



**American Cotton Shippers Association** P (901)525-2272  
88 Union Avenue, Suite 1204 F (901)527-8303  
Memphis, T N 38103 [www.acsa-cotton.org](http://www.acsa-cotton.org)

Commodity Futures Trading Commission

Technology Advisory Committee (TAC) Public Meeting

Provided by:



Yesterday, the U.S. Commodity Futures Trading Commission (CFTC or Commission) held a [meeting](#) of its Technology Advisory Committee (TAC or Committee) to hear presentations and updates from its subcommittees.

### **Key Takeaways**

- TAC Automated and Modern Trading Markets Subcommittee member Adam Nunes, Hudson River Trading, said the Subcommittee broadly supports the electronic trading risk principles proposed rule and discussed several questions posed in the proposal's preamble. He explained that establishing a latency measure would not be effective in defining market disruptions, under the proposed rule, because latency variability is a natural property of trading systems.
- Tom Chippas, ErisX, presented an analysis comparing the volatility of Bitcoin (BTC) against other assets during the pandemic. While BTC, on average, is more volatile than some assets, during the pandemic, the stocks analyzed had higher volatility than both BTC and Ethereum (ETH). Data revealed that under normal market conditions, BTC and ETH are not correlated with the stock market nor gold; however, under extreme market conditions, the correlation between the pairs rises significantly.
- The Distributed Ledger Technology (DLT) and Market Infrastructure Subcommittee's presentation explored the scalability and resiliency of DLT frameworks for derivative markets. The Seam's Mark Pryor discussed how primarily paper-based agricultural markets are ripe for digitization and increased efficiencies through DLT. He highlighted the cotton industry's creation of the U.S. Cotton Trust Protocol, which manages fungible tokens that represent kilograms of verified sustainably-produced cotton.

- The Cybersecurity Subcommittee encouraged the CFTC to provide clear, concise, and up-to-date guidance on how the CFTC reviews highly-sensitive cybersecurity artifacts and sensitive IP without compounding risk. The Subcommittee called on the Commission to codify criteria for permitting on-site review and revise the retention policy for data that is still collected to minimize the amount of information it retains and shift responsibility for legitimate retention requirements to regulated entities.

## SUMMARY

### Opening Statements

#### Commissioner Brian Quintenz (TAC Sponsor)

The TAC Subcommittees have prepared timely presentations on a variety of topics for today's meeting. Our first panel will focus on cybersecurity lessons learned from the pandemic. Our second Cybersecurity Subcommittee presentation will discuss the Commission's collection, concentration, storage, and securing of sensitive information. The CFTC has adopted language reflecting TAC's recent cybersecurity recommendations.

Our second presentation will provide an analysis of the CFTC's proposed rule on electronic trading risk principles. Third, we will hear a presentation on the introduction to resiliency and scalability of DLT systems, use-cases, and regulatory picture.

Finally, we will receive two presentations from our Virtual Currencies Subcommittee on: (1) central bank digital currencies (CBDCs); and (2) an analysis comparing the volatility of BTC against other assets and the impact of the pandemic on asset price correlation. It is important that the CFTC stays abreast of legal and regulatory questions in the CBDC space.

#### Chairman Heath Tarbert

It is very important to have these gatherings to advise the CFTC of the many technological issues within our purview. We will be covering a variety of topics today, and I am particularly interested in hearing feedback on our recent proposed rule on electronic trading risk principles.

#### Commissioner Rostin Behnam

I look forward to today's discussion. I am proud of the cybersecurity recommendations and their subsequent adoption by the Commission and its statement of support. These conversations are very helpful for policymakers and market participants as we work together to build the resilient technological systems of the future.

## **Commissioner Dan Berkovitz**

A meeting like this requires a lot of preparation, and I want to thank all of those involved in organizing it. I look forward to hearing today's presentations.

### **Panel 1: Cybersecurity Subcommittee Presentations**

#### **Preliminary Cybersecurity Lessons Learned from COVID-19 Pandemic**

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

Financial institutions have responded well to the pandemic, and they have been able to sustain operations critical to the financial services sector. While the pandemic tested firms' ability to respond to a material operational event, there are some caveats to this moment that make it different from a traditional cyber event. For example, financial institutions could see the event coming, giving it time to be prepared.

The rapid global shift to remote working, as well as the increase in market volatility, amplified technology and cybersecurity risks. There was a greater vulnerability to phishing attacks by overstretched employees working in new environments, and there were also increased requests for exceptions to previous prohibitions such as printing at home or flash drive/USB access rights.

*Nina Neer, Director, Technology Operational Risk Management, Credit Suisse*

Financial firms implemented a variety of cybersecurity-related actions in response to the pandemic. Firms increased external threat monitoring and/or began more frequent vulnerability and configuration scanning. Financial institutions also provided guidance to staff on setting up cybersecurity measures from home work setups.

As remote working has raised the demand for new collaboration practices, firms need a fast and robust framework for approving or disapproving new tools. Proactive engagement with critical suppliers is also particularly important.

