MEMORANDUM

TO: File No. SR-NYSEArca-2016-101

FROM: Neel Maitra
Attorney-Adviser
Office of Market Supervision, Division of Trading and Markets
U.S. Securities and Exchange Commission

DATE: February 22, 2017

SUBJECT: Meeting with Representatives of NYSE Arca, Inc. and SolidX Partners Inc.

On February 21, 2017, Gary Goldsholle, David Shillman, Michael E. Coe, Thomas Eady, and Neel Maitra from the Division of Trading and Markets met with the following individuals:

Daniel H. Gallancy from SolidX Partners Inc.;
Dimitri Nemirovsky from SolidX Partners Inc.;
Craig M. Lewis, Madison S. Wigginton Professor of Finance, Owen Graduate School of Management, Vanderbilt University;
Thomas J. Kim from Sidley Austin LLP, representing SolidX Partners Inc.; and
Michael Cavalier from NYSE Arca, Inc.

Michou Nguyen from the Division of Trading and Markets attended by telephone.

The discussion concerned NYSE Arca, Inc.'s proposed rule change to list and trade, pursuant to NYSE Arca Equities Rule 8.201, shares issued by the SolidX Bitcoin Trust. In addition, the representatives of SolidX Partners Inc. provided the attached documents titled "SolidX Bitcoin Trust" and "Comparison Matrix."

SolidX Bitcoin Trust

Meeting with SEC Staff

February 21, 2017

Contents

1. General: About the SolidX Bitcoin Trust (SBT)

- Structure largely similar to other commodity-based ETPs
- Multiple creation and redemption mechanisms, enabling traditional capital markets entities to participate with ease
- Diversifying nature of bitcoin expands the “efficient frontier” available to investors
- Insurance enables safe access to bitcoin, an asset class previously available only to investors willing to accept risks associated with loss and theft

2. Pricing: Difficult to Manipulate

a) The bitcoin market consists of independent exchanges in many locations around the world. Arbitrageurs facilitate price convergence

b) XBX index is a weighted average of bitcoin exchange prices. XBX de-weights outlier prices

c) The bitcoin market runs continuously: 24x7x365. It has no opening or closing price. Market-on-close manipulation not possible

d) The bitcoin market has no co-location of servers and a limited number of order types

2. Pricing: Difficult to Manipulate (Cont'd)

d) Market fragmentation and slow transaction speeds making spoofing difficult

e) Bitcoin is divisible to 8 decimal places. No "penny up / penny down"

f) Information-based manipulation is difficult: bitcoin has no earnings events, no insider information and a precisely known supply

g) Manipulation through attainment of dominant share is mitigated

   i. The trust will not remove bitcoin from circulation

   ii. There are ample stored sources of bitcoin plus new supply created according to a set schedule

3. Benefits of Proposed Create and Redeem Process

a) The SBT enables continuous creations and redemptions (i) using cash, (ii) facilitated with NDFs/swaps and (iii) in-kind

b) Other commodity ETPs cannot offer continuous creations and redemptions

   i. Most commodity ETPs have multiple-day settlement to enable creations and redemptions that require time-consuming physical delivery

   ii. Bitcoin exchange and OTC transactions are followed by digital delivery, which is not time consuming

3. Benefits of Proposed Create and Redeem Process (Cont'd)

c) Continuous creation and redemption is advantageous

i. Facilitates efficient arbitrage process

ii. Helps keep SBT/NAV spread small

iii. May also enhance liquidity on bitcoin exchanges

d) Creation and redemption activity for other commodity ETPs often involves the use of derivatives markets

i. Many commodities do not have adequate spot markets, thus making derivatives markets the only viable mechanism for price discovery and hedging

ii. Bitcoin exchanges provide spot price discovery and digital delivery. Consequently, bitcoin exchanges supplant the need for a derivatives markets

4. Bitcoin Insurance as a Key Investor Protection

a) Insurance particularly important given absence of traditional custodial infrastructure

b) Market-based solution that substitutes for a true transfer agency function

c) Minimize investors' risks

5. Bitcoin ETP and the Benefits of Diversification

a) Bitcoin exposure will provide enhanced opportunities to diversify the risk of traditional asset allocation strategies

   i. -0.014 correlation between equity ETFs and bitcoin

   ii. The addition of bitcoin reflects an economically significant expansion of the efficient frontier

   iii. Additional assets provide expanded investment opportunities

   iv. Bitcoin can be a valuable addition to investors' portfolios, even relative to other commodities like gold and silver

