

February 15, 2019

Via Electronic Submission

Christopher Kirkpatrick, Secretary of the Commission
U.S. Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street NW
Washington, DC 20581

RE: Comments on Request for Input on Crypto-Asset Mechanics and Markets

Dear Mr. Kirkpatrick:

We appreciate the opportunity to comment on the Commodity Futures Trading Commission (“CFTC” or the “Commission”) request for input to better understand the technology, mechanics, and markets for Ether and its use on the Ethereum Network (“RFI”). Our comments are intended to advance the Commission’s mission of protecting retail investors, promoting financial innovation and fair competition while ensuring market integrity under the Commodity Exchange Act (“CEA”).

CoinRegTech has been assessing the market structure of digital assets and virtual currency (collectively “tokens”), the market participants, and industry practices. Tokens and the associated distributed ledger technology (“DLT”) hold great promise for financial markets and capital formation. However, there are serious issues with respect to retail investor protection and market integrity that must be addressed. Regulations and oversight of the token markets should be imposed by the CFTC and the Securities and Exchange Commission (“SEC”). CoinRegTech is developing a digital asset trade repository that will record transactions and confirm ownership of tokens. This type of service is essential to address retail investor fraud and market integrity problems in this marketplace.

The Commission has classified Bitcoin and other virtual currencies as a “commodity” under the CEA, and this determination has been upheld in U.S. Federal Courts. The CFTC has taken action involving virtual currency fraud pursuant to its Retail Commodity Transaction authority. The CEA provides the CFTC with the statutory framework to establish regulations over tokens. Many tokens are likely “commodities” and a significant number will likely be classified as “securities.” We put forth the following legislative and regulatory recommendations:

1. The CFTC should consider a policy option to address the issues presented by off-chain transactions, which are facilitated by trading platforms.
2. The CFTC should support revisions to the Retail Commodity Transactions section of the CEA to require an “actual delivery” of all tokens within two days, rather than the current 28 days.
3. The CFTC and SEC should support the creation of a digital asset trade repository. This repository would record off-chain transactions and the associated customer ownership, regardless of the classification as either a “commodity” or a “security.”

I. Background Information

Virtual currency is defined by LabCFTC as “a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value . . . [but] does not have legal tender status.”¹ The innovative aspect of virtual currency is the underlying distributed ledger technology (“DLT”) or blockchain technology, which facilitates transactions via a peer-to-peer and decentralized system. Blockchain technology provides a novel solution to prevent the “double spending” problem, a function that is normally provided by a central intermediary (e.g., clearinghouse).

Blockchain technology relies on a network of third-parties employing specialized and powerful computers (“miners”) to verify and commit transactions to the public ledger by solving complex mathematical proofs. For this service, miners are compensated with virtual currency (“mining fee”). To transfer ownership of virtual currency, the owner provides account numbers or “keys” that enable a miner to solve the required mathematical proof necessary to post the transaction on the public ledger (“on-chain transaction”). The mining process relies on wallet software that is used by sellers and purchasers of virtual currency.

A wallet is the underlying software that stores the virtual currency addresses, and codes or “keys” of its owner. Keys are generated in a private/public pairing. Wallets also store the related outputs of the owner’s virtual currency that were mined to the public ledger. In sum, virtual currency is stored on the public ledger and wallets store the necessary private/public keys to access an owner’s virtual currency. In order to initiate a transaction, owners of virtual currency may deal directly with a purchaser or rely on intermediaries that bring together market participants.

Ethereum was developed by the Ethereum Foundation, which is a Swiss nonprofit organization. It is a decentralized platform known as the Ethereum Blockchain or Network.² This network provides developers with the novel ability to create smart contracts, apply rules for ownership, and embed functions into smart contracts. When applied to derivative and financial instruments, smart contracts can support various lifecycle events that are common to these instruments. As such, the application of Ethereum Network to financial markets holds promise for improved straight-through processing and the automation of lifecycle events. With proper regulation, the Ethereum Network could provide a novel means of capital formation.

