

December 18, 2019

Jill M. Peterson  
Assistant Secretary  
U.S. Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

**Re: File No. SR-NYSEArca-2019-39**

Dear Ms. Peterson:

Wilshire Phoenix Funds, LLC, as sponsor (the “Sponsor”) of the United States Bitcoin and Treasury Investment Trust (the “Trust”) hereby responds to the request for comment by the Securities and Exchange Commission (the “Commission” or the “SEC”) in Release No. 34-87071 (Sept. 24, 2019), 84 FR 51646 (Sept. 30, 2019) (the “Order”) <sup>1</sup> and in Release No. 34-87301 (Oct. 15, 2019), 84 FR 56219 (Oct. 21, 2019) <sup>2</sup>, File No. SR-NYSEArca-2019-39 <sup>3</sup>, with respect to a proposed rule change submitted by NYSE Arca, Inc. (“NYSE Arca”) to amend NYSE Arca Rule 8.201-E (the “Rule Change”) <sup>4</sup> for the listing and trading of shares of the Trust. All capitalized terms used but not otherwise defined in this comment shall have the meaning prescribed to such terms in the Rule Change or in the Trust’s Registration Statement <sup>5</sup>, as applicable.

The Rule Change submitted for approval by NYSE Arca is designed to facilitate the listing and trading of additional types of exchange-traded derivative securities products (“ETPs”) that will enhance competition among market participants, to the benefit of investors and the marketplace. <sup>6</sup> The publicly traded shares of the Trust (the “Shares”) will provide investors with the opportunity, if they so choose, to obtain exposure to bitcoin in a regulated investment vehicle, and in a manner that mitigates risk by reducing the volatility typically associated with an investment in bitcoin <sup>7</sup> and without the uncertain and often complex requirements relating to acquiring or holding bitcoin.

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<sup>1</sup> Available at: <https://www.govinfo.gov/content/pkg/FR-2019-09-30/pdf/2019-21097.pdf>.

<sup>2</sup> Available at: <https://www.govinfo.gov/content/pkg/FR-2019-10-21/pdf/2019-22884.pdf>.

<sup>3</sup> Available at: <https://www.sec.gov/comments/sr-nysearca-2019-39/srnysearca201939-6255643-192909.pdf>.

<sup>4</sup> 84 FR 56219, Release No. 34-87301 (File No. SR-NYSEArca-2019-39).

<sup>5</sup> Available at: [https://www.sec.gov/Archives/edgar/data/1750145/000091957419006296/d8372160\\_s1-a.htm](https://www.sec.gov/Archives/edgar/data/1750145/000091957419006296/d8372160_s1-a.htm).

<sup>6</sup> See “A Financial System That Creates Economic Opportunities – Nonbank Financials, Fintech, and Innovation” Report to President Donald J. Trump, Executive Order 13772 on Core Principles for Regulating the United States Financial System (available at: <https://home.treasury.gov/sites/default/files/2018-07/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financi....pdf>) (the “Department of Treasury Report”).

<sup>7</sup> For the period of January 2012 to June 2019, (i) the annualized back-tested volatility of the Index was 25%, and the annualized realized volatility of bitcoin was 91%; and (ii) the back-tested maximum drawdown of the Index was 32%, and the maximum drawdown of bitcoin was 85%.

In addition to addressing the questions raised in the Order, the Sponsor highlights that it thoughtfully and methodically designed the Trust to be fundamentally and structurally different from other applications by bitcoin-related funds, as discussed in the Rule Change:

(1) the Trust's assets will be composed of bitcoin and T-Bills in a ratio determined based on the index utilized by the Trust (the "Index")<sup>8</sup>, which takes into consideration the volatility of bitcoin;

(2) the Trust, by design, does not utilize creation and redemptions baskets, which avoids sudden large creation or redemption of Shares<sup>9</sup>, and creation of Shares of the Trust is under control of the Trust and subject to approval of applicable registration statements by the Commission<sup>10</sup>;

(3) because the Trust will only purchase or sell bitcoin (a) once a month for rebalancing and Shareholder redemption purposes or (b) in connection with specific offerings of the Trust, it is unlikely that purchases or sales of assets of the Trust will have a predominant influence on the markets of significant size noted below or the price of bitcoin on such markets;