Conclusions

1. It is unlikely that the Trust will make manipulation of bitcoin more likely. By contrast, the Trust is likely to enhance liquidity and market efficiency

2. A continuous creation/redemption process enhances liquidity in the shares of the Trust, which in turn enhances price efficiency

3. The risk that a bad actor may steal bitcoin by obtaining access to the Trust's private keys is ameliorated by the availability of insurance that protects against such losses

4. The diversifying nature of bitcoin enables investors to construct portfolios that either reduce the level of risk for a given level of return, or increase returns at the same level of risk, or both

5. The Trust would enable ordinary investors to have relatively unconstrained access to an asset class that had previously been available only to investors willing and able to make direct investments in bitcoin

Creation and Redemption Arbitrage Trade Flows

I. In-Kind

II. Cash Using bitcoin to Hedge

III. Cash Using bitcoin NDF/Swap to Hedge

IV. NDF/Swap Trade Flow

I. In-Kind Creation

- **10:00 AM**: bitcoin = $800; ETP/share = $9*
  - A. AP sells short 100,000 ETP share at $9/share
  - B. AP buys 1,000 bitcoin at $800/bitcoin
- **3:00 PM**: AP enters order to create 1 basket in-kind
  - C. BNY Mellon will issue 100,000 ETP shares to AP
  - D. AP will deliver 1,000 bitcoin to SolidX Bitcoin Trust
- **Settlement:**
  - BNY Mellon issues 100,000 ETP shares to AP; AP uses the 100,000 ETP shares to cover its short position
  - AP delivers 1,000 bitcoin to SolidX Bitcoin Trust
  - E. AP pays $800,000 for the purchased bitcoin and nets $100,000 profit

AP's Accounts @ 10:00 AM

	Assets	Liabilities
A	$900,000	100,000 ETP shares
B	1,000 bitcoin	$800,000

AP's Accounts @ 3:00 PM

	Assets	Liabilities
A	$900,000	100,000 ETP shares
B	1,000 bitcoin	$800,000
C	100,000 ETP shares	
D		1,000 bitcoin

AP's Accounts @ Settlement

	Assets	Liabilities
E	$100,000	

* One ETP share = 1/100th of a bitcoin; one basket = 100,000 shares.

I. In-Kind Redemption

- **10:00 AM**: bitcoin = $900; ETP/share = $8
  - A. AP buys 100,000 ETP share at $8/share
  - B. AP sells short 1,000 bitcoin at $900/bitcoin
- **3:00 PM**: AP enters order to redeem 1 basket in-kind
  - C. AP will receive 1,000 bitcoin from SolidX Bitcoin Trust
  - D. AP will deliver 100,000 ETP shares to BNY Mellon
- **Settlement:**
  - AP delivers 100,000 ETP shares to BNY Mellon for redemption
  - AP delivers 1,000 bitcoin to cover short position
  - E. AP pays $800,000 for the 100,000 ETF shares and nets $100,000 profit

AP's Accounts @ 10:00 AM

	Assets	Liabilities
A	100,000 ETP shares	$800,000
B	$900,000	1,000 bitcoin

AP's Accounts @ 3:00 PM

	Assets	Liabilities
A	100,000 ETP shares	$800,000
B	$900,000	1,000 bitcoin
C	1,000 bitcoin	
D		100,000 ETP shares