The digital asset class has grown significantly in terms of number of tokens and market capitalization since the release of Satoshi Nakamoto’s landmark Bitcoin white paper ten years ago.³ Currently, there are just over 2,100 tokens in existence with a total market capitalization of just over \$114 Billion.⁴ The market capitalization of these tokens is very highly concentrated. Alone, Bitcoin and Ether have a combined market capitalization of \$72 billion or 63% of the total market size.⁵

¹ CFTC Release: FN 83 FR 64563 “[Request for Input on Crypto-asset Mechanics and Markets](https://www.cftc.gov/sites/default/files/2018-12/2018-27167a.pdf)” (Jan. 11, 2019). Retrieved from <https://www.cftc.gov/sites/default/files/2018-12/2018-27167a.pdf>

² SEC Release: RN 81207 “[Report of Investigation Pursuant to Section 21\(a\) of the Securities Exchange Act of 1934: The DAO](https://www.sec.gov/litigation/investreport/34-81207.pdf)” (July 25, 2019) at pg. 3. Retrieved from <https://www.sec.gov/litigation/investreport/34-81207.pdf>

³ Satoshi Nakamoto, “[Bitcoin: A Peer-to-Peer Electronic Cash System](https://bitcoin.org/bitcoin.pdf)” (Oct. 31, 2008). Retrieved from <https://bitcoin.org/bitcoin.pdf>.

⁴ CoinMarketCap, “[Cryptocurrency Market Capitalizations](https://coinmarketcap.com)” (Feb. 15, 2019). Retrieved from <https://coinmarketcap.com>

⁵ Id.

II. Trading Platforms

Trading tokens on a blockchain can be technically challenging for most retail investors. Therefore, a host of intermediaries have established operations to match purchasers and sellers of tokens (“trading platforms”). The following is a summary of the delivery process for virtual currencies transacted on trading platforms.

Trading platforms require sellers to deposit their virtual currency into a central wallet (“omnibus account”), which is owned and controlled by the trading platform. As such, trading platforms are serving a “custodial” role by holding customer assets (e.g., virtual currency) in a central wallet or omnibus account. Customers may deposit and withdraw their virtual currency from a trading platform to their external wallet. In addition to execution fees, trading platforms “typically assess deposit and withdrawal fees when customers transfer fiat currency into and out of their accounts.”⁶ Per a customer’s request to withdraw virtual currency, trading platforms place unconfirmed transactions into a memory pool. This pool is accessed by miners who confirm and commit virtual currency transactions to the public ledger. A mining fee is assessed on each transaction and customers pay a withdrawal fee to the trading platform.⁷

To avoid mining fees, especially when frequently transacting or day trading, trading platforms have adapted to become more cost effective for customers. Trading platforms internally transfer virtual currency among customer accounts for executed transactions. This process does not mine virtual currency on the public ledger. Internal transfers are deemed “off-chain transactions” and allow customers to transact without incurring mining fees. As a result, customers are relying on the internal recordkeeping of unregistered trading platforms to track their record of ownership. As evident by recent CFTC enforcement actions, not all trading platforms use industry best practices to protect customer funds or ethically manage these assets.⁸ In a recent incident, approximately \$136 million of funds belonging to over 100,000 customers was lost or remains inaccessible by a Canadian platform, QuadrigaCX.⁹

During September 2018, the New York State Office of the Attorney General released a report of its Virtual Markets Integrity Initiative (“OAG Initiative”). This initiative sought the voluntary response from thirteen trading platforms to a detailed questionnaire about their operational practices and policies to protect customer funds. Nine of the thirteen responded to the questionnaire. In sum, the OAG Initiative found three substantive areas of concern related to the manner in which trading

⁶ OAG “[Virtual Markets Integrity Initiative Report](https://virtualmarkets.ag.ny.gov/)” (Sept. 18, 2018) at pg. 7. Retrieved from <https://virtualmarkets.ag.ny.gov/>

⁷ Id. at pg. 13.

⁸ CFTC Release: PR7678-18 “[CFTC Charges Randall Crater, Mark Gillespie, and My Big Coin Pay, Inc. with Fraud and Misappropriation in Ongoing Virtual Currency Scam](#)” (Jan. 24, 2018); CFTC Release: PR7675-18 “[CFTC Charges Patrick K. McDonnell and His Company CabbageTech, Corp. d/b/a Coin Drop Markets with Engaging in Fraudulent Virtual Currency Scheme](#)” (Jan. 19, 2018); and CFTC Release: PR7674-18 “[CFTC Charges Colorado Resident Dillon Michael Dean and His Company, The Entrepreneurs Headquarters Limited, with Engaging in a Bitcoin and Binary Options Fraud Scheme](#)” (Jan. 19, 2018).