(4) the Chicago Mercantile Exchange (the "CME") CF Bitcoin Reference Rate (the "CME CF BRR", and the price of bitcoin based on the CME CF BRR is referred to herein as the "Bitcoin Price") is utilized by the Trust for the purpose of valuing the Trust's bitcoin assets. The CME CF BRR is a representative rate of bitcoin traded for USD<sup>11</sup>, is the rate on which bitcoin futures contracts are cash-settled in USD at the CME, serves as a reference rate in the settlement of financial derivatives based on the price of bitcoin and may also serve as a reference rate in the net asset value ("NAV") calculation of ETPs.<sup>12</sup> A more comprehensive description and analysis of the CME CF BRR is set forth below; and

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<sup>8</sup> The Index is a passive rules-based index and the Index Calculation Agent, which is unaffiliated with the Sponsor, provides calculation and publication services.

<sup>9</sup> The fact that an applicant followed an ETP model (that is, without the use of creation and redemption baskets) as opposed to an ETF model (with the use of creation and redemption baskets) has been viewed favorably in connection with the approval of an application in another jurisdiction. See *In the Matter of 3iQ and The Bitcoin Fund*, 3iQ Corp (Re), 2019 ONSEC 37, Ontario Securities Commission (Oct. 29, 2019).

<sup>10</sup> Each follow-on offering of Shares by the Trust will require a registration statement covering such securities to be filed with the Commission, which must be reviewed and declared effective by the Division of Corporation Finance prior to any issuance of such additional Shares.

<sup>11</sup> The pricing sources for the CME CF BRR are the constituent exchanges, which as of the date of this letter, are Coinbase Pro, Kraken, itBit, Bitstamp and Gemini (the "Constituent Exchanges").

<sup>12</sup> See "Analysis of CME CF Bitcoin Reference Rate" by CME Group, June 5, 2019 (available at: <https://www.cmegroup.com/education/articles-and-reports/analysis-of-cme-cf-bitcoin-reference-rate.html>) (the "CME Analysis"); See also Andrew Paine and William J. Knottenbelt, *Analysis of the CME CF Bitcoin Reference Rate and Real Time Index*, Oct. 2016, Section 2 (available at: <https://www.cmegroup.com/trading/files/bitcoin-white-paper.pdf>) ("Paine & Knottenbelt"); See also WisdomTree Bitcoin ETF listed on SIX under ticker symbol "BTCW" which utilizes the CME CF BRR to value its bitcoin assets.

(5) the Trust will utilize Coinbase Custody Trust Company, LLC (the “Bitcoin Custodian”) as its bitcoin custodian to maintain custody of the Trust’s bitcoin.<sup>13</sup> The Bitcoin Custodian is a “qualified custodian” under the Investment Advisers Act of 1940, and as a New York state-chartered trust, is held to the same fiduciary standards as national banks and is required to comply with federal anti-money laundering (“AML”) regulation.<sup>14</sup> Accordingly, the Bitcoin Custodian is required to (i) establish customer identification programs; (ii) monitor, detect and file reports of suspicious activity; (iii) perform due-diligence on private banking accounts; and (iv) share information upon request from federal law enforcement. Additionally, the Bitcoin Custodian will provide a monthly attestation, executed by an executive officer of the Bitcoin Custodian, verifying the amount of bitcoin it is holding on behalf of the Trust. Also, the Trust’s auditor will have real-time read-only access to the Trust’s bitcoin account maintained by the Bitcoin Custodian on behalf of the Trust.

It is widely acknowledged that numerous markets, commodity or otherwise, have historically been subject to manipulation by “bad actors,” and despite continual efforts by regulators and other market participants, it is highly unlikely that all such “bad actors” and manipulation attempts can be eliminated from markets, bitcoin or otherwise.<sup>15</sup> The Commission to date has disapproved prior listings of investments that involved digital assets, expressing concern that the bitcoin market at issue in such applications may be subject to manipulation.<sup>16</sup>

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<sup>13</sup> Coinbase Custody Trust Company is a qualified custodian as defined in Rule 206(4)-2 under the Investment Advisers Act of 1940.

<sup>14</sup> Bank Secrecy Act, 31 U.S.C. §§ 5311 *et seq.*; Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT) Act of 2001, Pub. L. No. 10756, 115 Stat. 272 (2001).