AP's Accounts @ Settlement

	Assets	Liabilities
E	$100,000	

II. Cash Creation Using bitcoin to Hedge*

- **10:00 AM**: bitcoin = $800; ETP/share = $9
  - A. MM sells short 100,000 ETP share at $9/share
  - B. MM buys 1,000 bitcoin at $800/bitcoin
    - MM enters order with AP to create 1 basket using cash
- **3:00 PM**: AP enters order to create 1 basket using cash
  - C. MM to receive 100,000 ETP shares from AP (AP to receive the shares from BNY Mellon)
    - SolidX Bitcoin Trust buys 1,000 bitcoin**
- **4:00 PM**: bitcoin = $860
  - D. MM sells 1,000 bitcoin at $860/bitcoin
  - E. MM to deliver $860,000 to AP; AP to deliver $860,000 to BNY Mellon
- **Settlement:**
  - BNY Mellon delivers $860,000 to SolidX Bitcoin Trust, which the Trust uses to settle its purchase of 1,000 bitcoin
  - BNY Mellon issues 100,000 ETP shares to AP, which the AP delivers to MM; MM uses the shares to cover its short position
  - F. MM's total profit is $100,000, made up of two components:
    - MM settles its purchase and sale of bitcoin: it owed $800,000 for its purchase (step B), offset by sale proceeds of $860,000 (step D), netting $60,000
    - From the MM's remaining $900,000 (from step A), MM delivers $860,000 to AP (corresponding to step E). MM nets $40,000

Initial MM's Accounts @ 3:00 PM

	Assets	Liabilities
A	$900,000	100,000 ETP shares
B	1,000 bitcoin	$800,000
C	100,000 ETP shares	

Additions to MM's Accounts @ 4:00 PM

	Assets	Liabilities
D	$860,000	1,000 bitcoin
E		$860,000

MM's Final Accounts @ Settlement

	Assets	Liabilities
A	~~$900,000~~	~~100,000 ETP shares~~
B	~~1,000 bitcoin~~	~~$800,000~~
C	~~100,000 ETP shares~~	
D	~~$860,000~~	~~1,000 bitcoin~~
E		~~$860,000~~
F	$100,000	

* While there is nothing preventing APs from trading bitcoin, it is the Sponsor's belief that in the near term few APs will be willing to interact directly with bitcoin.
** MM can offer to sell 1,000 bitcoin to SolidX Bitcoin Trust, which will need to buy 1,000 bitcoin following the creation order.

II. Cash Redemption Using bitcoin to Hedge

- **10:00 AM**: bitcoin = $900; ETP/share = $8
  - A. MM buys 100,000 ETP share at $8/share
  - B. MM sell short 1,000 bitcoin at $900/bitcoin
  - MM enters order with AP to redeem 1 basket using cash
- **3:00 PM**: AP enters order to redeem 1 basket using cash
  - C. MM to provide 100,000 ETP shares to AP (AP to provide the shares to BNY Mellon)
  - SolidX Bitcoin Trust sells 1,000 bitcoin*
- **4:00 PM**: bitcoin = $860
  - D. MM buys 1,000 bitcoin at $860/bitcoin
  - E. MM to receive $860,000 from AP; AP to receive $860,000 from BNY
- **Settlement:**
  - SolidX Bitcoin Trust settles its sale of 1,000 bitcoin and receives $860,000, which is delivered to BNY Mellon
  - MM provides 100,000 ETP shares to the AP, and the AP provides the shares to BNY Mellon to complete the redemption order
  - F. MM's total profit is $100,000, made up of two components:
    - MM settles its short sale and purchase of bitcoin: it owed $860,000 for its purchase (step D), offset by short sale proceeds of $900,000 (step B), netting $40,000
    - MM's receives $860,000 from AP (step E) and uses $800,000 to settle its purchase of ETP shares (step A). MM nets $60,000

Initial MM's Accounts @ 3:00 PM

	Assets	Liabilities
A	100,000 ETP shares	$800,000
B	$900,000	1,000 bitcoin
C		100,000 ETP shares

Additions to MM's Accounts @ 4:00 PM

	Assets	Liabilities
D	1,000 bitcoin	$860,000
E	$860,000	

MM's Final Accounts @ Settlement

	Assets	Liabilities
A	~~100,000 ETP shares~~	~~$800,000~~
B	~~$900,000~~	~~1,000 bitcoin~~
C		~~100,000 ETP shares~~
D	~~1,000 bitcoin~~	~~$860,000~~
E	~~$860,000~~	
F	$100,000	

* MM can offer to buy 1,000 bitcoin from SolidX Bitcoin Trust, which will need to sell 1,000 bitcoin following the redemption order.

