



COMMODITY FUTURES TRADING COMMISSION

Request for Input on Crypto-asset Mechanics and Markets

AGENCY: Commodity Futures Trading Commission.

ACTION: Request for input.

SUMMARY: The Commodity Futures Trading Commission (“Commission” or “CFTC”) in furtherance of the LabCFTC initiative is seeking public comment and feedback on this Request for Input (“RFI”) in order to better inform the Commission’s understanding of the technology, mechanics, and markets for virtual currencies beyond Bitcoin, namely here Ether and its use on the Ethereum Network. The Commodity Exchange Act (“CEA”) grants the Commission regulatory authority over the commodity futures markets. The Commission is seeking public feedback in furtherance of oversight of these markets and regulatory policy development. The input from this request will advance the CFTC’s mission of ensuring the integrity of the derivatives markets as well as monitoring and reducing systemic risk by enhancing legal certainty in the markets. The RFI seeks to understand similarities and distinctions between certain virtual currencies, including here Ether and Bitcoin, as well as Ether-specific opportunities, challenges, and risks. The Commission welcomes all public comments on these and related issues.

DATES: Comments must be received on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: You may submit comments, identified by the title, “Virtual Currency RFI,” by any of the following methods:

- CFTC website: <https://comments.cftc.gov>. Follow the instructions to Submit Comments through the website.

- Mail: Send to Christopher Kirkpatrick, Secretary of the Commission, Commodity Futures Trading Commission, Three Lafayette Centre, 1155 21st Street, NW, Washington, DC 20581.

- Hand Delivery/Courier: Same as Mail, above.

Please submit comments by only one of these methods.

All comments should be submitted in English or accompanied by an English translation. Comments will be posted as received to <https://www.cftc.gov>. You should submit only information that you wish to make available publicly. If you wish the Commission to consider information that may be exempt from disclosure under the Freedom of Information Act (“FOIA”), a petition for confidential treatment of the exempt information may be submitted according to the procedures established in the Commission’s regulations at 17 CFR 145.9.¹ The Commission reserves the right, but shall have no obligation, to review, prescreen, filter, redact, refuse, or remove any or all of your submission from <https://www.cftc.gov> that it may deem to be inappropriate for publication, such as obscene language. All submissions that have been redacted or removed that contain comments on the merits of the RFI will be retained in the public comment file and will be considered as required under the Administrative Procedure Act and other applicable laws, and may be accessible under the FOIA.

¹ 17 CFR 145.9. All Commission regulations cited herein are set forth in chapter I of Title 17 of the Code of Federal Regulations.

FOR FURTHER INFORMATION CONTACT: Daniel Gorfine, Director of LabCFTC and Chief Innovation Officer, (202) 418–5625; Bianca M. Gomez, Counsel on FinTech and Innovation, Office of General Counsel, (202) 418–5627; or *LabCFTC@cftc.gov*.

SUPPLEMENTARY INFORMATION:

I. Background

A. Introduction

The CEA grants the Commission regulatory authority over the commodity futures markets.² LabCFTC was launched by the Commission in order to further the CFTC’s goal of evolving as a 21st century regulator and keeping pace with technological innovation. LabCFTC is dedicated to facilitating market-enhancing financial technology (“FinTech”) innovation, informing policy, and ensuring that we have the regulatory and technological tools and understanding to keep pace with changing markets. LabCFTC is designed to make the CFTC more accessible to all innovators and to inform the Commission’s understanding of emerging technologies and their regulatory implications. One such area of emerging innovation involves virtual currencies.

In further advancing its mission, LabCFTC published a primer on the topic of virtual currencies in October 2017 (the “Primer”) in order to help educate the public on potential applications and use-cases, the CFTC’s role and jurisdictional oversight, and

² *See, e.g.*, 7 U.S.C. 5(b).

potential risks and challenges that investors and users may face involving virtual currencies.³

In December 2017, the Chicago Mercantile Exchange Inc. (“CME”) and the CBOE Futures Exchange (“CFE”) self-certified and began offering new contracts for bitcoin futures products following discussions with Commission staff regarding compliance with the CEA and Commission rules and regulations. In line with Chairman Giancarlo’s repeated statements⁴ regarding the unique nature and risks of virtual currency-related products, the CFTC’s Division of Market Oversight (“DMO”) and Division of Clearing and Risk (“DCR”) issued on May 21, 2018 a joint staff advisory⁵ that gives exchanges and clearinghouses registered with the CFTC guidance on certain enhancements when listing a derivative contract based on virtual currency pursuant to Commission regulations. The input being sought here will better inform the Commission and its operating divisions as the market evolves and potentially seeks to list new virtual currency based futures and derivatives products.

B. Bitcoin as a Virtual Currency

In its October 2017 Primer, LabCFTC cited the IRS to define a virtual currency as “a digital representation of value that functions as a medium of exchange, a unit of

³ “A CFTC Primer on Virtual Currencies,” (Oct. 17, 2017), https://www.cftc.gov/sites/default/files/idc/groups/public/documents/file/labcfrc_primercurrencies100417.pdf.