<sup>15</sup> Spot and futures markets for other commodities have previously been subject to manipulation concerns. *See* CFTC v. Amaranth Advisors, LLC, et al., 07-cv-6682 (S.D.N.Y. 2007); *see also* CFTC Press Release 5692-09, August 12, 2009 (available at: [www.cftc.gov/PressRoom/PressReleases/pr5692-09](http://www.cftc.gov/PressRoom/PressReleases/pr5692-09)) (Amaranth Advisors, LLC, and Amaranth Advisors (Calgary) ULC, entered into a consent order settling charges for attempting to manipulate the price of natural gas futures contracts traded on the New York Mercantile Exchange (NYMEX) on February 24, and April 26, 2006); *see also* CFTC Press Release 7000-14, September 15, 2014 (available at: [www.cftc.gov/PressRoom/PressReleases/pr7000-14](http://www.cftc.gov/PressRoom/PressReleases/pr7000-14)) (Consent order settling charges for attempting to manipulate the price of natural gas futures contracts traded on the NYMEX on February 24, and April 26, 2006); *see* Craig Pirrong, “The Economics of Commodity Market Manipulation: A Survey”, 5 J. Commodity Mkts. 1, 13 (2017) (explaining that “[t]he subject of market manipulation has bedeviled commodity markets since the dawn of futures trading”).

<sup>16</sup> *See, e.g.*, Order Disapproving a Proposed Rule Change, as Modified by Amendments No. 1 and 2, to BZX Rule 14.11(e)(4), Commodity-Based Trust Shares, To List and Trade Shares Issued by the Winklevoss Bitcoin Trust, Securities Exchange Act Release No. 80206 (March 10, 2017), 82 FR 14076 (March 16, 2017) (SR-BatsBZX-2016-30) (“Winklevoss I”); Order Setting Aside Action by Delegated Authority and Disapproving a Proposed Rule Change, as Modified by Amendments No. 1 and 2, To List and Trade Shares of the Winklevoss Bitcoin Trust, Securities Exchange Act Release No. 83723 (July 26, 2018), 83 FR 37579, 37580 (August 1, 2018) (SR-BatsBZX-2016-30) (the “Winklevoss Order”); Order Disapproving a Proposed Rule Change to List and Trade the Shares of the ProShares Bitcoin ETF and the ProShares Short Bitcoin ETF, Securities Exchange Act Release No. 83904 (August 22, 2018), 83 FR 43934 (August 28, 2018) (NYSEArca-2017-139) (the “ProShares Order”); Order Disapproving a Proposed Rule Change Relating to Listing and Trading of the Direxion Daily Bitcoin Bear 1X Shares, Direxion Daily Bitcoin 1.25X Bull Shares, Direxion Daily Bitcoin 1.5X Bull Shares, Direxion Daily Bitcoin 2X Bull Shares, and Direxion Daily Bitcoin 2X Bear Shares Under NYSE Arca Rule 8.200-E, Securities Exchange Act Release No. 83912 (August 22, 2018), 83 FR 43912 (August 28, 2018) (SR-NYSEArca-2018-02) (the

The Rule Change differs in important respects that should be considered by the Commission, and therefore the Sponsor submits that the current proposal is consistent with the requirements of Section 6(b)(5) of the Securities Exchange Act of 1934 (the “Exchange Act”) and the rules thereunder, which are designed to prevent fraudulent and manipulative acts and practices and to protect investors and the public interest. In particular, the additional information submitted herein is designed to respond to questions presented in the Order by explaining that (i) the segment of the bitcoin market applicable to the Trust is inherently resistant to fraud and manipulation, or (ii) NYSE Arca has the requisite surveillance-sharing agreements with significant and regulated markets for trading the underlying commodity or derivatives on that commodity. To support this view, and as discussed with the staff of the SEC (the “Staff”), we submit additional information supporting the approval of the Rule Change.

## **I. Request for Comment and Responses**

Below we list each request for comment, in italics (with internal footnote references deleted), with our responses immediately following.