III. Cash Creation Using bitcoin NDF/Swap to Hedge

- **10:00 AM**: bitcoin = $800; ETP/share = $9
  - A. AP* sells short 100,000 ETP share at $900/share
  - B. AP enters into intraday NDF with bitcoin liquidity provider, creating synthetic long position of 1,000 bitcoin.
    - The fixing price is $800,000 (the 10:00 AM price of bitcoin x 1,000)
    - The forward price is the price of bitcoin at 4:00 PM x 1,000
- **3:00 PM**: AP enters order to create 1 basket using cash
  - SolidX Bitcoin Trust to buy 1,000 bitcoin**
- **4:00 PM**: bitcoin = $860
  - C. NDF net profit is determined. The fixing price was $800,000. With bitcoin at $860, the forward price is $860,000. The AP nets $60,000
  - D. Per the creation order entered at 3:00 PM, AP to receive 100,000 ETP shares from BNY Mellon
  - E. AP to deliver $860,000 to BNY Mellon
- **Settlement:**
  - BNY Mellon delivers $860,000 to SolidX Bitcoin Trust, which the Trust uses to settle its purchase of 1,000 bitcoin
  - BNY Mellon issues 100,000 ETP shares to the AP, which the AP uses to cover its short position
  - F. AP's total profit is $100,000 (less NDF fees), made up of two components:
    - $60,000 from the NDF (corresponding to step C)
    - From the AP's remaining $900,000 (from step A), AP delivers $860,000 to BNY Mellon (corresponding to step E). AP nets $40,000

Initial AP's Accounts @ 10:00 AM

	Assets	Liabilities
A	$900,000	100,000 ETP shares
B	1,000 bitcoin (NDF price at 4:00 PM)	$800,000 (NDF fixing price)

Changes to AP's Accounts @ 4:00 PM

	Assets	Liabilities
B	~~NDF: 1,000 bitcoin x price at 4:00 PM~~	~~$800,000, which is the NDF fixing price~~
C	$60,000	
D	100,000 ETP shares	
E		$860,000

AP's Final Accounts @ Settlement

	Assets	Liabilities
A	~~$900,000~~	~~100,000 ETP shares~~
B	~~NDF: 1,000 bitcoin x price at 4:00 PM~~	~~$800,000, which is the NDF fixing price~~
C	~~$60,000~~	
D	~~100,000 ETP shares~~	
E		~~$860,000~~
F	$100,000	

* The AP in this example can also be a MM customer of an AP.
** To hedge its exposure, the NDF liquidity provider can offer to sell 1,000 bitcoin to SolidX Bitcoin Trust.

III. Cash Redemption Using bitcoin NDF/Swap to Hedge

- **10:00 AM**: bitcoin = $900; ETP/share = $8
  - A. AP buys 100,000 ETP shares at $8/share
  - B. AP enters into intraday NDF with bitcoin liquidity provider, creating synthetic short position of 1,000 bitcoin
    - The fixing price is $900,000 (the 10:00 AM price of bitcoin x 1,000)
    - The forward price is the price of bitcoin at 4:00 PM x 1,000
- **3:00 PM**: AP enters order to redeem 1 basket using cash
  - SolidX Bitcoin Trust to sell 1,000 bitcoin
- **4:00 PM**: bitcoin = $860
  - C. NDF net profit is determined. The fixing price was $900,000. With bitcoin at $860, the forward price is $860,000. The AP nets $40,000
  - D. Per the redemption order entered at 3:00 PM, AP to provide 100,000 ETP shares to BNY Mellon
  - E. AP to receive $860,000 from BNY Mellon
- **Settlement:**
  - SolidX Bitcoin Trust settles its sale of 1,000 bitcoin and provides BNY Mellon proceeds of $860,000
  - AP provides 100,000 ETP shares to BNY Mellon to complete the redemption
  - F. AP's total profit is $100,000 (less NDF fees), made up of two components:
    - $40,000 from the NDF (corresponding to step C)
    - AP receives $860,000 from BNY Mellon (step E) and uses $800,000 to settle its purchase of ETP shares (step A). AP nets $60,000

Initial AP's Accounts @ 10:00 AM

	Assets	Liabilities
A	100,000 ETP shares	$800,000
B	$800,000 (NDF fixing price)	1,000 bitcoin (NDF price at 4:00 PM)

Changes to AP's Accounts @ 4:00 PM

	Assets	Liabilities
B	~~$800,000, which is the NDF fixing price~~	~~NDF: 1,000 bitcoin x price at 4:00 PM~~
C	$40,000	
D		100,000 ETP shares
E	$860,000	

AP's Final Accounts @ Settlement

	Assets	Liabilities
A	~~100,000 ETP shares~~	~~$800,000~~
B	~~$800,000, which is the NDF fixing price~~	~~NDF: 1,000 bitcoin x price at 4:00 PM~~
C	~~$40,000~~	
D		~~100,000 ETP shares~~
E	~~$860,000~~	
F	$100,000	

* To hedge its exposure, the NDF/swap liquidity provider can offer to buy 1,000 bitcoin from SolidX Bitcoin Trust.

