

**COMMODITY FUTURES TRADING COMMISSION
MINUTES OF THE THURSDAY, JULY 16, 2020
TECHNOLOGY ADVISORY COMMITTEE MEETING**

The Technology Advisory Committee (TAC) convened for a public meeting, via teleconference, on Thursday, July 16, 2020, at 10:00 a.m. The meeting agenda consisted of four subcommittee panel presentations. Panel I, Cybersecurity Subcommittee Presentations, consisted of two discussions, “Preliminary Cybersecurity Lessons Learned from Covid-19 Pandemic,” and “CFTC Collection, Concentration, Storage and Securing of Sensitive Information.” Panel II, Automated and Modern Trading Markets (AMTM) Subcommittee Presentation, provided an “Analysis of the CFTC’s Proposed Rules on Electronic Trading Risk Principles.” Panel III, Distributed Ledger Technology (DLT) and Market Infrastructure (MI) Subcommittee Presentation, gave an “Introduction to Resiliency and Scalability of DLT Systems, Use-Cases, and Regulatory Picture.” Panel IV, Virtual Currencies (VC) Subcommittee Presentations, showcased two discussions, “An Overview of Central Bank Digital Currencies (CBDC): CBDC Design, Regulatory Treatment, and Derivatives Market Considerations,” and “An Analysis Comparing the Volatility of Bitcoin Against Other Assets and the Impact of Covid-19 on Asset Price Correlation.”

TAC Members in Attendance

Richard Gorelick, TAC Chairman and Director, Eventus Systems, Inc.
Erik Barry, Head of Client Platform for Prime Derivative Services, Credit Suisse
Daniel Carrigan, President, Nasdaq Futures
Christopher Chattaway, Managing Director, Goldman Sachs
Thomas Chippas, Chief Executive Officer, ErisX
Charley Cooper, Managing Director, R3
Gary DeWaal, Special Counsel, Katten Muchin Rosenman, LLP
Christopher Hehmeyer, Managing Member, Hehmeyer Trading and Investments
Julie Holzrichter, Chief Operating Officer, CME Group
Mayur Kapani, Chief Technology Officer, Intercontinental Exchange (ICE)
Derek Josef Kleinbauer, Vice President, Bloomberg SEF, LLC, and Global Head of Rates and Equities Electronic Trading, Bloomberg L.P.
John Lothian, Executive Chairman and Chief Executive Officer, John J. Lothian Co. Inc.
Timothy McHenry, Vice President, Information Systems, National Futures Association
Lee Olesky, Cofounder and Chief Executive Officer, Tradeweb
Jennifer Peve, Managing Director, Head of Solutions Business Development and FinTech Strategy, The Depository Trust & Clearing Corporation (DTCC)
Jeffrey A. Trahan, Vice President, Pension Fund and Investments, Deere & Company
Supurna VedBrat, Global Head of Trading, BlackRock
Eddie Wen, Global Head of Digital Markets, JP Morgan Chase
Haimera Workie, Senior Director for Emerging Regulatory Issues, FINRA
Aaron Wright, Associate Clinical Professor of Law, Cardoza Law School (Special Government Employee)

Yesha Yadav, Professor of Law, Vanderbilt University, Special Government Employee (SGE) for CFTC

Invited Speakers and Panelists in Attendance

Nina Neer, Director, Technology Operational Risk Management, Credit Suisse, Cybersecurity Subcommittee

Jason Harrell, Head of Business and Government Cybersecurity Partnerships, DTCC, Cybersecurity Subcommittee

Jerry Perullo, Chief Information Security Officer, ICE, Cybersecurity Subcommittee

Hunter Landrum, Government Affairs Counsel, Two Sigma, Cybersecurity Subcommittee

Adam Nunes, Head of Business Development, Hudson River Trading, AMTM Subcommittee

Shawna Hoffman, Global Cognitive Legal Leader, IBM, DLT & MI Subcommittee

Mark Pryor, Chief Executive Officer, The Seam, LLC, DLT & MI Subcommittee

Yesha Yadav, Professor of Law, Vanderbilt Law School, (Special Government Employee), AMTM Subcommittee

Chris Brummer, Georgetown Law Professor and Faculty Director of the Institute of International Economic Law, (Special Government Employee), VC Subcommittee

Thomas Chippas, Chief Executive Officer, ErisX, VC Subcommittee

CFTC Commissioners and Staff in Attendance

Brian D. Quintenz, Commissioner and TAC Sponsor

Heath P. Tarbert, Chairman

Rostin Behnam, Commissioner

Dan Berkovitz, Commissioner

Meghan Tente, Acting Deputy Director, Division of Market Oversight (DMO), and Designated Federal Officer (DFO)

Jorge Herrada, Associate Director, Office of Data & Technology (ODT), Alternate Designated Federal Officer (ADFO)

John Coughlan, Research Economist, Office of the Chief Economist (OCE), ADFO

Scott Sloan, Special Counsel, Division of Clearing & Risk (DCR), ADFO

Phil Raimondi, Assistant Chief Counsel, DMO, ADFO

I. Opening Statements

Ms. Tente called the meeting to order. After providing instructions regarding teleconference conduct and protocol, she introduced Mr. Gorelick and Commissioner Quintenz.

