**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 consumers?**

As with all virtual currencies, the conversion of Ether into fiat carries multiple risks. First, there is no guarantee that existing exchanges will continue to offer conversion services or that other businesses will fill the void if the exchanges exit this market. Second, substantial volatility makes transacting in Ether difficult. With such volatility, it may necessary to determine the value of a transaction or what collateral needs to be staked using USD instead of Ether. This will ensure that both parties receive the amount originally agreed upon. Additionally, since Ether is a global virtual currency, any transaction that encompasses a conversion from fiat to Ether back to fiat will have conversion issues due to the rapid price fluctuations.

The infancy of Ether and the exchanges it is offered on, makes custody of virtual currency difficult. Due to the virtual currency being represented in digital form, there has been significant exchange hacks that have cumulative losses in the hundreds of millions of dollars. Without consumer protection mechanisms, investors could lose an entire investment if the exchange experiences a hack.

The exchanges that trade Ether derivative contracts may have custody issues since there is a physical delivery component in true futures contracts. Custody has been and remains an issue since the virtual currency market is highly unregulated. Throughout the history of virtual currencies, there has been numerous hacks on exchanges. The most recent is New Zealand-based cryptocurrency exchange Cryptopia. Hackers have stolen over $180,000 and it is believed have the private keys of the Cryptopia users and can withdraw funds from any Cryptopia wallet at will. Without controls, there may be theft of the Ether in custody of the exchanges or the escrow account it is being held in. This issue is highlighted with the bitcoin futures. No exchanges are currently offering the physical delivery futures contracts in part because of custody risks.

**17. Markets, Oversight and Regulation: How would the introduction of derivative contracts on Ether potentially change or modify the incentive structures that underlie a proof of stake consensus model?**

This question implies that the individual staker has an interest in the underlying asset or the Ether that the individual has staked in order to become a staker in the Ethereum network. Additionally, a staker is compensated for validating transactions in Ether, and as such, may wish to hedge against price volatility for the Ether earned as a staker. Therefore, the derivative products available to hedge against risk for this individual are derivatives that manage risk. As such, speculative derivative products are not included in this discussion.

One risk for a staker when he or she stakes Ether on the Ethereum network is that the price of that underlying asset becomes volatile. The staker may want to protect against these price fluctuations in the Ether derivative markets. If a potential staker does not have the ability to hedge against price risk for staked Ether, the potential staker may not want to participate in the Ethereum network as a staker at all. Less stakers means less distribution over validation of transactions, which as a policy, the Ethereum network would like to avoid.

We believe that the introduction of derivative contracts on Ether potentially change and modify the incentive structures for stakers in a positive manner. Having the ability to hedge against price volatility encourages more people to stake Ether since they will be protected against price fluctuations while the Ether is locked up in a staking protocol.

**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?**

In 2018 the Ether cash market was extremely volatile with the virtual currency at one point losing 94% of its value from its January 2018 peak. With such volatility, it may be necessary for the Commission to implement additional safeguards to ensure that bad actors are not using the underlying cash market of Ether to manipulate derivative contracts market.

In addition to the existing risk management practices governing derivative contracts, the Commission may need to take a more aggressive role in monitoring the collateral/margin staked to deal with market volatility risks and counterparty risks. For example, the Commission could mandate that exchanges and dealers in OTC markets take additional collateral, or even full collateral, before the investor is permitted to trade derivatives. The Commission could also require capping the loses/gain, so that the parties understand from the outset the best-and worst-case scenario. Further, if a transaction is materially amended, or if the margin spread becomes greater than the initial margin/collateral posted, the short seller may be required to post additional collateral/margin. Requiring additional collateral and constantly monitoring the spread of the current margin and the initial margin may deter bad actors who own Ether in the underlying market from manipulating Ether’s price to gain a more favorable settlement in a derivative contract as it nears its expiration. Alternatively, the Commission could require exchanges to adjust an investor’s margin account balance for profits and losses on daily basis. For even greater protection, it may be necessary for cash to be used for the initial margin and any future settlement amounts instead of other assets, like Ether.

The illiquidity of the Ether market also creates risk management issues. The price of Ether is provided by the exchanges. However, with so many exchanges that operate in different global markets, it will need to be determined which exchanges can be relied upon. For this analysis, the size of the exchange, the exchange’s vulnerability to financial and cybersecurity hazards, and the KYC requirements of the exchange all must be considered to ensure the stability of the exchange.