IV. NDF/Swap Trade Flow Creation Example

- **10:00 AM**: bitcoin = $800

  A. AP enters into intraday NDF with bitcoin liquidity provider

    - Creates synthetic long of 1,000 bitcoin for AP and synthetic short of 1,000 bitcoin for liquidity provider (which can be a bitcoin exchange, OTC counterparty or other market participant)
    - Fixing price is $800,000 (price of bitcoin x 1,000)
    - Forward price is bitcoin at 4:00 PM (represented by XBX index) x 1,000 bitcoin
    - SolidX Bitcoin Trust will need to purchase 1,000 bitcoin for the creation order
      - Liquidity provider can offset its risk by offering to sell 1,000 bitcoin to SolidX Bitcoin Trust at 4:00 PM NAV (represented by XBX index)*

- **4:00 PM**: bitcoin = $860

  C. Liquidity provider owes AP $60,000 = $800,000 fixing price - $860,000 forward price

  D. Liquidity provider delivers 1,000 bitcoin to SolidX Bitcoin Trust and receives $860,000, netting out its loss on the NDF

    - By offsetting its risk based on 4:00 PM NAV, the NDF presents liquidity providers with an opportunity to sell bitcoin at the market fixing price

  E. AP owes NDF fees to liquidity provider

* The liquidity provider is free to offset its risk any way it desires, but by selling 1,000 bitcoin to SolidX Bitcoin Trust the liquidity provider can provide NDFs without taking market risk.

IV. NDF/Swap Trade Flow Redemption Example

- **10:00 AM**: bitcoin = $900

  A. AP enters into intraday NDF with bitcoin liquidity provider

    - Creates synthetic short of 1,000 bitcoin for AP and synthetic long of 1,000 bitcoin for liquidity provider (which can be a bitcoin exchange, OTC counterparty or other market participant)
    - Fixing price is $900,000 (price of bitcoin x 1,000)
    - Forward price is bitcoin at 4:00 PM (represented by XBX index) x 1,000 bitcoin
    - SolidX Bitcoin Trust will need to sell 1,000 bitcoin for the redemption order
      - Liquidity provider can offset its risk by offering to buy 1,000 bitcoin from SolidX Bitcoin Trust at 4:00 PM NAV (represented by XBX index)*

- **4:00 PM**: bitcoin = $860

  C. AP owes liquidity provider $40,000 = $900,000 fixing price - $860,000 forward price

  D. Liquidity provider pays $860,000 to SolidX Bitcoin Trust in return for 1,000 bitcoin

    - By offsetting its risk based on 4:00 PM NAV, the NDF presents liquidity providers with an opportunity to buy bitcoin at the market fixing price

  E. AP owes NDF fees to liquidity provider

* The liquidity provider is free to offset its risk any way it desires, but by buying 1,000 bitcoin from SolidX Bitcoin Trust the liquidity provider can provide NDFs without taking market risk.