⁴ See, e.g., Testimony of Chairman J. Christopher Giancarlo before the Senate Committee on Appropriations Subcommittee on Financial Services and General Government (June 5, 2018), <https://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo47>.

⁵ CFTC Staff Advisory No. 18-14 (May 21, 2018), https://www.cftc.gov/sites/default/files/idc/groups/public/%40lrlettergeneral/documents/letter/2018-05/18-14_0.pdf.

account, and/or a store of value . . . [but that] does not have legal tender status.”⁶ The Primer further noted key characteristics of Bitcoin, including that it:

- Is “pseudonymous” (or partially anonymous) in that an individual is identified by an alpha-numeric public key/address;
- Relies on cryptography (and unique digital signatures) for security based on public and private keys and complex mathematical algorithms;
- Runs on a decentralized peer-to-peer network of computers and “miners” that operate on open-source software and do “work” to validate and irrevocably log transactions on a permanent public distributed ledger visible to the entire network;
- Solves the lack of trust between participants who may be strangers to each other on a public ledger through the transaction validation work noted in the bullet above; and
- Enables the transfer of ownership without the need for a trusted, central intermediary.

The Primer noted potential applications or use cases of a virtual currency like Bitcoin, including that it may serve as a store of value, be used for trading, enable payments and value transfers, power applications built upon the virtual currency network, and facilitate money transfers or international remittances. The Primer further highlighted a range of potential risks around virtual currencies, including technology, operational, cybersecurity, speculative, and fraud and manipulation risks.

⁶ See Primer, *supra* note 3, at 4 (citing IRS Notice 2014-21, available at <https://www.irs.gov/businesses/small-businesses-self-employed/virtual-currencies>). See also Proposed Interpretation on Virtual Currency “Actual Delivery” in Retail Transactions (Dec. 15, 2017), 82 FR 60335 (Dec. 20, 2017), <https://www.cftc.gov/sites/default/files/idc/groups/public/@lrfederalregister/documents/file/2017-27421a.pdf>.

C. Ether as a Virtual Currency

In June 2018, the Director of the Securities and Exchange Commission's ("SEC") Division of Corporation Finance, Bill Hinman, delivered a speech which conveyed Mr. Hinman's personal views. In the speech, he addressed the question of whether "a digital asset that was originally offered in a securities offering [could] ever be later sold in a manner that does not constitute an offering of a security." He explained among other factors that since the network on which Bitcoin operates appears to be decentralized and there is no central third party whose efforts are a key determining factor in the success of Bitcoin, "[a]pplying the disclosure regime of the federal securities laws to the offer and resale of Bitcoin would seem to add little value." He further stated that, in addition to Bitcoin, "based on my understanding of the present state of Ether, the Ethereum network and its decentralized structure, current offers and sales of Ether are not securities transactions." Finally, he stated that "[o]ver time, there may be other sufficiently decentralized networks and systems where regulating the tokens or coins that function on them as securities may not be required."⁷

Ether is a virtual currency that was launched on the Ethereum Network in 2015. It is an open network that currently relies on a proof of work consensus mechanism, but developers, including through the Ethereum Foundation, have plans to shift the protocol to a proof of stake consensus model in order, at least in part, to reduce energy consumption required to validate the ledger.⁸ The Ethereum Network is often viewed as

⁷ "Digital Asset Transactions: When Howey Met Gary (Plastic)," Remarks of William Hinman, Director, Division of Corporation Finance, SEC at the Yahoo Finance All Markets Summit: Crypto (June 14, 2018), <https://www.sec.gov/news/speech/speech-hinman-061418>.

⁸ See Ethereum Foundation, Frequently Asked Questions, available at <https://www.ethereum.org/ether> (last visited Aug. 22, 2018).

a platform that permits ready creation and use of smart contracts that can power decentralized applications or organizations. In this way, Ether is used as “fuel” to compensate miners for maintaining a public ledger for such networks.⁹ To date, Ether has typically been one of the top three virtual currencies by market capitalization.

II. Request for Input

The Commission is seeking public feedback namely on Ether and the Ethereum Network in order to better understand these technologies given Ether’s size in the market and potentially unique attributes relative to Bitcoin. The Commission is issuing this RFI in order to gather public feedback on a range of questions related to the underlying technology, opportunities, risks, mechanics, use cases, and markets, related to Ether and the Ethereum Network. The requested information will inform the work of LabCFTC and the Commission as a whole. The Commission welcomes any relevant comments, including related topics that may not be specifically mentioned but which a commenter believes should be considered.

Specific Questions for Input

In addition to any general input, the Commission is interested in responses to the following questions:

Purpose and Functionality

1. What was the impetus for developing Ether and the Ethereum Network, especially relative to Bitcoin?
2. What are the current functionalities and capabilities of Ether and the Ethereum Network as compared to the functionalities and capabilities of Bitcoin?

