MINUTES OF THE FOURTH MEETING OF THE U.S. COMMODITY FUTURES TRADING COMMISSION'S MARKET RISK ADVISORY COMMITTEE APRIL 26, 2016

The U.S. Commodity Futures Trading Commission's ("CFTC" or "Commission") Market Risk Advisory Committee ("MRAC" or "Committee") convened for a public meeting on Tuesday, April 26, 2016, at 10:04 a.m., at the CFTC's Washington, DC, headquarters, located at Three Lafayette Centre, 1155 21st Street NW., Washington, DC 20581. The meeting consisted of two panel sessions. Panel I discussed "How well are our derivatives markets functioning for market participants, particularly end-users?" Panel II discussed "How is the market using portfolio compression today?"

MRAC Members and Invited Panelists/Guests in Attendance

Anat Admati, George G.C. Parker Professor of Finance and Economics, Graduate School of Business, Stanford University, Representing Better Markets
Stephen Berger, Director, Government and Regulatory Policy, Citadel Investment Group ("Citadel)
Lucio Biase, CEO and Founder and LMRKTS
Tom Coyle, Vice President and General Manager, Chicago & Illinois River Marketing, LLC
Nathan Jenner, Head of Market Transparency, Bloomberg LP
Jerry Jeske, Group Chief Compliance Officer, Mecuria Energy Trading, Representing Commodity Markets Council
Sebastiaan Koeling, Chief Executive Officer, Optiver US, Representing Futures Industry Association's Principal Traders Group
Claire Lobo, Global Head of Business Development, Markit Trade Processing
Glenn Mackey, Chief Risk Officer, NRG Energy ("NRG")
Dennis McLaughlin, Group Chief Risk Officer, LCH Clearnet
Richard Miller, Consultant, American Council of Life Insurers
Michael Modlock, Head of triReduce North America, TriOptima
John Nixon, Group Executive Director, Americas for ICAP
Susan O'Flynn, Managing Director and Global Head of CCP Strategy, Governance and Optimization, Morgan Stanley
Lee Olesky, CEO and Co-founder, Tradeweb Markets, LLC
Angela Patel, Senior Vice President, Putnam Investments
Ed Pla, Managing Director, Head of Clearing Execution, UBS Investment Bank
Marcus Stanley, Policy Director, Americans for Financial Reform
Kim Taylor, President, Global Operations, Technology and Risk, CME Group ("CME")
Kristen Walters, Global Chief Operating Officer, Risk and Quantitative Analysis, BlackRock
Rana Yared, Managing Director, Principal Strategic Securities Division, Goldman Sachs ("Goldman")
Luke Zubrod, Director of Risk and Regulatory Advisory, Chatham Financial Group ("Chatham")

CFTC Commissioners and Staff in Attendance

Chairman Timothy G. Massad

Commissioner Sharon Y. Bowen
Commissioner J. Christopher Giancarlo
Daniel Bucsa, Deputy Director of the Division of Market Oversight ("DMO")
Vince McGonagle, Director of DMO
Sayee Srinivasan, Chief Economist of the Office of the Chief Economist ("OCE")
Petal Walker, Chief Counsel, Office of Commissioner Bowen, Designated Federal Officer

I. Opening Remarks

Petal Walker called the MRAC meeting to order.

Following welcoming remarks by Commissioner Bowen, Chairman Massad made his opening remarks in which he discussed: (1) how the derivatives markets are functioning for market participants, especially for commercial end users who use them to hedge commercial risk; and (2) the issues concerning the use of portfolio compression.

Next, Commissioner Giancarlo made his opening remarks, which included his increasing concerns about changes in trading liquidity. He also noted that the issue is whether the amount of capital constraint being placed on financial institutions is calibrated to support market health and vibrancy, and he emphasized the need to understand the full implications of constrained capital. He also noted that portfolio compression benefits the safety and soundness of the market, and that it should be incentivized not penalized.

Commissioner Bowen then thanked Chairman Massad and Commissioner Giancarlo for attending and their support of the Committee. She also thanked the staffs of the DMO and the OCE for providing technical support. Among her remarks, she stated that one of the goals of MRAC is to assist the Commission in identifying and understanding the impact and implications of an evolving market structure. Additionally, she commented on volatility and liquidity levels in the markets, the role of introducing brokers, and how technology changes have altered the way market participants access the markets.