Comparison Matrix

Characteristic	SolidX Bitcoin Trust	Winklevoss Bitcoin Trust
Pricing	**TradeBlock XBX Index** The SolidX Bitcoin Trust will use the XBX index to value the bitcoin held by the Trust. A well-designed index such as the XBX is the most effective and appropriate means to objectively determine the fair-market value of one bitcoin priced in USD. Because globally there exist numerous bitcoin exchanges, the exchange with the highest volume and liquidity on any given trading day will change periodically, which makes selecting one exchange to value the Trust's bitcoin impractical and inconsistent with investor protection and the public interest. 1. Price discovery for bitcoin is widespread and constant. Unlike commodities or securities that trade principally on a single exchange, the bitcoin marketplace is a 24-hour, 365-day per year market with trading that takes place on at least eight USD-denominated bitcoin exchanges and in the over-the-counter ("OTC") market 2. The OTC market for bitcoin as a standalone liquidity pool has greater daily trade volumes than any single exchange, and the XBX index is generally the price at which bitcoin trades in the OTC market 3. According to trading data,[1] the bitcoin exchange with the highest volume changes periodically and even daily, making it inappropriate to select a single USD-denominated bitcoin exchange as the reference market for pricing bitcoin 4. For the following reasons, the methodology used to generate the XBX makes it the most suitable pricing source to value the Trust's bitcoin holdings:	**Gemini Exchange Auction Price** The Winklevoss Bitcoin Trust will use the Gemini Exchange Auction Price to value the bitcoin held by the Trust. The auction pricing mechanism relies exclusively on the trading activity on Gemini, which is an exchange that is owned and operated by the Trust's sponsor. 1. The use of an exchange owned by the sponsor creates inherent conflicts of interest – the pricing source is not independent from the sponsor, yet the pricing source determines NAV and, thus, fees paid to the sponsor 2. In the context of a 24x7x365 global bitcoin market, a discrete pricing event, such as the auction, does not enhance price discovery but, instead, enables compartmentalized price manipulation a. The purpose of a *pricing event* is generally to enable finality of price discovery for a specific trading period. Example: market-on-close orders on US equity exchanges: i. Given that the vast majority of liquidity on US equity exchanges dissipates at the end of the trading session and does not return until the next day, it is logical to hold a pricing event at the end of the trading session ii. Price discovery in between trading sessions is more difficult. Consequently, in markets with standard opening and closing times, a pricing event is beneficial for investors because it

[1] http://data.bitcoinity.org/

Pricing (cont'd)	a. With five constituent USD-denominated bitcoin exchanges, the XBX is a real-time USD-denominated composite reference rate for the price of bitcoin b. As demonstrated by the data presented in the registration statement, the XBX price closely approximates actual bitcoin transaction prices across USD-denominated bitcoin exchanges c. The XBX algorithm is based on the IOSCO (International Organization of Securities Commissions) standards for financial benchmarks, offering maximum tradability and protection from price manipulation and market anomalies d. The index value is algorithmically calculated once every second based on observed trading activity on the five leading USD-denominated bitcoin exchanges. The index is never reliant on any single exchange e. The index is volume and price variance weighted and automatically adjusts for exchange trading inactivity. These adjustments happen in real time (i.e., without delay), whenever the adjustments are warranted based on conditions on any of the constituent exchanges	provides a natural mark for accounting and valuation b. Conversely, in a continuous market such as bitcoin that operates 24x7x365, the artificial and random insertion of a pricing event (i.e., the Gemini auction) enables the inappropriate creation of price marks that differ from the price within the broader market i. While the broader bitcoin markets enable continuous and natural price discovery before, during and after 4:00 p.m. EST (available by examining various trading venues and calculating a VWAP), the auction is a pricing event confined only to a single venue – Gemini ii. Gemini, itself, has limited overall volume[2], but the auction is even more confined: it relies on a sub-order book using orders specific to the auction iii. Normally, the continuous nature of the bitcoin market enables arbitrageurs to prevent price manipulation across bitcoin exchanges. But that safety mechanism cannot operate properly within the structure of the Gemini auction. Auction participants must enter their orders in advance and, at the specified time, the fixing price is determined with finality. The fixing price cannot be corrected ex-post, even if it deviates significantly from the broader market price of bitcoin iv. A potential manipulator would be completely shielded from the broader market. Only a de minimis amount of capital would be required for such a manipulation. Gemini auction volume

[2] The Gemini exchange constitutes approximately 1.3% of daily volume of bitcoin traded.

Pricing (cont'd)		averages 904 bitcoin per day, with a standard deviation of 676 bitcoin. 15.9% of the time, auction volume is below 227 bitcoin[3] *v.* ***Consequently, limited capital is necessary to enter a series of orders at 3:59 p.m. EST to "pin" a specific price*** 3. Gemini auctions have failed on multiple occasions in the past.[4] The Winklevoss Bitcoin Trust registration statement provides for alternative pricing mechanisms, but having a primary pricing source with known failures is inappropriate when reliable pricing sources are widely available 4. Using *any* single exchange to value bitcoin holdings also subjects investors to risks of API-related outages and other technical issues