⁹ Vigna, Paul “[A Crypto-Mystery: Is \\$136 Million Stuck or Missing?](#)” WSJ (Feb. 7, 2019). Retrieved from: <https://www.wsj.com/articles/a-crypto-mystery-is-140-million-stuck-or-missing-11549449001?mod=searchresults&page=1&pos=1>; and Berman, Ann “[CEO of Canadian Crypto Exchange QuadrigaCX Filed Will 12 Days Before Death](#)” Cointelegraph (Feb. 6, 2019). Retrieved from: <https://cointelegraph.com/news/ceo-of-canadian-crypto-exchange-quadrigacx-filed-will-12-days-before-death>

platforms manage conflicts of interest, prevent abusive trading activity, and hold customer funds.¹⁰ Furthermore, the OAG Initiative noted retail investors rely on “trading platforms now in operation have not registered under state or federal securities or commodities laws. Nor have they implemented common standards for security, internal controls, market surveillance protocols, disclosures, or other investor and consumer protections.”¹¹ Participants in the token markets are predominately retail investors who are unable to fend for themselves in unregulated markets.

At present time, the CFTC does not regulate trading platforms because these platforms facilitate virtual currency transactions that purport to actually deliver within a 28-day period (“spot transactions”). Spot transactions are not under the Commission’s jurisdiction due to the forward exemption with respect to futures contracts, and the actual delivery exceptions afforded to retail foreign exchange and retail commodity markets.¹² However, spot transactions are considered to be contracts of sale of a commodity in interstate commerce. These transactions are subject to the Commission’s antifraud and manipulation authority under CEA Sec. 6(c)1 and CFTC Rule 180.1.¹³ In addition, the SEC has begun to address fraud and manipulation involving initial coin offerings (“ICOs”) and digital assets.¹⁴

III. Actual Delivery and Token Reporting

The Commission’s guidance related to “actual delivery” for retail commodity transactions uses a functional test to evaluate the delivery of a commodity instead of relying on the contract terms between purchaser and seller (“CFTC Guidance”).¹⁵ The CFTC Guidance provides the following functional test for actual delivery:

“ownership, possession, title, and physical location of the commodity purchased or sold, both before and after execution of the agreement, contract, or transaction, including all related documentation; the nature of the relationship between the buyer, seller, and possessor of the commodity purchased or sold; and the manner in which the purchase or sale is recorded and completed.”¹⁶

CEA section 2(c)(2)(D) excludes commodity transactions from CFTC oversight, provided such transactions result in actual delivery of the underlying commodity within 28 days.¹⁷ Therefore, virtual currency transactions must meet the CFTC Guidance for market participants to remain exempt from the CEA. The Commission has previously sought guidance as to whether the 28-day delivery period is appropriate for virtual currency. The protection of retail investors from fraud demands the delivery

¹⁰ OAG “[Virtual Markets Integrity Initiative Report](https://virtualmarkets.ag.ny.gov/)” (Sept. 18, 2018) at pg. 7. Retrieved from: <https://virtualmarkets.ag.ny.gov/>

¹¹ *Id.*

¹² CEA section 2(c)(2)(D)(ii)(III)(aa).

¹³ *Commodity Futures Trading Comm'n v. McDonnell*, 321 F. Supp. 3d 366 (E.D.N.Y. 2018)

¹⁴ SEC “[Statement on Digital Asset Securities Issuance and Trading](https://www.sec.gov/news/public-statement/digital-asset-securities-issuance-and-trading)” (Nov. 16, 2018). Retrieved from:

<https://www.sec.gov/news/public-statement/digital-asset-securities-issuance-and-trading>. See *CarrierEQ, Inc.*, Rel. No. 33-10575 (Nov. 16, 2018); *Paragon Coin, Inc.*, Rel. No. 33-10574 (Nov. 16, 2018); *Zachary Coburn*, Rel. No. 34-84553 (Nov. 8, 2018) (settled order) (“Coburn Order”); *Crypto Asset Management, LP and Timothy Enneking*, Rel. No. 33-10544 (Sept. 11, 2018) (settled order) (“Crypto Asset Management Order”); and *Tokenlot LLC, Lenny Kugel, and Eli L. Lewitt*, Rel. No. 33-10543 (Sept. 11, 2018) (settled order) (“TokenLot Order”).