*Question 1. What are commenters’ views of the Exchange’s assertion that the “proper ‘market’ that one should evaluate to determine whether the ‘market’ is inherently resistant to manipulation is the segment of the market formed by the Constituent Platforms”? What are commenters’ views of the Exchange’s conclusion that, while bitcoin is listed and traded on a number of markets and platforms, the CME CF BRR exclusively utilizes its Constituent Platforms to determine the value of the CME CF BRR, and therefore, use of the CME CF BRR would mitigate the effects of potential manipulation of the bitcoin market? Additionally, what are commenters’ views of the Exchange’s assertion that the capital necessary to maintain a significant presence on any Constituent Platform would make manipulation of the CME CF BRR unlikely?*

### **A. The Relevant “Market” to Determine Whether the Market is Inherently Resistant to Manipulation is the Segment of the Market Formed by the Constituent Exchanges**

The Trust purchases bitcoin from or through the specific segment of the market for bitcoin comprised of marketplaces that have been approved as eligible Constituent Exchanges.<sup>17</sup> In addition, the valuation for the Trust’s bitcoin assets is derived from the marketplaces that have been approved as eligible Constituent Exchanges. Therefore, as it relates to the Trust, the proper

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“Direxion Order”); Order Disapproving a Proposed Rule Change to List and Trade the Shares of the GraniteShares Bitcoin ETF and the GraniteShares Short Bitcoin ETF, Securities Exchange Act Release No. 34-83913 (August 22, 2018), 83 FR 43923 (August 28, 2018) (SR-CboeBZX-2018-001) (the “GraniteShares Order”); Order Disapproving a Proposed Rule Change, as Modified by Amendment No. 1, Relating to the Listing and Trading of Shares of the Bitwise Bitcoin ETF Trust Under NYSE Arca Rule 8.201-E, Securities Exchange Act Release No. 34-87267 (October 9, 2019), 84 FR 55382 (Oct. 16, 2019) (SR-NYSEArca-2019-01) (the “Bitwise Order”, and together with the Winklevoss Order, the ProShares Order, the Direxion Order and the GraniteShares Order, collectively the “Prior Orders”).

<sup>17</sup> As discussed in more detail below, the CME CF Pricing Products Oversight Committee (the “CME CF Oversight Committee”), which supervises CF Benchmarks Ltd., the administrator of the CME CF BRR (the “BRR Administrator”), determines the membership of the Constituent Exchanges used to calculate the CME CF BRR.

market (or group of markets) that one should evaluate to determine whether the market is inherently resistant to manipulation are the Constituent Exchanges.

The Commission has indicated that the requirements of Exchange Act Section 6(b)(5) may be satisfied by demonstrating that the underlying market is inherently resistant to market manipulation and fraudulent activity.<sup>18</sup> The Rule Change explains that the Trust values its bitcoin assets from a specific segment of the market for bitcoin comprised of marketplaces that have been approved as eligible Constituent Exchanges.<sup>19</sup> First, the rules of these Constituent Exchanges prohibit fraud and manipulation in a manner consistent with the requirements of the Exchange Act. Second, the rules of the Constituent Exchanges must address fraud and manipulation or they cease to be eligible exchanges. That is, to be eligible as a Constituent Exchange for use in the CME CF BRR, and therefore, to be part of the proper “market” for the Rule Change, the trading venue must make trade data and order data available through an Automatic Programming Interface (“API”) with sufficient reliability, detail and timeliness and must have “policies to ensure fair and transparent market conditions at all times and has processes in place to identify and impede illegal, unfair or manipulative trading practices.”<sup>20</sup> The Constituent Exchanges represent a segment of the bitcoin market that is inherently resistant to market manipulation and fraudulent activity.

## **B. The Constituent Exchanges Have Established Non-Discretionary Rules to Prohibit Fraud and Manipulation**

The Rule Change is different from prior ETPs considered by the Commission in part due to its inherent characteristics designed to protect investors and because the segment of the market for bitcoin that it will utilize is a more robust and evolved marketplace. The rapid improvements in technology and business practices employed in the marketplace for bitcoin is well advanced in the Constituent Exchanges. Indeed, each of the Constituent Exchanges uses established, non-discretionary methods under which orders interact with each other, and the buyers and sellers entering such orders must agree to such terms. While the Constituent Exchanges are commodities exchanges, these market rules are the hallmarks of securities exchanges.<sup>21</sup> In the case of the market segment relevant to the Trust, such non-discretionary rules explicitly address manipulation and fraudulent activity.<sup>22</sup> Therefore, the segment of the bitcoin spot market made up of the Constituent Exchanges is inherently resistant to the forces of fraud and manipulation

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<sup>18</sup> See Bitwise Order *supra* at note 16, 84 FR 55384.

<sup>19</sup> See Rule Change *supra* at note 1, 84 FR 31377.