II. Panel I: How Well Are Our Derivatives Markets Functioning for Market Participants, Particularly End Users?

John Nixon facilitated the discussion.

Rana Yared began the first panel by stating that Goldman has used Swap Execution Facilities ("SEFs") since their inception on an electronic and voice basis. She noted that participants in the credit market find SEF execution for packaged trades to be challenging, which impacts commercial end users. In the rates market, she also noted that clients who want to trade in Request for Quote or Request for Stream fashion to obtain or hedge exact risk believe there is a benefit associated with the relationship they have with the various dealers with whom they transact. Ms. Yared further stated that Goldman has seen inter-dealer brokers develop central limit order books ("CLOBs"), and the development of CLOBs in more than one venue reflects a level of comfort dealers have with this type of trading.

Kristen Walters discussed the fixed income market, both bonds and derivatives, and noted that the changes in liquidity in these markets are juxtaposed and very dependent on each other. Ms. Walters also stated that BlackRock uses both rate and credit default swaps ("CDS") extensively not only as hedging instruments but also as risk transfer mechanisms. Additionally, she noted that there has been a structural change in liquidity markets, particularly in the fixed income space, which is a direct consequence to the regulatory changes designed to stabilize the banking sector and ensure sufficient dealer capital liquidity and reduced leverage.

Luke Zubrod discussed the interest rate market, focusing on SEF-traded cleared swaps and traditional bilateral swaps. With respect to SEF-traded cleared swaps, he noted that there have been notable improvements in market function for many of Chatham's clients. However, he also noted that market participants who transact in small volumes must overcome significant barriers to access the OTC derivatives market, and that such entities face substantial minimum fees to establish and maintain a relationship with a Futures Commission ("FCM"). He recommended that the Commission intervene by exempting financial entities that transact a *de minimis* volume of swaps. Among other remarks, Mr. Zubrod then commented on the traditional bilateral swap market and also suggested a framework for the Commission to prioritize interventions to address market functioning concerns.

Mr. Nixon opened the floor to questions and first asked Ms. Walters how to enhance the use of CLOBs by end users. She stated that average pricing was the issue and it posed a significant barrier to entry for other end users. Commissioner Giancarlo asked Ms. Walters for her recommendation to bring some vitality to the CDS marketplace. She suggested to: (1) encourage central clearing and execution by SEFs, similar to interest rate markets; and (2) use the single name CDS market as a hedging vehicle to complement bond trading in the corporate credit market. Commissioner Giancarlo then asked Ms. Walters whether the issues of liquidity also apply to the single name CDS. Ms. Walters agreed, and noted that if single name CDS were clearing along with index CDS through exchanges that might change liquidity.

Mr. Nixon then asked other MRAC members to comment on the lack of growth in the CDS marketplace. Among the comments, Mr. Olesky stated that in the last two years of post-SEF introduction, the transition of the volume of trading to the electronic platforms have gone incredibly well. However, he noted the issues of liquidity and volume in the market are much more tied to regulation, capital constraints, profit and loss pressure, and the low rate environment. Ms. Admati added that not every CDS needs to be traded every split second. She commented that liquidity appears to be the national objective, but it is just allocating resources to manage risk. Finally, Ms. Admati noted that she is a big advocate of capital regulations, however in their current form they were badly managed and distorted.

Next, Glenn Mackey resumed the panel presentations and commented that there has been a fundamental change in the physical and financial ways companies are accessing markets. He stated that NRG generally accesses the financial energy market in two ways: (1) using electronic brokerage platforms, such as Intercontinental Exchange, New York Mercantile Exchange, and Nodal Exchange; and (2) using an introducing broker over voice lines associated with a clearing entity or FCM. Additionally, in his remarks, Mr. Mackey stated that his primary concern is the inability to provide liquidity to properly hedge and manage the cash flow of an organization,

such as an energy company, where there is extreme volatility in margins overall and any change in cost due to risk is ultimately passed through to the end user. He also remarked that smaller players and asset hedgers have less access to the market if they are unable to post appropriate collateral or to meet appropriate credit thresholds required by other market participants. Further, he noted that regulators can enhance market access by removing the swap data reporting requirements on the end users.

