risk Policy Advisor, Eurex Clearing AG
Eileen Kiely, Managing Director, BlackRock
Eric Nield, General Counsel, ICE Clear Credit, LLC
Lazaro Barreiro, Director for Governance and Operational Risk Policy, Office of the Comptroller of the Currency

I. Opening Remarks

Ms. Lewis, the Designated Federal Officer for the MRAC, called the meeting to order. Chairman Giancarlo began by noting the passing of President George H. W. Bush and called for a moment of silence. The Commissioners then gave their opening remarks. Commissioner Berkovitz began by thanking all participants for their attendance and participation, as well as

Commissioner Benham and Ms. Lewis for sponsoring and putting together the meeting. Commissioner Berkovitz highlighted the importance of two issues of interest on the agenda for the meeting: (1) clearinghouse risk management, and (2) the treatment of derivatives exposure and margin with the increase in market concentration.

Next, Commissioner Stump gave her opening remarks, thanking Commissioner Benham, Ms. Lewis, and all the members of the committee for putting together the meeting. She noted that she was looking forward to talking more about clearinghouse infrastructure risk (from settlement bank and custodian bank failures to cyber security and the use of third-party service providers), what standards guide management of these risks, and who bears those risks and over what time horizon. She also stated she was looking forward to participants' comments on the Commission's regulatory efforts and whether these regulatory efforts are fit for the purpose they were intended.

Following Commissioner Stump, Chairman Giancarlo gave his opening remarks. He thanked Commissioner Benham for holding the meeting, Ms. Lewis, and the rest of the Commission staff and presenters. He noted that over the past few years there has been substantial progress in ensuring the safety and soundness of central counterparties ("CCPs"), especially on recovery planning. He stated that there was still more to do, in particular on resolution planning. He emphasized the need to have an ongoing conversation on risk management and governance and expressed concern regarding the concentration of clearing services. Finally, he stated that regulators should take note that market participants are moving towards outsourcing their infrastructure and to consider this in their model for regulation.

Following Chairman Giancarlo, Commissioner Benham gave his opening remarks. He thanked the Chairman and other Commissioners present, the MRAC members who were moderating panels, all of the speakers, and Ms. Lewis. He then gave a background overview of the meeting and described the four panels. The last meeting of the MRAC in July introduced benchmark reform as a key topic of interest and the Commission voted to establish the Interest Rate Benchmark Reform Subcommittee to provide reports and recommendations to the MRAC regarding efforts to transition to U.S. dollar derivatives and related contracts to the Secured Overnight Financing Rate ("SOFR") and the impact of such transition on the derivatives markets. He stated that Mr. Wipf would kick off the meeting by reporting on the Subcommittee's first initiatives. He then previewed the panels.

Commissioner Quintenz could not attend the meeting, but posted his remarks on the CFTC website.

II. Report of MRAC's Interest Rate Benchmark Reform Subcommittee

Mr. Wipf began with a discussion of what happened at the July MRAC meeting. He then discussed the work of the Subcommittee in detail. He stated that the Subcommittee was in the process of identifying areas of the London Interbank Offered Rate ("LIBOR") transition in which it can provide input and recommendations to the MRAC and to the Commission. He identified the key goals of the Subcommittee as: (1) removing hurdles to the transition to SOFR and (2) suggesting incentives for market participants to transition to SOFR, while (3) avoiding

the creation of safe harbors that would circumvent the transition. He also highlighted the Subcommittee's goal of producing actionable deliverables within a reasonable amount of time. In that regard, the Subcommittee plans to limit its focus to policies and recommendations involving the U.S. derivatives market. By the end of December, the Subcommittee planned to gather and circulate thoughts on regulation of the U.S. derivatives markets that could be refined to encourage the transition to SOFR. On a monthly basis, the Subcommittee planned to discuss and collaborate in an effort to deliver meaningful and actionable results to the MRAC.

Ms. Lewis then opened the floor to questions or comments from the MRAC membership. Generally, the concerns and discussion raised in this session included: the need for everyone in the market to pitch in, spreading the word about the transition, and the importance of building liquidity in swaps referencing SOFR and other risk free rates within an open, competitive, and transparent clearing and trading framework.