⁹ *See id.*

3. How is the developer community currently utilizing the Ethereum Network?

More specifically, what are prominent use cases or examples that demonstrate the functionalities and capabilities of the Ethereum Network?

4. Are there any existing or developing commercial enterprises that are using Ether to power economic transactions? If so, how is Ether recorded for accounting purposes in a comprehensive set of financial statements?

5. What data sources, analyses, calculations, variables, or other factors could be used to determine Ether's market size, liquidity, trade volume, types of traders, ownership concentration, and/or principal ways in which the Ethereum Network is currently being used by market participants?

6. How many confirmations on the Ethereum blockchain are sufficient to wait to ensure that the transaction will not end up on an invalid block?

Technology

7. How is the technology underlying Ethereum similar to and different from the technology underlying Bitcoin?

8. Does the Ethereum Network face scalability challenges? If so, please describe such challenges and any potential solutions. What analyses or data sources could be used to assess concerns regarding the scalability of the underlying Ethereum Network, and in particular, concerns about the network's ability to support the growth and adoption of additional smart contracts?

9. Has a proof of stake consensus mechanism been tested or validated at scale? If so, what lessons or insights can be learned from the experience?

10. Relative to a proof of work consensus mechanism does proof of stake have particular vulnerabilities, challenges, or features that make it prone to manipulation? In responding consider, for example, that under a proof of stake consensus mechanism, the chance of validating a block may be proportional to staked wealth.

11. There are reports of disagreements within the Ether community over the proposed transition to a proof of stake consensus model. Could this transition from a proof of work to a proof of stake verification process result in a fragmented or diminished Ether market if the disagreements are not resolved?

12. What capability does the Ethereum Network have to support the continued development and increasing use of smart contracts?

Governance

13. How is the governance of the Ethereum Network similar to and different from the governance of the Bitcoin network?

14. In light of Ether's origins as an outgrowth from the Ethereum Classic blockchain, are there potential issues that could make Ether's underlying blockchain vulnerable to future hard forks or splintering?

Markets, Oversight and Regulation

15. Are there protections or impediments that would prevent market participants or other actors from intentionally disrupting the normal function of the Ethereum Network in an attempt to distort or disrupt the Ether market?

16. What impediments or risks exist to the reliable conversion of Ether to legal tender? How do these impediments or risks impact regulatory considerations for Commission registrants with respect to participating in any transactions in Ether,

including the ability to obtain or demonstrate possession or control or otherwise hold Ether as collateral or on behalf of customers?

17. How would the introduction of derivative contracts on Ether potentially change or modify the incentive structures that underlie a proof of stake consensus model?

18. Given the evolving nature of the Ether cash markets underlying potential Ether derivative contracts, what are the commercial risk management needs for a derivative contract on Ether?

19. Please list any potential impacts on Ether and the Ethereum Network that may arise from the listing or trading of derivative contracts on Ether.

20. Are there any types of trader or intermediary conduct that has occurred in the international Ether derivative markets that raise market risks or challenges and should be monitored closely by trading venues or regulators?

21. What other factors could impact the Commission's ability to properly oversee or monitor trading in derivative contracts on Ether as well as the underlying Ether cash markets?

22. Are there any emerging best practices for monitoring the Ethereum Network and public blockchains more broadly?

Cyber Security and Custody

23. Are there security issues peculiar to the Ethereum Network or Ethereum-supported smart contracts that need to be addressed?

24. Are there any best practices for the construction and security of Ethereum wallets, including, but not limited to, the number of keys required to sign a transaction and how access to the keys should be segregated?

25. Are there any best practices for conducting an independent audit of Ether deposits?

In providing your responses, please be as specific as possible, and offer concrete examples where appropriate. Please provide any relevant data to support your answers where appropriate. The Commission encourages all relevant comments on related items or issues; commenters need not address every question.

III. Conclusion

The Commission appreciates your time and effort responding to this RFI on Crypto-asset Mechanics and Markets. The information provided by stakeholders will help us refine our understanding of this area of innovation and better inform the work of the Commission, including the evaluation of potential derivatives contracts. More broadly, the input from this request will further aid the Commission in identifying FinTech trends and related opportunities, challenges, and risks. In that respect, we look forward to continuing to engage proactively with the innovator community and market participants in order to help facilitate market-enhancing innovation and ensure market integrity.

Issued in Washington, DC, on December 11, 2018, by the Commission.

Christopher Kirkpatrick,

Secretary of the Commission.

**Appendix to Request for Input on Crypto-asset Mechanics and Markets –
Commission Voting Summary**

On this matter, Chairman Giancarlo and Commissioners Quintenz, Behnam, Stump, and Berkovitz voted in the affirmative. No Commissioner voted in the negative.

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