Commissioner Quintenz welcomed the meeting attendees, and then outlined the meeting's agenda and featured speakers of the four subcommittee panels. He commended the TAC subcommittees for preparing very timely presentations on issues of great interest to the Commission and market participants. Most importantly, Commissioner Quintenz announced that the CFTC, via unanimous vote, had officially approved the standardized cybersecurity protocols, including the Financial Services Sector Coordinating Council (FSSCC) Cybersecurity Profile, as recommended by the TAC at its last meeting in February 2020. In so doing, the CFTC

recognized the benefits--brought by clarity and consistency--when private, regulated financial institutions use a standardized approach to assess and improve their cybersecurity preparedness. Lastly, Commissioner Quintenz thanked Mr. Gorelick for his TAC leadership, and commended the efforts of the DFO and the four ADFOs, Messrs. Herrada, Coughlan, Sloan, and Raimondi.

In his opening statement, Chairman Tarbert advised TAC members to remain vigilant of evolving technological developments in the collective mission to maintain safety and soundness. He expressed particular interest in receiving feedback from Panel II, with regard to the Commission's proposed rule on electronic trading risk principles. Acknowledging the CFTC's recent withdrawal of proposed Regulation AT, the Chairman believed the new proposed rule provides concrete objectives while allowing the exchanges sufficient discretion, thus ensuring both sound regulation and flexibility for electronic trading practices to evolve.

Commissioner Behnam thanked the TAC and all subcommittee members for recommending the Commission's adoption of standardized cybersecurity protocols. He urged the broadening of technological scope to include measures that would build safer and more resilient market systems.

Commissioner Berkovitz, in voicing his appreciation for the TAC and its subcommittees' efforts, emphasized the importance of advisory committee meetings via teleconference during the pandemic, where participants are given the opportunity to update their knowledge on emerging issues. He believed trends and market conditions are critical in helping the Commission and the markets to properly carry out their respective functions.

II. Cybersecurity Subcommittee Presentations

Following the opening statements, Mr. Gorelick introduced the first and second cybersecurity panels.

A. Preliminary Cybersecurity Lessons Learned from Covid-19 Pandemic

In his presentation, Mr. Harrell noted that financial institutions have responded well to the pandemic, with market participants affected "symmetrically" and with advance notice. This situation differed from the usual cyber risk scenarios involving more targeted disruptions and unpredictable responses within a much shorter time frame. However, the pandemic and ensuing social distancing efforts have forced the transition of massive, complex corporations to work-from-home environments. Thus, firms have faced daunting challenges associated with protecting their confidential and highly proprietary data from cyber theft.

Ms. Neer then provided advice to counter cyber risks associated with a work-from-home setting, which included increased external threat monitoring; heightened internal communication on cyber phishing threats; guidance on firewall settings and the disabling of IoTs or smart home sensor devices; and creating a robust framework for approving exceptions and requiring strong controls for the use of new work-related platforms.

B. CFTC Collection, Concentration, Storage and Securing of Sensitive Information

In this presentation, both Mr. Perullo and Mr. Landrum—while acknowledging the importance of record collection and retention as part of a legitimate examination process—raised the concern that the concentrated gathering of highly sensitive data during regulatory reviews could attract grievous cyberattacks. They noted the importance of standardizing data protection rules among the regulators, and thought it would be beneficial for the Commission to reduce the amount of data collected by shifting the burden of data retention to market participants.

Questions from the TAC were brief, with members mostly reiterating points made by Ms. Neer and Mr. Harrell, on disabling home IoT appliances to prevent inadvertent data leaks and instituting simulated risk trainings for financial institutions during a pandemic.

(Break)

III. Automated and Modern Trading Markets Subcommittee Presentation: An Analysis of the CFTC’s Proposed Rules on Electronic Trading Risk Principles

Mr. Nunes summarized the AMTM Subcommittee’s assessment of the CFTC’s newly proposed rule on electronic trading risk principles. He voiced the AMTM Subcommittee’s support for the Commission’s high-level focus on market disruptions that allows for broad interpretation and flexibility, noting practical challenges in prescribing firm guidelines for latency factors that can change in both the short-term--based on market circumstances--and in the long-term--based on industry innovations. While Mr. Nunes acknowledged that individual firms can, in rare cases, affect price discovery, he said other provisions such as pre-trade risk controls, disruptive trading practices, and anti-fraud guidelines already exist to govern this behavior.

During the discussion that followed, TAC members discussed that there were difficult line-drawing challenges in determining exactly what constituted “market disruption” in context of the proposed rule. Commissioner Berkovitz questioned why the proposed rule makes a distinction between “market disruption” and “significant market disruption;” and whether the “shall be reasonably designed to prevent” standard could be a workable model in preventing one market participant from interfering with another. Ms. Holzrichter noted that while the proposed rule might not materially change existing CME operations, it acknowledges all the work that the industry has done to date to safeguard the marketplace. She also averred that the proposed rule’s flexibility is important because CME plans to improve on its risk mitigation functionality along with other firms, thus a principles-based approach would allow that evolution to continue in a way that more prescriptive regulations would not. Chairman Tarbert, in addressing TAC members’ concerns, clarified that the proposed rule does make a distinction between market disruption and significant market disruption in the context of reporting requirements.