<sup>20</sup> See Constituent Exchange Criteria (available at: <https://www.cryptofacilities.com/cms/storage/resources/cme-cf-constituent-exchanges-criteria.pdf>) (“Constituent Exchange Criteria”).

<sup>21</sup> See, e.g., Exchange Act Rule 3b-16 (17 C.F.R. § 240.3b-16).

<sup>22</sup> Bitstamp’s rules includes prohibition of “Market Manipulation,” which forbids all persons from “engaging or attempting to engage in market manipulation (see <https://www.bitstamp.net/terms-of-use/1td>). Similarly, Coinbase states that, “7.5. Prohibited Use. In connection with your use of the Coinbase Services, and your interactions with other users, and third parties you agree and represent you will not engage in any Prohibited Business...” (see [https://www.coinbase.com/legal/user\\_agreement](https://www.coinbase.com/legal/user_agreement)). Gemini’s “Marketplace Conduct Rules” prohibit fraudulent and manipulative conduct (see <https://gemini.com/legal/user-agreement#marketplace-conduct-rules>). itBit’s “Marketplace Rules”, address a variety of fraudulent or manipulative conduct (see <https://www.itbit.com/legal>). Kraken takes steps to “ensure that trades do not lead to market manipulation or other unfair circumstances” (see <https://support.kraken.com/hc/en-us/articles/360022835431-Order-system-and-trade-counterparty>).

due to measures taken by the Constituent Exchanges that allow for identification and prevention of fraud and manipulation.

### **C. Use of the CME CF BRR Mitigates the Effects of Potential Manipulation for the Constituent Exchanges.**

The CME CF BRR is a standardized reference rate and spot price index with independent oversight. To be eligible as a “Constituent Exchange,” a trading venue must meet and be subject to rules that mandate a set of predefined criteria and the operation of existing Constituent Exchanges is monitored against the same criteria.<sup>23</sup> Importantly, each Constituent Exchange is required to have in place processes to detect and prevent fraud and manipulation. The Constituent Exchanges are expected to maintain fair and transparent market conditions to impede illegal, unfair or manipulative trading practices.

The CME CF Oversight Committee determines the membership of exchanges used to calculate the CME CF BRR.<sup>24</sup> The BRR Administrator is, among other things, tasked with establishing appropriate monitoring processes and procedures designed to identify any breaches of its practice standards and any attempted manipulation or manipulative behavior and reporting any such incidents in a timely manner. Further, the processes and procedures at the Constituent Exchanges are evaluated by the BRR Administrator on a regular basis. Failure to abide by the practice standards results in the suspension or removal of such Constituent Exchange from the CME CF BRR by the CME CF Oversight Committee.

In addition, as explained further below, each Constituent Exchange must comply with all applicable laws and regulations, including, but not limited to capital markets regulations, money transmission regulations, client money custody regulations, know-your-customer (“KYC”) regulations and AML regulations. Each of the Constituent Exchanges is registered with Financial Crimes Enforcement Network (“FinCEN”) as a money services business (“MSB”).<sup>25</sup> As a result, each Constituent Exchange must fully comply with the Bank Secrecy Act (“BSA”) and AML requirements.<sup>26</sup> This is also consistent with recent guidance issued by the Financial Action Task Force (“FATF”) which directs certain exchanges, including the Constituent Exchanges, to comply with AML regulations.<sup>27</sup> Anyone trading on a Constituent Exchange must

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<sup>23</sup> See Constituent Exchange Criteria, *supra* at note 20.

<sup>24</sup> The CME CF Oversight Committee is made up of five members: two representatives of the CME, one representative of the BRR Administrator, and two persons who bring expertise and industry knowledge relating to benchmark determination, issuance and operations.

<sup>25</sup> See Application of FinCEN’s Regulations to Persons Administering, Exchanging, or Using Virtual Currencies, FIN-2013-G0001, (Mar. 18, 2013) (available at: <https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf>). FinCEN has prosecuted entities that omit to register with it as an MSB or fail to comply with its regulations aggressively. See, e.g., Release by Office of Public Affairs, Department of Justice, *Ripple Labs Inc. Resolves Criminal Investigation* (available at: <https://www.justice.gov/opa/pr/ripple-labsinc-resolves-criminal-investigation>); see also Consent to the Assessment of a Civil Money Penalty, In the Matter of Eric Powers, U.S. Dep’t of Treas., No. 2019-01 (Apr. 18, 2019) (enforcement action against a peer-to-peer cryptocurrency exchange by FinCEN).