#### **CFTC Collection, Concentration, Storage, and Securing of Sensitive Information**

*Jerry Perullo, Chief Information Security Officer, ICE*

Regulated financial institutions have identified significant risk in the collection, concentration, storage, and securing of highly-sensitive cybersecurity artifacts and sensitive IP during the regulatory examination process. Having so many regulated entities' data concentrated in one area (i.e., CFTC internal systems) presents a prime target for bad actors.

The CFTC staff has been very sympathetic to these concerns and willing to work with us, but other regulatory bodies have not been as willing to work with industry on these issues. There should be policies and procedures that enshrine the ability for regulated institutions to rely on the CFTC to pursue less invasive tactics before handing certain data over when on-site review is a reasonable substitute.

Hunter Landrum, Government Affairs, Litigation, and Enforcement, Two Sigma Investments

The concern is that much of the data being collected would be extremely useful to an adversary planning a cyber-attack against critical economic infrastructure, the CFTC, the markets it regulates, its participants, or the public. Currently, U.S. regulators, including the CFTC, do not have clear policies and procedures to aid international regulators in determining when and how sensitive information is securely reviewed.

The CFTC should provide clear, concise, and up-to-date guidance on how it reviews highly-sensitive cybersecurity artifacts and sensitive IP without compounding risk. The Commission should codify criteria for permitting on-site review and revise the retention policy for data that is still collected to minimize the amount of information it retains and shift responsibility for legitimate retention requirements to regulated entities.

## **Q & A**

*Richard Gorelick, Eventus Systems (TAC Chair):* Talk more about using internet of things (IoT) devices (e.g., Amazon’s Alexa) and their risks in a work-from-home setting. *Neer:* IoT devices can provide great convenience in a home, but they listen to what is being said. With many people working from home and on conference calls, it can be challenging for a lay person to appreciate and mitigate cyber-attacks and bad actors listening in on private conversations.

## **Panel 2: Automated and Modern Trading Markets Subcommittee Presentation**

### **Analysis of the CFTC’s Proposed Rules on Electronic Trading Risk Principles**

Adam Nunes, Head of Business Development, Hudson River Trading

The proposed rule provides for three principles applicable to DCMs. The Subcommittee broadly supports the rulemaking, and this presentation will focus on several questions posed in the proposal’s preamble.

The definition of “electronic trading” will allow DCMs to capture the differences between fully automated orders and manual orders entered into automated systems. The term “market disruption” is sufficiently broad to capture both trading system outages and other potential events that could limit market participants’ ability to trade and manage risk.

An outage to critical DCM trading system infrastructure would constitute a market disruption. Instances in which trading is not halted, but during which market participants cannot trade, manage risk, or engage in price discovery, are difficult to define and depend on the degree of market disruption. A market participant system issue or withdrawal of liquidity that does not affect other market participants would not be a “market disruption.”

Establishing a latency measure will not be effective in defining market disruptions because latency variability is a natural property of trading systems. A specific latency measure may be normal during periods of high market activity, but anomalous during a period of lower market activity.

DCM trading systems have different architectures and features; therefore, DCMs should establish rules specific to their systems in order to most effectively prevent and mitigate market disruption. This flexibility will allow the exchanges to innovate to ensure market resilience, and over time, this will strengthen best practices.

## **Q & A**

*Tarbert:* To clarify, the proposed rule requires a DCM to promptly notify the Commission of a significant disruption to its platform(s).

*Berkovitz:* Why do we need to qualify the definition of “market disruption” with the term “significant”? It seems to imply a certain amount of disruption can be tolerated. *Nunes:* There is a lot of overlap with the proposed rule and current DCM practices and existing rules. For example, if one market participant intentionally tries to disrupt another firm’s trading, that should be covered under other CFTC rules. There is some degree to which there should be a threshold for market disruption because one activity may be deemed disruptive by one firm but not another.

*Gorelick:* How do you determine if something is unusual enough to label it a “market disruption”? *Nunes:* Most or nearly all of the issues that would meet this threshold would be in the first part of the definition that refers to a significant exchange system outage. There are not that many things that happen in the markets from a single participant that inhibit other participants’ ability to trade and effectively manage risk. Perhaps one market participant can overwhelm an order book by sending an overwhelming number of messages, but such a scenario would be incredibly rare.

## **Panel 3: Distributed Ledger Technology and Market Infrastructure Subcommittee Presentation**

### **Introduction to Resiliency and Scalability of DLT Systems, Use-Cases, and Regulatory Picture**

*Shawna Hoffman, Global Cognitive Legal Leader, IBM*

Resiliency and scalability are critical to the functioning of any DLT system in derivatives. Both values are connected: the more scalable a system, the greater the need for resiliency. Scalability can implicate considerations of system-wide risk and stability, making resiliency a priority in market design. DLT systems have proven to be more resilient to cyber-attacks than traditional systems.