[3] https://gemini.com/auction-data/; http://geminiauctionhistory.bitballoon.com/
[4] *id.*

Characteristic	SolidX Bitcoin Trust	Winklevoss Bitcoin Trust
Ability to Arbitrage and Hedge	**Both in-kind and cash creation and redemption** To promote a more efficient and liquid market for its shares, the SolidX Bitcoin Trust provides for both in-kind and cash creation and redemption. 1. In-kind and cash creations and redemptions are consistent with the requirements under NYSE Arca Rule 8.201 2. Other commodity and non-commodity exchange-traded products routinely provide for both in-kind and cash creation and redemption 3. For the following reasons, the optionality to create and redeem either in cash or in kind will foster a more efficient and liquid market for the shares when compared to in-kind creation and redemption only: a. Few Authorized Participants ("AP") are currently equipped to deal with or trade bitcoin directly and, therefore, are not prepared to create and redeem shares in kind b. Many more market makers ("MM") than APs do transact directly in bitcoin and also regularly participate in ETP creation and redemption processes via relationships with APs c. APs will be able to facilitate cash creation and redemption orders for their MM customers. MMs are able to create and redeem using cash while hedging their exposure by participating directly in the market for bitcoin d. The option of a cash creation and redemption mechanism is central to the success of a more efficient and liquid market because it will promote greater	**Limited to in-kind creation and redemption only** Limiting creations and redemptions to in kind only restricts the number of APs and MMs who will be prepared to make a market in shares of the Winklevoss Bitcoin Trust, and consequently the likelihood of an efficient and liquid market for the shares. 1. The majority of APs will not source bitcoin directly 2. Linking creations and redemptions to Gemini and limiting creations and redemptions to in kind only will constrain liquidity for the shares of the Trust: a. A restricted pool of APs and MMs will prevent the market from being able to adequately arbitrage b. Reliance on Gemini does not resolve any of the issues, such as trading and custody of bitcoin, that currently prevent many APs and MMs from transacting directly in bitcoin c. The auction volume on Gemini is insufficient for hedging: i. APs and MMs will want to have the flexibility to hedge their exposure to bitcoin before the 4:00 p.m. EST auction time, and well before entering an order to create or redeem ii. On its best day the auction volume can barely support the creation or redemption of a single basket[5] iii. A significant proportion – often the majority – of trading on Gemini occurs in the auction, making it difficult for APs and MMs to trade bitcoin on

[5] https://gemini.com/auction-data/; http://geminiauctionhistory.bitballoon.com/

Ability to Arbitrage and Hedge (cont'd)	involvement from a wider pool of APs and MMs 4. Similarly, the ability for APs and MMs to synthetically hedge their exposure to bitcoin through non-deliverable forward contracts ("NDF") and swaps will expand the number of APs and MMs who will be able to arbitrage shares of the SolidX Bitcoin Trust: a. Bitcoin NDFs and swaps will make it possible for APs and MMs that lack the trading infrastructure to transact in bitcoin to be able to hedge their exposure when creating and redeeming shares b. With the ability to obtain synthetic exposure to bitcoin and the option to create and redeem using cash, ***any*** AP or MM – even those with no bitcoin-related infrastructure whatsoever – can participate in the creation and redemption process, which will promote a more efficient and liquid market for the shares	Gemini in any meaningful amounts during the trading day[6]

[6] *id.*

Characteristic	SolidX Bitcoin Trust	Winklevoss Bitcoin Trust
Conflicts of Interest	**Limited and disclosed** The Trust sponsor is independent. The sponsor will custody the Trust's bitcoin holdings and will act as agent for APs and MMs in connection with their bitcoin hedging needs. All of this information has been disclosed in the Trust's registration statement. 1. The sponsor will only enter into NDF and swap transactions with APs and MMs, and/or act as agent by buying and selling bitcoin on behalf of APs and MMs solely for their hedging needs. These activities will help APs and MMs arbitrage shares of the Trust and facilitate a more efficient and liquid market for the shares 2. These transactions enable APs and MMs to hedge their exposure to bitcoin, thereby helping to establish an efficient and liquid market. The Trust will not be a party to any such transactions	**Pervasive and not fully disclosed** The Winklevosses, who are also the Trust's sponsor, own the Gemini exchange. This relationship creates inherent conflicts of interest. 1. There are no safeguards in place to resolve the prevalence of integration and lack of independence among the Trust, the sponsor and their service providers: a. The use of an exchange owned by the sponsor creates inherent conflicts of interest – the pricing source is not independent from the sponsor, yet the pricing source determines NAV and, thus, fees paid to the sponsor b. Trading fees on Gemini benefit the Winklevosses c. Gemini will be used to price the shares of the Trust d. No limit to information sharing or prohibition against acting (i.e., trading bitcoin) on such information 2. The Winklevosses have stated publicly that they own a significant number of bitcoin. Nothing to prevent them from liquidating their bitcoin holdings, which would influence the price of bitcoin and the shares of the Trust 3. There is nothing in the Trust's registration statement to indicate that the Winklevosses would be prohibited from trading bitcoin for their personal benefit, including lending activities 4. The Winklevoss Bitcoin Trust has already launched a website, even though the registration statement has not been approved, and regularly uses Twitter to promote bitcoin