<sup>26</sup> See FinCEN Guidance, May 9, 2019 (available at: <https://www.fincen.gov/sites/default/files/2019-05/FinCEN%20Guidance%20CVC%20FINAL%20508.pdf>).

<sup>27</sup> See <https://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf>.

have an account on the Constituent Exchange, and therefore each person's identity and relevant personal information is known to the Constituent Exchange.

As an additional protection from fraud and manipulation, the Constituent Exchanges are required to maintain transparent and accurate trade and order data. Compliance with this requirement is under the oversight of the CME CF Oversight Committee. As noted previously, each Constituent Exchange must make trade data and order data available through an API with sufficient reliability, detail and timeliness, such that they meet the standards of the BRR Administrator.<sup>28</sup>

In addition, each of the Constituent Exchanges provides robust data security measures and encryption for its platform. Finally, the Constituent Exchanges are required to cooperate with inquiries and investigations of regulators and the BRR Administrator and execute data sharing agreements to further detect and deter fraud and manipulation.

These important protections are required to remain "eligible" – and therefore, to be part of the segment of the bitcoin market that is relevant to the Rule Change. That is, each Constituent Exchange is required to regularly demonstrate to the BRR Administrator that they continue to fulfill the compliance obligations described above.

With regard to this part of Question 1 of the Order, the BRR Administrator submitted a comment to the Commission which was posted to the file (File No. SR-NYSEArca-2019-39) on October 28, 2019 (the "CF Benchmark Comment"),<sup>29</sup> The Sponsor concurs with the analysis and conclusions set forth in the CF Benchmark Comment and respectfully requests that the Commission consider the information and analysis set forth in the CF Benchmark Comment in response to this part of Question 1 of the Order.

#### **D. The Capital Necessary to Maintain a Significant Presence on Any Constituent Platform Presents an Additional Barrier to Manipulation**

To remain eligible, each Constituent Exchange's USD:BTC spot trading volume must contribute at least 3% to the total USD:BTC spot trading volume of all other Constituent Exchanges during each of the last two consecutive calendar quarters.<sup>30</sup> In addition, the USD:BTC pairing must meet a minimum trading volume threshold in order to be considered a Constituent Exchange.

According to the CME, the exchanges that are included within the calculation of the CME CF Bitcoin Reference Rate represent the underlying spot market and the trading on these venues account on average for over 50% of total BTC:USD volume.<sup>31</sup> Underscoring the liquidity in the segment of the market, the CME notes that, "...in the 1 year to March 2019, over USD 3

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<sup>28</sup> See Department of Treasury Report, *supra* at note 6, pgs. 26-29 (noting that "financial services companies can potentially deploy APIs that allow for the inclusion of robust security features, greater transparency and access controls for consumers, improved data accuracy, and more predictable and manageable information technology costs.").

<sup>29</sup> Available at: <https://www.sec.gov/comments/sr-nysearca-2019-39/srnysearca201939-6355042-196244.pdf>

<sup>30</sup> See Constituent Exchange Criteria, *supra* at note 20.

<sup>31</sup> See CME Analysis, *supra* at note 12.

billion worth of bitcoin trades were executed, over 1.8 million trades were included in the [CME CF] BRR based on a total of 607,000 bitcoins traded...".<sup>32</sup>

Constituent Exchanges are not permitted to impose undue barriers to entry or restrictions on market participants.<sup>33</sup> The more participants that are able to access the Constituent Exchange, the greater the potential for liquidity.

Given the interconnectivity required to be eligible as a Constituent Exchange, and to remain so, coupled with the volume and the depth of liquidity in the segment market, the capital necessary to maintain a significant presence in the segment of the market relevant to the Rule Change makes manipulation prohibitively expensive because it requires an actor to hold influence on multiple independent exchanges.

With regard to this part of Question 1 of the Order, the Sponsor concurs with the analysis and conclusions set forth in the CF Benchmark Comment and respectfully requests that the Commission consider the information and analysis set forth in the CF Benchmark Comment in response to this part of Question 1 of the Order.