The Commission may also need to take measures to ensure exchanges are offering both vehicles associated with futures, the physical delivery of the underlying asset futures and speculator futures. Over the past two years, the bitcoin futures market only encompassed cash settled futures. This permitted bitcoin holders to hedge their exposure. Cash-settled derivatives require an index to settle against, with no consensus on what the “true” price of Ether is or if the inputs forming the index become prone to manipulation and influence by those with vested interests. Given that a cash-settled future involves no transaction of the underlying asset itself, anyone with a large enough position in the underlying asset can impact the price in the futures market by buying and selling in the physical market. Bad actors with large positions in Ether could create activity in the price of Ether prior to the expiration date of the futures contract. This is especially true because the virtual currency market thus far is highly unregulated. Mandating exchanges participate in the physical delivery of Ether futures will require participants to use futures in the manner they were intended. The shorting investor should be required to place the Ether to be delivered in storage to send to the buyer on the expiration of the contract. Thus, prohibiting that short seller from using that Ether to separately create buying pressure in the physical market. Despite such safeguards, with the market volatility there is a high likelihood that one of the investors will always lose a large amount in the transaction, but regulations cannot substitute for investors’ own judgment and due diligence.

**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.**

Listing or trading of derivative contracts on Ether may drive the Ether market further into a bear market. As alluded to in Request No. 18, many believe that bitcoin futures were instrumental in the rapid bitcoin price decline. The Ether market is currently unregulated. Without oversight of the underlying asset in a derivative contract, the Ether market is subject to manipulation by dishonest investors and traders.

Further, Ether is still a volatile asset and the market will take time to stabilize. Many question whether introducing new players into the market via derivative contracts will benefit or harm the market. In fact, there is already substantial speculative investing in Ether, which is evidenced by significant price swings.

The additional regulations surrounding listing or trading derivative contracts on Ether may also be an issue for the Ethereum community, which is split on the issue of whether virtual currency should be regulated. The decentralized nature of blockchain technology goes against having centralized authorities create rules and regulations. While most agree some regulation is necessary for virtual currency, there is also a strong fear of overregulation by governmental entities. The Commission may consider working closely with the Ethereum Community on any regulations. For example, the Ethereum Community may be willing to adopt guidelines and regulations itself to safeguard against some of the risks mentioned, which would prevent the Commission from having to mandate all regulations for Ether and the Ethereum Network. In exchange, the Commission should only regulate what is necessary to ensure consumer protection versus the entire Ethereum Network ecosystem.

**20. Markets, Oversight and Regulations: 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?**

Some unregulated international exchanges may be in a position to manipulate the Ether derivative markets due to information asymmetry with its customers. Certain exchanges have visibility into transactions that customers do not have with little protections in place to ensure the customers have access to such information. To the extent these exchanges offer services to US citizens, they should be monitored and regulated by the appropriate agencies.

**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.**

Solvency risks could impact the Commission’s ability to oversee trading of Ether derivative contracts. For example, Ether prices still have a propensity to rise or fall rapidly without much warning. If a large amount of Ether derivative contracts is sold and a rapid price increase occurs, brokers may not be able to recover the funds from investors going short but will still be obligated to payout the money to investors who went long. This instability has the potential to threaten the solvency of brokers. In the bitcoin arena, many brokers are addressing this issue by creating separate legal entities for bitcoin futures in the event of bankruptcy.

Most of the tradable supply of Ether is not on an exchange but in off-exchange wallets, in order to prevent hacking of exchanges. In stark contrast, the vast majority of all tradable stock for publicly listed companies is transacted on a single exchange. Large market order can drastically impact an exchanges order book causing “slippage.” Because of the capacity for large traders to move the market in either direction and employ tactics to encourage this, volatility goes up.

The privacy and anonymous features of the Ethereum Network may also impact the commission’s oversight because transactions can be completely private. Thus, there will be features of transactions in the Ether cash market that the Commission will be unable to examine, including the identity of the parties involved. Such privacy is vital to the success of the Ethereum Network, however it will prevent the Commission from being able to regulate the transaction, unless and until the Ether involved in the transaction is converted to fiat. In order to foster the relationship between the Commission and the Ethereum community, the Commission should consider mechanisms that continue to protect the anonymity of the Ethereum Network as much as possible. For example, many transactions involving Ether or the Ethereum Network are irrelevant to the Commission or any governmental agency. Therefore, these transactions should still be permitted to continue with anonymity. For those transactions that the Commission may need additional information, there potentially could be a standard that the Commission must demonstrate a need for the information and institute guidelines that safeguard the information from only being released to those on a “need-to-know” basis, similar to trade secret protections.

The amount of Ether that can exist is limitless. On the other hand, Bitcoin has a limited number of bitcoins that can ever exist, 21 million. [Many](https://www.reddit.com/r/ethereum/comments/88ourj/meta_cap_total_ether_supply_at_120_million_issue/) argue that having a market cap provides slightly more stability and that Ether by its underlying structure will always be more volatile. Having a market cap allegedly makes an asset scarcer. The theory being that the scarcer an asset is, the more valuable it becomes. With such scarcity comes a level of stability. If there is a finite supply of a token, the value of the coin is likely to increase over time, which will protect the integrity and value of the underlying network. Many critics of Ether’s lack of cap, claim that the market will become diluted, causing the value of Ether to constantly rise and fall.