(Lunch Break)

IV. Distributed Ledger Technology and Market Infrastructure Subcommittee Presentation: An Introduction to Resiliency and Scalability of DLT Systems, Use-Cases, and Regulatory Picture

Ms. Hoffman began the presentation by explaining the key features of DLT, such as decentralization, automation, and verification. According to Ms. Hoffman, Bitcoin, the oldest DLT implementation, has proven to be relatively resilient when compared to other traditional

systems, with its network nodes relying on consensus to verify data accuracy and authenticity. She added, however, that reaching consensus on which blocks to accept as valid in DLT is still challenging, since consensus algorithms must be resilient to failure of nodes, delayed and corrupt messages, or malicious attacks. But once verified data is cryptographically recorded on the ledger, it is immutable to tampering. In conclusion, Ms. Hoffman stated that DLT can clearly benefit system operations, markets, and consumers, but continued review of this emerging technology is needed to realize its full potential.

Mr. Pryor focused on the use of asset tokenization to track agricultural commodities and promote sustainable farming. He noted that sustainable practices used in the production of agricultural goods must be digitally linked with actual production. He remarked on recent advances in the use of DLT in connection with the cotton markets and the emergence of the “dirt to shirt” practices in which the provenance of a given raw material is a predominant factor. Mr. Pryor also pointed to the growing importance of carbon credit tokens and their role in sustainable farming. Typically, a token relates to the right of one ton of carbon dioxide removal. Farmers have the capability of removing carbon from the air and storing it in their soil. In Mr. Pryor’s opinion, as companies like Microsoft have committed to becoming carbon neutral or negative in the next decade, the market for these tokens is promising for the agricultural sector.

Dr. Yadav discussed permissions criteria for DLT and the need for an international, standardized approach, but also wondering if any existing regulatory framework would fully address DLT issues. She urged regulators to balance oversight mandate with keeping compliance burdens reasonable in order to foster innovation in this fast-moving area.

The ensuing discussion centered on why DLT technology, while promising many benefits, has been largely stalled in the implementation and adoption process. The panelists offered several reasons, namely, the potentially high costs involved in transitioning to the new system, which may exclude smaller market participants; the level of trust among potential users; lack of consensus or confidence among regulators; and the fact that many of DLT’s related components, such as encryption software, decentralized file storage techniques, and multi-token containerization of assets, are still evolving.

V. Virtual Currencies Subcommittee Presentations

A. An Overview of Central Bank Digital Currencies (CBDC): CBDC Design, Regulatory Treatment, and Derivatives Market Considerations:

Professor Brummer presented on the design and evolution of CBDC concepts, believing it might be an important area for the Commission to consider, in light of the pandemic and the federal government’s need to transfer money quickly to those who need it most, as well as efficiency and cost benefits when compared with the high burdens of producing, distributing, and destroying physical currencies. He noted that while CBDCs are not yet a standardized term among central banks, there exists a number of widely recognized characteristics, such as central bank-issued money that includes a liability of the central bank; how the currencies are government-backed in the same way current forms of fiat currency are backed by the central bank; and their distinction from existing master accounts at the Federal Reserve Banks.

Finally, according to Professor Brummer, while CBDCs are comparable to stablecoins, these currencies have tried to solve a number of problems including the movement of fiat 24 hours a day/seven days a week, contactless payments, riskless payments, and extending fiat into the programmable money era.

B. An Analysis Comparing the Volatility of Bitcoin against Other Assets and the Impact of COVID-19 on Asset Price Correlation:

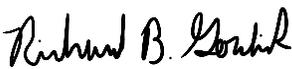
Mr. Chippas presented on the volatility of Bitcoin in comparison to large-cap U.S. stocks at the height of market uncertainty resulted from the pandemic. He also noted the share price movements created by Bitcoin volatility—which are unrelated to market fundamentals—and encourage greater oversight and professionally-run trading venues in order to provide a reliable infrastructure for Bitcoins.

The discussion that followed mostly centered on TAC members’ concerns regarding the potential implementation of CBDCs. In response, Professor Brummer discussed privacy risks, standardization issues, and how the current dollar-based currency system could be impacted by innovations by certain developing countries that, while mainly looking to increase their market share at the regional level rather than intending to replace the U.S. dollar, end up affect the global economy in the aggregate. Professor Brummer however added that certain regulatory controls could be put in place to see how transitioning to a CBDC-based environment would play out over time.

VI. Adjournment

Mr. Gorelick thanked all meeting participants. Chairman Tarbert and the Commissioners made brief closing remarks and praised the considerable range and quality of topics covered, as well as the efforts of TAC members and CFTC staff involved.

Mr. Gorelick adjourned the meeting at 1:50 pm.



Richard Gorelick
TAC Chair

October 5, 2020
Date