*Mark Pryor, CEO, The Seam, LLC*

Agriculture markets are a suitable industry for DLT systems and their implementation. The suitability practices used in the production of agricultural goods must be digitally linked with the actual production. The U.S. Cotton Trust Protocol manages fungible tokens that represent kilograms of verified sustainably-produced cotton.

The InterWork Alliance is a non-profit organization creating platform-neutral specifications and trusted certification to define how digital token business processes can interwork regardless of location or market segment.

*Yesha Yadav, Professor of Law, Vanderbilt Law School*

Regulatory implications depend on design choices for any DLT system, including whether it is permissioned or not, whether it uses smart contracts, and its interoperability. Permissioned systems may encourage greater use of automated smart contracts within closed, trusted networks.

Building resilient DLT systems requires attention to phasing in migration and interoperability with existing market infrastructure. This can limit scalability and network effects. Market participants may be discouraged from adapting to DLT if the timetable for phase-in is long and initial use cases are discrete or small.

As scalability grows, permissioned DLT systems will require attention to their governance model, e.g., what powers will an operator have to control the system, what responsibilities will it have, and how will it be held accountable?

There are several exciting use-cases for DLT, but the technology is still at an early stage. With more time and investment, there is potential for it to grow. There is still debate, however, whether existing regulatory frameworks should govern this new technology, or should new rules be developed.

## **Q & A**

*Behnam:* What are the biggest impediments to broad implementation of this technology in the agriculture industry? *Pryor:* Agriculture is one of the least digitized industries, so there is a lot of opportunity to make the shift to DLT or other non-paper-based systems.

*Q:* What has been the limiting factor to DLT's growth, and what can be done to increase its use? *Hoffman:* We have seen an increased interest in DLT since the beginning of the pandemic, and several pilots have started over the past few months; *Yadav:* There is a bit of a chicken-and-the-egg problem with DLT. Many banks have begun using DLT internally to reflect value within their firms. There is enormous risk involved in shifting to DLT as well as uncertainty about its regulatory treatment.

## **Panel 4: Virtual Currencies Subcommittee Presentations**

### **An Overview of CBDCs: CBDC Design, Regulatory Treatment, and Derivatives Market Consideration**

*Chris Brummer, Professor, Georgetown University Law Center*

CBDC is not a standardized term because many of their features have not been widely established. CBDCs do, however, have several widely recognized characteristics: they are backed by the central government in the same way that current forms of fiat currency are backed, but they are distinct from existing master accounts at Federal Reserve Banks.

Some key design considerations for CBDCs are whether they should be account or token based, retail or wholesale, their level of privacy/anonymity, the degree of centralization, and more. Each design choice has significant implications for use cases, adoption, and impact on existing banking and financial services business models. Their regulatory treatment would likely be the same as other fiat currencies.

CBDCs could potentially facilitate the faster exchange of payments and collateral for cleared and uncleared contracts. A programmable CBDC could also facilitate further automation of various derivative market functions.

Some countries are exploring the idea of a platform-based model whereby an ecosystem of financial services providers could be built on top of the payment rails for money. This could involve financial services providers that operate in the derivatives sector.

### **An Analysis Comparing the Volatility of BTC Against Other Assets and the Impact of COVID-19 on Asset Price Correlation**

*Tom Chippas, CEO, ErisX*

On average, BTC is more volatile than some assets, but there are some small-cap U.S. stocks with more volatility. When combined with high leverage on some marketplaces, BTC's volatility and market structure can create conditions for sharp price movements unrelated to market fundamentals.

Gold's volatility is much lower than BTC's volatility, overall. Crude oil volatility was higher than BTC's on several occasions, especially during the early months of the pandemic. During the pandemic, the stocks we analyzed had higher volatility than BTC and ETH.

There are also structural events that can introduce volatility in the underlying cryptocurrency spot markets, e.g., the BitMEX liquidations that occurred in March 2020.

The pandemic has increased volatility correlation across various pairs of assets, e.g., BTC compared with ETH or gold. The data suggests that under normal market conditions, BTC and ETH are not correlated with the stock market nor gold, but that under extreme

market conditions, the correlation rises significantly and can remain high for a period of time.

## **Q & A**

*Gary DeWaal, Katten Muchin Rosenman LLP:* Other than security concerns, are there any other concerns with the introduction or use of CBDCs? *Brummer:* Privacy will be an enormously important issue and have significant implications for CBDC development.

*Yadav:* Did your analysis reveal any issues with CCP risk mechanisms and whether they can withstand additional bouts of extreme volatility like we have seen this year? *Chippas:* I am not aware of any settlement issues. I am comfortable with the mechanisms in place to handle events similar to what we have experienced this year.

*Q:* What impact would CBDCs have on financial stability and economic growth? What would their impact be on FCMs? *Brummer:* People taking their money out of commercial banks and placing it with the central banks would have an economic and financial impact, while also likely complicating how FCMs operate. I do not think the central banks that are exploring CBDCs are trying to disintermediate commercial banks in their jurisdictions.