*Question 2. What are commenters' views of the Exchange's assertion that the CME CF BRR is not susceptible to manipulation? What are commenters' views of the Exchange's assertion that the linkage between the bitcoin markets and the presence of arbitrageurs in those markets means that the manipulation of the price of bitcoin on any Constituent Platform would likely require overcoming the liquidity supply of such arbitrageurs who are potentially eliminating any cross-market pricing differences?*

In connection with market arbitrage, which is the near-simultaneous buying and selling of the same asset in different markets to take advantage of any temporary price dislocations between those markets, in this instance the markets represented by the Constituent Exchanges. Generally, market arbitrage requires significant capital and can only be a viable practice if an asset is traded across different markets, and is priced dissimilarly across those markets. This lack of uniformity gives rise to market arbitrage opportunities, and conversely, if various markets exhibit uniform pricing it implies the presence of market arbitrage. The Constituent Exchanges have consistently exhibited tight spreads, which were demonstrated by the Sponsor's analysis<sup>34</sup>, and also the CME's own analysis<sup>35</sup>. This implies the presence of market arbitrage and arbitrageurs deploying capital to maintain uniform pricing across the Constituent Exchanges. Further, any investor or even a would-be manipulator who places a trade (or group of trades) on a Constituent Exchange will often see any price dislocation arbitrated away against the other Constituent Exchanges.

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<sup>32</sup> *Id.*

<sup>33</sup> See Constituent Exchange Criteria, *supra* at note 20.

<sup>34</sup> See *supra* at note 4.

<sup>35</sup> See CME Analysis, *supra* at note 12.



With regard to Question 2 of the Order, the Sponsor concurs with the analysis and conclusions set forth in the CF Benchmark Comment, which thoroughly addresses the Exchange's assertion that the CME CF BRR is highly resistant to manipulation. The Sponsor respectfully requests that the Commission consider the information and analysis set forth in the CF Benchmark Comment in response to Question 2 of the Order.

*Question 3. What are commenters' views of the Exchange's arguments that substantially similar price discovery and degrees of price volatility among each of the Constituent Platforms support the conclusion that robust arbitrage trading and liquidity provision occurs among the Constituent Platforms?*

With regard to Question 3 of the Order, the Sponsor believes that the data set forth in the CF Benchmark Comment with respect to the variance in the value of the CME CF BRR when omitting each of the Constituent Exchanges, as well as data showing the mean and median correlation between prices of bitcoin on the Constituent Exchanges, support the conclusion that robust arbitrage of bitcoin prices occurs between the Constituent Exchanges and that sufficient liquidity occurs between the Constituent Platforms. The Sponsor respectfully requests that the Commission consider the information and analysis set forth in the CF Benchmark Comment in response to Question 3 of the Order.

*Question 4. What are commenters' views on the Exchange's assertion that, because the CME CF BRR is calculated based solely on the price data from the Constituent Platforms, manipulating the CME CF BRR must necessarily entail manipulating the price data at one or more Constituent Platforms and that anyone attempting to manipulate the Trust would need to place numerous large sized trades on any of the Constituent Platforms that are used to calculate the CME CF BRR? What are commenters' views on the Exchange's argument that, if an attempt were made to manipulate the Trust, the administrator for the CME CF BRR and the CME would be able to detect the manipulative trading patterns? What are commenters' views on whether the Constituent Platforms are regulated markets of significant size related to bitcoin? What are commenters' views on the Exchange's assertion that the CME and the Exchange would be able, in the case of any suspicious trades, to share surveillance information with the Constituent Platforms and to discover all material trade information including the identities of the customers placing the trades?*

One way that NYSE Arca can satisfy the requirements of the Exchange Act Section 6(b)(5) is by entering into a surveillance-sharing agreement with a regulated market (or group of markets) of significant size relating to the underlying or reference assets.<sup>36</sup> In this context, the Commission has taken the position that "significant market" and "market of significant size" include a market (or group of markets) as to which (i) there is a reasonable likelihood that a person attempting to manipulate the ETP would also have to trade on that market to successfully manipulate the ETP, so that a surveillance-sharing agreement would assist in detecting and

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<sup>36</sup> See Winklevoss Order, *supra* at note 16, 83 FR at 37594; *see also* Bitwise Order, *supra* at note 16, 84 FR at 55383.

detering misconduct, and (ii) it is unlikely that trading in the ETP would be the predominant influence on prices in that market.<sup>37</sup>