III. Panel I: Clearinghouse Risk Management and Governance Today

Mr. Steigerwald opened the panel by framing the issues to be discussed. He stated that governance can be thought of broadly and narrowly. Broadly, governance can include the role of regulators overseeing CCPs as well as their members. Narrowly, it can include the different types of internal governance arrangements, rule setting, supervision, and market surveillance. Governance can bleed into other issues of transparency, flexibility, and decision making that often involves risk decisions. He also stated one of the objectives of the panel was to identify flexible best practices that can be adopted more broadly by the industry.

Ms. Rosenberg presented first and stated that JP Morgan has raised issues related to CCP risk, recovery, and resolution through two JP Morgan white papers. She emphasized the need to further improve CCP governance, margin, and stress testing frameworks as well as increase CCP capital contributions through enhanced regulatory standards and oversight. She noted how CCPs make key decisions with regard to how they manage risk, yet clearing members bear the consequences. She stressed that risk governance rules should ensure that those that bear potential losses should have a meaningful voice with regard to how risk is managed and suggested independent expert views from representatives of end users and clearing members who serve as members of a CCP's risk committee. She also suggested that all clearing members be provided with an opportunity to provide their input at the design stage on key risk decisions being considered by a CCP and require appropriate documentation.

Ms. Crighton presented next and discussed three categories related to CCP risk management: governance, adequacy and resources of CCP member firms, and CCP skin in the game. On governance, she highlighted four areas important to Futures Industry Association ("FIA") members. First, regulatory supervision of CCPs should include regular and granular assessments including stress testing across a range of scenarios. Second, CCPs should establish a framework to give clearing members a more robust role on risk committees. Third, CCP default management processes should be transparent and CCPs should permit clearing member participation. Fourth, CCPs should enhance governance around the development of margin models to bring quantitative and risk management experience and resources of clearing members to bear. With regard to adequacy and resources of CCP members, she stated that CCP

membership criteria should be fully transparent, detailed, and specific. In addition, she stated that CCPs should not rely on only external credit ratings for monitoring membership, and those CCPs who wish to include self-clearing members should develop specific provisions in their rulebook, risk framework, and governance to account for the nature of these members. Lastly, she stated that CCP skin in the game should align the interests of CCPs with those of its members.

Mr. Betsill discussed clearinghouse governance. He stated that the CME believes it is critical to have diverse and robust input to achieve the best risk management results for the entire market and to ensure that the inherent financial stability benefits of the central clearing market structure, driven in part by a careful balance between defaulter and mutualized resources. He emphasized that margin is only one tool in the CME arsenal for ensuring that it has appropriate risk management in place, and stressed the importance that CCP risk management works with the risk management of its clearing members to proactively monitor the exposures that are being brought into the CCP ecosystem. As to default management, he stated that a CCP is not a market participant, and as such, relies on the clearing member community to support the default management practices, and specifically liquidations. The main incentive for clearing member participation in default management is the guarantee fund contributions.

Mr. Michaels began his presentation by discussing the role of CCPs, stating that CCPs are risk managers and they do not take on any market risk. He then discussed a few of the critical components of the CCP risk management framework with the first line of defense being the clearing membership itself, and the measures they take to monitor risk. The next line of defense is the initial margin. Most of the work of CCPs is to calibrate and review initial margins as conditions and products evolve, which is one of the most critical aspects of what CCPs do. The next level of defense is the clearing/guaranty funds themselves. Much of what CCPs have in place for initial margin also applies to stress testing of clearing funds as CCPs look to size those funds at the appropriate level. The last line of defense he identified is default management. CCPs have to work closely with clearing member firms and with other CCPs to have robust default management processes.

Mr. Slocum emphasized that the CFTC should ensure that the ownership structures, the legal and regulatory obligations, and the transparency of operations of CCPs are aligned for maximum protection of members, commodity end users, and the public interest. He stated that the CFTC should revive rulemaking efforts on governance, transparency, and conflict of interest of central counterparties, including explicit standards for compositions of boards of directors, disciplinary panels, and risk management committees addressing the role of members on risk management committees.