Jerry Jeske commented that he was speaking on behalf of the real businesses, which he described as those businesses that keep the lights on, bring gasoline to the pump, and raise and bring food from farm to table. Mr. Jeske stated that real businesses have a place in the markets and that without liquidity or without the ability for people to transfer risk, there is added risk to those real businesses. And, if they are unable to pass that risk on to others, the whole system will fail. Mr. Jeske also noted that SEFs are not used by the energy and agricultural markets because of the registration costs and the burdens imposed by CFTC Regulation 1.35. Further, for end users, access to clearing is very important, and the ability to self-clear should be considered by the Commission.

Tom Coyle stated that agriculture participants use the standard FCMs and introducing brokers, and also direct electronic order entry to access the market. He noted that order entry has improved dramatically for all market participants due to electronic advances. However, commercial hedgers are at a disadvantage as to speed, from microseconds to nanoseconds. He stated that electronic order systems reduce the amount of information about who's trading in the market, and financial trading leads the market more often than the price activity of traditional hedgers, who now find themselves nanoseconds behind financial market participants. Mr. Coyle then made some recommendations for the Commission to consider, including more detailed and timely trade data; making rules that require a minimum of two to three second duration for algorithmic trading orders; and a broad definition of bona fide hedge for participants engaged in handling, processing, storage and distribution of those involved in the fiscal market.

Angela Patel discussed currency forwards. She explained that with non-deliverable forwards ("NDFs"), market participants access the market electronically or via voice depending on a firm's level of comfort with the technology and rule book. She noted that the market remains liquid and deep but with the different capital requirements coming into effect, there will be some changes to the overall liquidity at the dealers. Ms. Patel also stated that if NDFs were not treated as SEFs, more participants may trade them, and that some counterparties that previously traded with buy side firms have limited their trading because they now count toward swap dealer limits. Further, she stated that experienced firms have cut back on their ability to trade NDFs with Putnam and are only trading deliverable forwards. Among other remarks, Ms. Patel commented that this market does not need enhancement by the Commission, and the non-cleared swap margin rules in the FX market, effective September 2016, will ultimately create a cost that will be borne by the investor. And, that while Putnam favors increased transparency into areas of the market that were opaque, the focus on a segment of the market that already has procedures in place to mitigate risk and promote stability seems counterintuitive and counterproductive.

Mr. Nixon opened the floor to discussion by other MRAC participants.

Among the issues, Richard Miller discussed a concern of the life insurance industry, which consists of directional hedgers, who execute complicated hedges in a programmatic way that often takes days in order to execute. He commented that he would like to see some relief from having to report these trades immediately in the timeframe that is required to the swap data repository and make the market more efficient. Stephen Berger stated the challenges that exist with respect to liquidity conditions also create opportunities for innovation. He noted Citadel's efforts to improve liquidity: (1) providing firm prices; (2) providing firm quotes; and (3) being reliable in volatile market conditions. Additionally, he commented that the biggest barrier to market access is the economics of clearing.

Chairman Massad then noted the importance of making the Commission's analysis of these issues data driven, and to remember that during the crisis in the fall of 2008 there was no liquidity and a lot of these regulations were not in place. He also noted that the Commission's rule is designed to require reasonable risk controls, and some very good questions were raised about the scope of who should be subject to those controls. He emphasized that the Commission does not want to impose excessive costs on the market, but there is the need to address the risk that automatic trading poses in our markets today.

After the discussion, Mr. Nixon remarked that: (1) the CFTC has a difficult role of balancing safety with market efficiency; (2) end users need an efficient marketplace in order to transact and it is a benefit to the American and global economy to have accessible markets; and (3) regulators need to be careful that rules do not smother the opportunity for this efficiency in the marketplace.

Break (10 minutes)

III. Panel II: How Is the Market Using Portfolio Compression Today?

Edward Pla facilitated the discussion.