¹⁵ CFTC Release: RIN 3038–AD64 “[Retail Commodity Transactions Under Commodity Exchange Act](#)” (Aug. 3, 2013).

¹⁶ *Id.*

¹⁷ CEA section 2(c)(2)(D)(ii)(III)(aa).

period to be as short as permissible.¹⁸ The longer the time gap between “execution” and “actual delivery” of tokens, the greater the chance of fraud or other problems occurring before completion of the transaction. Therefore, the actual delivery for tokens should be the same 2-day period as used for retail foreign exchange transactions.

As explained below, we submit that “actual delivery” of a virtual currency is accomplished when the transaction is either mined on the public ledger or reported to a registered digital asset trade repository. The mining and reporting of such transactions must be done in “real-time” under the CFTC Reporting Rules.¹⁹ If a transaction is not published to the public ledger or reported to a registered digital asset trade repository within a 2-day period, then the transaction would not be exempt and would be subject to the Commission’s enforcement.

IV. Digital Asset Trade Repository

A central issue for tokens is the proper, timely and transparent recordation of ownership. Distributed ledger technology allowed the virtual currency world to become a reality. Nakamoto envisioned committing all Bitcoin transactions to the public ledger in order to provide an immutable record of ownership.²⁰ This achievement of a clear public record of token ownership through the public ledger is clearly undermined, if not fatally compromised, by the rise of off-chain transactions facilitated by trading platforms. This creates a market integrity issue that must be addressed.

The simple economic reason for the rise of off-chain token transactions is cost. The growth of token volumes has greatly increased mining costs. As more token transactions compete for miners’ processing capacity, mining fees have consequently increased. CoinDesk reported the average mining fees for Bitcoin increased from \$0.62 during Q1 2017 to \$13.20 during Q4 2017.²¹ This twenty-one fold increase in mining fees has led to trading platforms facilitating off-chain transactions to minimize mining fees for its customers. If trading platforms committed all off-chain transactions to the public ledger, trading would become “too expensive” for all but the largest transactions. Moreover, the processing capacity of the public ledger cannot support the volume of off-chain transactions.²²

As noted above, investors must first transfer or pre-settle their tokens to the platform’s central wallet or omnibus account. This transfer of token ownership from investors to a platform is recorded on the public ledger. Much like a custodial relationship, investors have entrusted their tokens to the trading platform. The public ledger records the tokens as owned by the platform and not the retail investor. More importantly, the trading platform is the sole holder of the keys to the tokens held in its omnibus wallet. The platform is the only party who is able to control and transfer customer tokens onto the public ledger. *Off-chain transactions do not provide a public and immutable record of the retail investor’s token ownership.* The incentive for investors to keep their tokens in the omnibus

¹⁸ CEA Section 2(c)(2)(D) was a Congressional response to *CFTC v. Zelenner*, which limited the Commission’s ability to oversee over-the-counter foreign exchange markets.

¹⁹ Dodd-Frank Act Section 728 amended CEA Section 21 pertaining to 17 CFR 43 Real-Time Public Reporting; and 17 CFR 45 Swap Data Recordkeeping and Reporting Requirements (2012).

²⁰ Satoshi Nakamoto, “Bitcoin: A Peer-to-Peer Electronic Cash System” (Oct. 31, 2008) at pg. 3. Retrieved from:

<https://bitcoin.org/bitcoin.pdf>

²¹ “State of Blockchain 2018.” CoinDesk (Jan. 2018) at 17. Retrieved from: <https://www.coindesk.com/research/state-blockchain-2018/>.

²² Shin, Hyun Song “Cryptocurrencies: Looking Beyond the Hype” BIS Annual Economic Report 2018 (June 17, 2018). Retrieved from: <https://www.bis.org/publ/arpdf/ar2018e5.pdf>

wallet of the trading platform, as opposed to recording it on the public ledger, is reinforced by the platform's fees to withdraw tokens.²³ This fee structure undermines the protection of customer funds.