The panel then turned to a question and answer session. Generally, the concerns and discussions raised in this session included: the types of risks that clearinghouses take on, that there is no one size fits all approach to governance of clearinghouses, the importance of communicating about risk early on and getting a variety of stakeholders involved in providing input on risk, the setting of margin and the need for transparency and detailed information to be provided regarding the setting of margin, allowing member input and providing flexibility in default management proceedings, the importance of having a diverse clearing membership, the

need for clearinghouses to have the appropriate amounts of skin in the game, the need for transparency, and the need for best practices.

(Lunch Break)

IV. Panel II: Non-Default Losses in Recovery and Resolution

Following the lunch break, Ms. Lewis called the meeting back to order. Mr. Chang opened the panel by stating that the panel would be discussing non-default losses generally and in the context of recovery and resolution. He stated that losses can be characterized in three categories as: (1) losses from businesses or operational failures, (2) losses from investments, and (3) losses from custodial failures. Mr. Chang also commented that policies and practices vary across clearinghouses and regulatory schemes in dealing with non-default losses. He then introduced the panel.

Mr. Floor presented first and stated that to minimize the impact of non-default losses the CCP requires both control and restraint and suggested a two-tiered approach. He proposed tackling the member default first and then the non-default losses if they cannot be separated or managed simultaneously. He then stated that to be fair and set appropriate incentives, the CCP should bear the losses for non-default losses with the exception of those non-default loss types that relate to the cleared markets themselves.

Mr. Nield presented next and stated that clearinghouses are generally liable for their business and operational losses, with the exceptions of investment losses and custodial losses. Although not currently required, he stated that there should be some sharing of liability with regards to investment losses and custodial losses. In this case, the clearing house would be the first loss liability layer prior to mutualizing to the clearing members. He also stressed that, with non-default losses, it is important to keep in mind the capital resources available at the clearinghouse to pay for any type of liability.

Mr. McLaughlin discussed the types of non-default losses clearinghouses face. These are losses that are not directly related to the default of a clearing member. For example, clearinghouses have to take margin that members give them and find a home for this margin because they are not allowed to keep the margin on deposit at a commercial bank. There are also regulatory constraints on how to invest that margin, and clearinghouses are exposed to investment losses in order to fulfill their function to have the margin ready in the event it is needed to cover a member default. Clearinghouses also take legally segregated collateral to protect against custodian failure. Finally, he stated that if there is an operational failure, the clearinghouse would have a delay in getting its hands on the necessary cash and there could be slippage in the market.

Mr. Chatterjee stated that non-default losses are losses sustained by a clearing ecosystem from sources other than those related to the positions of a defaulted clearing member. He identified sources of non-default losses as: (1) loss of investment collateral, (2) failure of financial services provider, (3) operations, information technology, or cyber fraud, and (4) loss resulting from unexpected monetary downside from fines or regulatory actions. Depending on

the issues associated with the cause of losses, non-default losses could be broadly borne by the clearing member and the end user, the CCP, or jointly by the CCP and its membership. He also stated that resources for non-default losses should be distinct from those that are available for clearing member default.

Ms. Kiely stated that default losses should not be allocated to the end investor unless they are done so by resolution authority. This is based on the premise that central counterparties are in the business of credit risk mitigation, offer their services and charge fees, which has proven to be very profitable. With regards to non-default losses, she stated that non-default losses should not be passed to the end investor since the end investor has no say in how the CCP uses the client's cash or securities or who the custodian or payment bank is. The current legal framework may be too ambiguous about how clearing members may be able to allocate losses to investors.

The panel then turned to a question and answer session. Generally, the concerns and discussions raised in this session included: the need for more prescriptive and clear regulatory guidance to ensure the appropriate policies for handling non-default losses across clearinghouses, expanding the scope of stress testing, default and non-default losses having a more stringent and reasoned foundation upon which capital should be held against them, increasing transparency by clearly laying out how default and non-default loses are handled in clearinghouses rulebooks, the management of enterprise risk and the need for help from regulators to better understand the risk standards, and the need to cover non-default losses based on whether the clearinghouse was involved in the risk management decisions for those losses.