Clair Lobo discussed portfolio compression, netting, and the benefits for managing different types of risks. She discussed the CFTC rules requiring swap dealers to establish and implement written portfolio compression policies, and also described different types of compression and netting. Next, Michael Modlock commented on the various forms of compression, such as: (1) executing swaps with particular cash flows to find perfectly offsetting trades in a clearing house to be risk-free netted; (2) coupon blending offered by CCPs to end up with a residual trade with a different coupon, which is also defined as risk-free compression; and (3) a multilateral risk-constrained compression where participants would set different tolerances for market and credit risks, which enables the algorithm to compress trades with different but similar characteristics at the same time. Lucio Biase then discussed the goals of compression: (1) to reduce gross notional and trade count; and (2) to lower the amount of trades proactively before a crisis to have a manageable number of trades, while assessing the risk and the impact of a party's failure.

Kim Taylor discussed risk mitigation and how is it different from compression. She described risk mitigation/compaction as a way for a party with a package of trade exposures in a selection of different trades to go to the marketplace and look for someone to trade an offsetting package of trades. Ms. Taylor explained that a party is looking to create offsetting trades that can be

netted, and the replacement trades tend to be smaller to reinstate the exposure. She noted the new package of offsetting trades is different in exposure from the original package, and is offered to the marketplace in an auction type format. She also explained the differences between compaction and the other types of compression.

Dennis McLaughlin shared his perspective on how widely market participants are currently using compression and risk mitigation services. He stated that since June 2014, compression has reduced the amount of notional outstanding clearing houses, and that regulatory capital is notional driven. Ms. Lobo then discussed what data elements should be used to gauge the use of compression and mitigation risk services and Mr. Biase discussed how the risk reduction or mitigation services differ from low-frequency dynamic hedging strategy. He noted that the fundamental difference among compression, risk mitigation through a form of compression coordinated by a third party, and individual parties doing dynamic hedges, is the efficiency with which it can be achieved.

Ms. Taylor also discussed the distinction between risk mitigation services that provide price and non-price discovery execution methods. She commented that compression services, whether riskless or risk constrained, reduce notional exposure, and the distinction is basically a broader set of trades to work with to execute that risk reduction.

Ms. Taylor also discussed the policy justification for allowing non-price discovery services to take place in the realm of unregistered service providers.

Ms. Lobo discussed the burdens that would be imposed by the draft technical specifications, which require reporting parties to include information pertaining to compression services. Among her remarks, she stated that comments from International Swaps and Derivatives Association ("ISDA") and others indicate there would be an increased burden to systematically label those compression trades appropriately because trade compression activities occur at several different places. She also noted the concern that global regulations would not be coordinated, and the definition of these different types of compressions might overlap or conflict. Mr. McLaughlin next discussed the effect of portfolio compression on removing risk from the market. In his remarks, he commented that portfolio compression brings risk down in a controlled way, so it becomes easier to also manage a default and porting.

The panelists next considered how the Commission should or should not act with respect to portfolio compression. Among the responses, Mr. McLaughlin stated that compression should be encouraged at all costs. Ms. Taylor stated the Commission should encourage the broader use of compression activities, as they extinguish trades and reduce exposure. Mr. Modlock stated there should be relief for partially terminated swaps and replacement swaps for the purpose of bilateral margin. Ms. O'Flynn stated what needs to be recognized is the efficiency that exists in both CDS and interest rate swaps netting and portfolio compression. Mr. Marcus Stanley added that portfolio compression is complex in terms of the ability to compress a multilateral portfolio and that cannot be done unless a group of people get together to do it.

Chairman Massad next remarked that the discussion was very helpful, especially the last points regarding compression. He also commented that, going forward, the Commission should think

about the different types of compression and how it relates to the requirements on trading, clearing, and margin.

IV. Closing Remarks

Commissioner Bowen noted several takeaways: (1) not all compression is equal; (2) our markets are functioning pretty well but not as well as they could be for some small end users; and (3) the Commission needs to continue to balance its regulatory mandate in a way that promotes efficient and innovative markets without undue burdens and cost.

Commissioner Bowen thanked the Chairman and Commissioner Giancarlo for attending the meeting. She also thanked the MRAC members, especially the facilitators, key speakers, and everyone for attending the meeting.

Ms. Walker adjourned the MRAC meeting at 1:28 p.m.

I hereby certify that the foregoing minutes are accurate:

Petal Walker
Acting Chair, Market Risk Advisory Committee

10/3/17
Date