While the rise of off-chain transactions is understandable from an economic point of view, this activity severely undermines the integrity of the token market. Distributed ledger technology replaces trusted intermediaries with a public ledger that contains an immutable record of token ownership. Unfortunately, the public ledger no longer provides the immutable record to all transactions. *Reporting to a registered repository is a policy option that addresses the issues presented by off-chain transactions.*

The reporting of tradeable instruments is a fundamental component of various global regulations that increases transparency in financial markets. The Dodd-Frank Act and subsequent CFTC Rules require market participants, DCOs, DCMs and SEFs to report all swap data to a repository operating under SDR Core Principles.²⁴ As registered entities, SDRs must adhere to the System Safeguard Rules of the Commission.²⁵ These rules require registered entities to maintain policies and procedures for testing cybersecurity and analyzing system safeguard measures. The policies and procedures of registered entities must include: (1) vulnerability testing, (2) penetration testing, (3) controls testing, (4) security incident response plan testing, and (5) enterprise technology risk assessment.²⁶ Lastly, SDRs provide the Commission with a central facility of reported swap data that includes transactional details and ownership information.

Aside from SDRs, there are other frameworks for reporting commodity transactions and tracking ownership. For instance, the Model State Commodity Code (the "MSC Code") established a depository entity for physical precious metals transactions.²⁷ This depository provides third-party validation of ownership for precious metals transactions. The MSC Code requires payment and physical delivery of the precious metal to a depository within seven days of the transaction date.²⁸ The MSC Code defines a depository as either (a) a "financial institution" under the CEA; (b) an entity that warrants or warehouses receipts, which are recognized for delivery on a CFTC designated contract market; or (c) a U.S. licensed storage facility.²⁹ These depository principles under the MSC Code, coupled with those of SDRs, provide the Commission with a workable regulatory framework for a digital asset trade repository.

The independence of SDRs, custodial entities and warehouse facilities has provided immense benefits to the financial industry. The governance framework of a digital asset trade repository should sufficiently address conflicts of interest, comply with the CEA mandates of fair and open access to central services, and prohibit any mandatory purchases of bundled services.³⁰ To maximize the utility of such a repository, it should have the authority to verify tokens held by trading platforms that facilitate off-chain transactions. On a daily basis, this repository should receive identifying information

²³ OAG "Virtual Markets Integrity Initiative Report" (Sept. 18, 2018). Retrieved from: <https://virtualmarkets.ag.ny.gov/>

²⁴ Dodd-Frank Act section 728 amended CEA section 21 pertaining to 17 CFR 49 Swap Data Repositories: Registration Standards, Duties and Core Principles (2011).

²⁵ CFTC Fact Sheet "Final Rules on System Safeguards Testing Requirements." (Sept. 8, 2016).

²⁶ Id.

²⁷ Model State Commodity Code Sections 1.01 – 3.08 (North Am. Sec. Adm'n Assoc. 1997).

²⁸ MSC Code Section 1.04(2).

²⁹ Id.

³⁰ CEA Section 5b(c)(2)(C)(iii) and CEA section 21(f)(1).

regarding account holders and the underlying transactional details for tokens held in an omnibus wallet. It is feasible for a digital asset trade repository to search the public ledger to ensure transactions are not subject to an encumbrance or part of a hacking scheme. The CFTC relies on SDRs to collect and maintain accurate records of swap transactions, which provides the Commission with the means to monitor market activity and ownership of tradeable instruments.³¹ A digital asset trade repository would fulfill these necessary duties for the CFTC as related to the token markets.

V. Summary

The passage of the Dodd-Frank Act greatly expanded the regulation of derivatives and commodities markets. As a core pillar of this regulatory expansion, providers of market infrastructures were required to register with the Commission and maintain compliance with comprehensive core principles. Mandatory CFTC registration by providers of market infrastructure has proven to be a successful oversight framework. As evident by the robust volumes and highly liquid markets of registered U.S. exchanges, retail investors have greatly benefitted from CFTC and SEC oversight. Tokens and the underlying blockchain are transformative technologies that have enormous potential to advance markets. In the interest of retail investors and infrastructure providers, the time has come to apply sensible and proven regulation to this asset class.

We support the Commission's request for information and its efforts to gather further information on this topic. Should you have any questions or comments regarding this letter, please feel free to contact me (bruce.tupper@coinregtech.com).

Sincerely,



Bruce A. Tupper
President & Founder
CoinRegTech

³¹ Dodd-Frank Act section 728 amended CEA Section 21 pertaining to 17 CFR 49 Swap Data Repositories: Registration Standards, Duties and Core Principles (2011).