V. Panel III: Central Counterparty Resolution, Leverage Ratio, and Incentives to Clear

Ms. Lewis opened the panel by stating that post-crisis reforms include mandatory clearing requirements, capital liquidity and margin requirements relating to OTC derivatives, and reforms relating resilience, recovery, and resolution of CCPs. These reform measures and their effects are the subject of several recent reports, proposed rules, and discussion papers produced by global standard setting bodies and prudential regulators, which the panel focused on during its discussion.

Mr. Srinivasan presented first and discussed the Derivatives Assessment Team ("DAT") 2.0 report which was produced by a good mix of banking and market regulators. DAT was tasked with assessing the impact of the interaction of capital margin and clearing groups and the G20 reform on incentives for firms to clear OTC derivatives. He stated that the report found that reform measures incentivized large financial institutions that actively trade and clear in the global derivatives markets. For large global banks, the banks are incentivized by the margin and capital rules. For non-banks such as asset managers and hedge funds, the main incentive to clear is liquidity considerations. The reform measures are less effective for firms that are less active in the derivatives markets. He then discussed the methodology and process the team used to finalize the report.

Dr. Stanley presented on central counterparty resolution and the recent papers on this issue. He emphasized the importance of clearing member solvency for CCP resiliency. He stated that excessive concentration of clearing services can contribute to systemic risk, and that

regulators should seek a way to increase the number and diversity of futures commission merchants ("FCMs") offering client clearing without increasing the overall leverage in the system. He then discussed the three goals of CCP resolution in the Bank of International Settlements ("BIS") resolution guidance: (1) maintaining CCP function, (2) protecting taxpayers, and (3) maintaining financial stability. He stressed that these goals are best met by members being better capitalized. Finally, he stated that initial margin is the most important element of loss absorption in a true systemic risk situation and the regulatory stress testing should be the key mechanism to ensure that the correct margin is set.

Mr. Wasserman presented on the Financial Stability Board ("FSB") Financial Resources to support CCP Resolution and the Treatment of CCP Equity in Resolution guidance paper, Basel Committee on Banking Supervision ("BCBS") Consultative document, and the proposed rules of the prudential regulators to update the calculation of derivative contract exposure amounts under the regulatory capital rules. He stated that the FSB paper covers financial resources through a five step analytical process: (1) look at identifying hypothetical default and non-default resolution scenarios, (2) evaluate the existing tools and resources, (3) look at full resolution costs, (4) compare the tools and resources to the costs and identify the gaps, and (5) consider the availability, costs, and benefits of potential means of addressing those gaps. He emphasized certain principles supported by the FSB paper, such as no creditor being worse off when allocating financial resources, and asked interested parties to consider policy issues, including the incentives of CCPs to pursue sound risk management and the incentives of clearing members to support recovery. Mr. Wasserman then discussed the BCBS consultative document concerning capital charges based on the leverage ratio and lack of recognition of liquid collateral in the hands of the CCP and the clearing member. However, he stated that the BCBS is considering recognizing collateral consistent with the Standardized Approach for Credit Risk ("SACR"). Similarly, he noted that U.S. Prudential regulators in the context of SACR published a proposal that invites comment on the recognition of collateral provided by clearing member client banking organizations in connection with cleared transactions. In response to concerns raised in earlier panels, Mr. Wasserman agreed with those concerns about effective and well-designed margin models, and that stress testing is a critical part of risk management.

The panel then turned to a question and answer session. Generally, the concerns and discussions raised in this session included: the prohibitive nature of the cost of clearing for end-user and non-end users that are outside the core market, the pros and cons for special accommodation and exemption from certain clearing regulations, the scope of the no creditor is worse off principle, the challenge of the trade-off between financial stability and systemic risk, and the need for the same kind of minimum requirements for cleared and uncleared swaps.

(Recess)

VI. Panel IV: Oversight of Third-Party Service Providers and Vendor Risk Management

Ms. Lewis called the meeting back into order and introduced the last panel. Ms. Hunter opened the panel by stating that the goal of the panel was to consider whether the CFTC adequately sets standards and guidance for its registrants to follow when they engage third party vendors. She identified a couple of areas of interest: (1) managing the relationship and

accountability, with each organization serving their customer and managing their core business no matter what the challenge, and (2) emerging technologies (like cybersecurity and blockchain) and the challenges and risks associated with these technologies.