Characteristic	SolidX Bitcoin Trust	Winklevoss Bitcoin Trust
Investor Protection	**Bitcoin will be insured against loss or theft** The sponsor of the SolidX Bitcoin Trust has secured insurance from a syndicate of A-rated underwriters. The sponsor has bound insurance coverage in the amount of $125 million and has made arrangements to scale that coverage for amounts that will exceed $125 million. 1. As a substitute to the investor safeguards offered by traditional custodians, bitcoin insurance is important for investor protection and the public interest 2. The Trust will be insured against loss of bitcoin by, among other things, theft, destruction, bitcoin in transit, computer fraud (i.e., hacking attack), and other loss of numerical codes, known as "private keys," which are necessary to access the bitcoin held by the Trust 3. The insurance will not cover certain losses including, but not limited to: a. Theft or other fraudulent, dishonest or criminal act committed by a partner, employee or director of the sponsor controlling more than 25% of the sponsor b. Losses caused by an employee if an elected or appointed official of the Trust or the sponsor (not in collusion) knows of any theft, fraud or dishonesty involving amounts in excess of $5,000 by such employee c. Losses caused by an employee who has access to the private key(s) associated with the Trust's bitcoin if an elected or appointed official of the Trust or sponsor becomes aware of any act or acts of theft, fraud or dishonesty by such employee prior to the Trust's or sponsor's discovery of a loss caused by such act d. Loss of the private key(s) associated with the Trust's	**Expect investors to assume operational risks** Traditional custodians and CCPs are not currently prepared to custody bitcoin. The Winklevosses are the Trust sponsor, they own the Gemini exchange (which stores bitcoin in "hot" wallets) and they intend to custody the Trust's bitcoin using the exchange's security mechanisms. Under these circumstances, bitcoin insurance would be an important feature for the Winklevoss Bitcoin Trust, but the Winklevosses do not intend to insure the Trust's bitcoin holdings. 1. The risk of physical loss or theft of bitcoin will be borne by investors 2. Per the registration statement, prior to investing, investors will need to undertake an analysis regarding the adequacy of the mechanisms and infrastructure used by the Trust to secure its bitcoin a. This is not a typical analysis undertaken by investors in the U.S. securities markets, nor should it be b. Even if investors wanted to undertake such an analysis, it is made impossible by the fact that the Winklevosses have applied for a patent on their own security system and provide only de minimis information about the system within the registration statement 3. The Trust's so-called "proof of control" audit could inspire investor confidence in the adequacy of the security system, and might be a useful tool for transparency, but does not actually prevent physical loss or theft of bitcoin – providing proof today of bitcoin holdings will not prevent a future loss event 4. Traditionally, exchange-traded products rely on established custodial firms to safeguard assets. Investors have justifiably become accustomed to relying on the

Investor Protection (cont'd)	bitcoin where such private key(s) is stored or being transmitted between computers or similar electronic devices that are connected to the Internet e. Loss resulting from the network failure of the Bitcoin protocol 4. The cost of the insurance premium will be reasonable and not adversely affect the Trust's performance. The cost and benefits of insurance far outweigh the potential risks of not insuring the Trust's bitcoin	regulatory underpinnings to which custodial firms and clearing firms must adhere. No such mechanisms currently exist for bitcoin, but that should not result in investors getting saddled with the operational risks associated with securing bitcoin