Mr. Barreiro presented first and discussed the Option's Clearing Corporation's ("OCC") guidance on third-party risk management. He stated that banks continue to increase the number and complexity of third-party relationships with both domestic and foreign third parties and must properly manage these relationships for the safety and soundness of an institution. He emphasized that banks should ensure comprehensive risk management and oversight of third party relationships including planning, due diligence, a third party selection process, contract negotiations, ongoing monitoring, and a review of how third party agreements may be terminated. Mr. Barreiro also stated that the OCC expects good documentation supporting the decisions made by banks throughout the life cycle of the process, and to have that process subject to independent review periodically.

Ms. Mohr discussed the work of the Division of Clearing and Risk ("DCR") with regard to vendor risk management. She stated that DCR has an examination program that focuses on derivatives clearing organization ("DCO") vendor risk management built on compliance with CFTC regulations and industry best practices. She discussed the program in detail stating the goal of the program is to identify any area within the vendor relationship that has not been adequately reviewed and assessed, and to suggest remediation plans to adjust the deficiency.

Mr. Banaei presented next and stated that as the only third party vendor on the panel he hoped to present the view of a larger financial technology ("FINTECH") service provider. He started by identifying two terms for clarification purposes: (1) direct regulation where an entity is under the direct regulatory or supervisory jurisdiction of a particular regulator; and (2) indirect regulation where an entity is supervised or otherwise scrutinized by a firm that is regulated consistent with that firm's regulatory requirements. This was an important distinction to make because some his firm's services are indirectly regulated.

Next, Mr. Banaei stated that FINTECH is a technologically-enabled financial innovation that could result in new business model application processes or products with an associated material effect on financial markets and institution. He stated that firms generally outsource to FINTECH companies because of their lower cost. He discussed five principles that apply the oversight of third party service providers: (1) third-party service providers should document all material relationships; (2) third party service providers should not be discriminated against or subject to lesser oversight than an in-house function; (3) there should be an open dialogue among third party service providers and regulators; (4) regulators should be responsive and encouraging of new approaches and new technology and not unduly burden commerce and innovation; and (5) regulations should be proportionate to the extent of reliance and risk associated with a particular service and under certain circumstances that might require extra validation.

Mr. Banaei then discussed reasons for directly regulating a financial technology firm. First, is to ensure that a particular firm is applying the appropriate conduct for a significant fiduciary or customer relationship. Second, is to ensure the integrity, operational integrity, or price discovery function of a particular venue. Third, is to ensure appropriate risk management

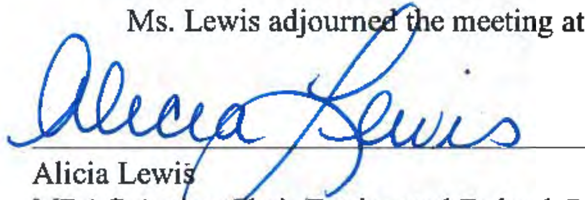
for central clearing. Fourth, is to mitigate substantial operational risk. Fifth, is to facilitate commerce by providing real certainty for businesses that would benefit. He then gave reasons not to regulate: avoiding barriers to entry, encouraging innovation, competition, and regulation of a particular service would be disproportionate.

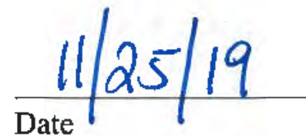
The panel then turned to a question and answer session. Generally, the concerns and discussions raised in this session included: a discussion of various examples of vendor risk operational losses or incidents and how these incidents were dealt with, and suggestions on how to improve the regulation of third party service providers, with most parties agreeing that additional regulations or guidelines would be welcome provided they are targeted carefully.

VII. Closing Remarks

In closing the Chairman and Commissioners present all expressed enthusiasm for the excellent discussion and stated they were looking forward to future discussions.

Ms. Lewis adjourned the meeting at 4:08 p.m.





Alicia Lewis
MRAC Acting Chair/Designated Federal Officer and Director

Date