Below we discuss: (i) the purpose of surveillance-sharing agreements in the context of an ETP, (ii) the applicable regulated markets (or group of markets) of significant size as it relates to the Trust<sup>38</sup>, and (iii) that surveillance-sharing agreements are in place with each of these markets to give NYSE Arca the ability to obtain the information necessary to detect and deter market manipulation, illegal trading and other abuses involving the underlying commodity.<sup>39</sup>

**A. Purpose of surveillance-sharing agreements in the context of an ETP.**

Section 6(b)(5) of the Exchange Act states that:

An exchange shall not be registered as a national securities exchange unless the Commission determines that...the rules of the exchange are designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general, to protect investors and the public interest...<sup>40</sup>

In adopting Exchange Act Rule 19b-4(e), the Commission provided insight into the purpose underlying the importance of surveillance-sharing agreements in various contexts, including those with respect to a commodity-linked ETP. Specifically, the Commission noted that:

It is essential that the SRO have the ability to obtain the information necessary to detect and deter market manipulation, illegal trading and other abuses involving the new derivative securities product. Specifically, there should be a comprehensive ISA [information-sharing agreement] that covers trading in the new derivative securities product and its underlying securities in place between the SRO listing or trading a derivative product and the markets trading the securities underlying the new derivative securities product. Such agreements provide a necessary deterrent to manipulation

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<sup>37</sup> See *id.* (“This definition is illustrative and not exclusive. There could be other types of ‘significant markets’ and ‘markets of significant size,’ but this definition is an example that will provide guidance to market participants.”)

<sup>38</sup> Inherent in the proposition of manipulating an ETP is manipulation of the underlying or reference asset or assets of such ETP. This comment focuses on potential manipulation of the price of bitcoin, since the only other asset of the Trust is T-Bills.

<sup>39</sup> There is clear evidence as to the existence of the surveillance sharing agreements discussed below. Both the Exchange and the CME are members of the Intermarket Surveillance Group. In addition, the CME requires that each platform that becomes a constituent exchange of the CME CF BRR must agree to a data sharing agreement with the CME. For a more detailed discussion of the NYSE Arca’s ability to surveil trading on the CME and the Constituent Exchanges, please see Section 3.B of the response to Question 4 below.

<sup>40</sup> See 15 U.S.C. 78f(b)(5).

because they facilitate the availability of information needed to fully investigate a manipulation if it were to occur.<sup>41</sup>

Since the adoption of Exchange Act Rule 19b-4, the Commission has consistently taken the position that surveillance-sharing agreements facilitate the accessibility and sharing of market trading information, assist with detection of manipulation, provide a deterrent to any such manipulation and provide the listing exchange with the ability to conduct prompt investigations into possible trading violations.<sup>42</sup> In the following sections, we discuss how NYSE Arca satisfies these mandates.

For the reasons set forth below: (i) the group of Constituent Exchanges is a market of significant size in relation to the Trust and (ii) the CME bitcoin futures market, together with information surveillance sharing from the Constituent Exchanges, is a market of significant size in relation to the Trust.<sup>43</sup>

## **B. The Constituent Exchanges**

### *1. The Group of Constituent Exchanges is a Market of Significant Size.*

The Commission's interpretation of the term "market of significant size" depends not on the actual size of the market, but rather on the interrelationship between the market with which the listing exchange has a surveillance-sharing agreement and the proposed ETP.<sup>44</sup> The Commission has stated that there must be a reasonable likelihood that a person attempting to manipulate the ETP would have to trade on the relevant market to successfully manipulate the ETP.<sup>45</sup>

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<sup>41</sup> Amendment to Rule Filing Requirements for Self-Regulatory Organizations Regarding New Derivative Securities Products, Exchange Act Release No. 40761 (Dec. 8, 1998), 63 FR 70952, 70954, 70959 (Dec. 22, 1998) (File No. S7-13-98).

<sup>42</sup> See Exchange Act Release No. 27877 (Apr. 4, 1990), 55 FR 13344, 13345 (Apr. 10, 1990) (SR-NYSE-90-14); see also Exchange Act Release No. 33555 (Jan. 31, 1994), 59 FR 5619, 5621 (Feb. 7, 1994) (SR-Amex-93-28) (order approving listing of options on American Depositary Receipts); see also Exchange Act Release No. 35518 (Mar. 21, 1995), 60 FR 15804, 15807 (Mar. 27, 1995) (SR-Amex-94-30); see also Letter from Brandon Becker, Director, Division of Market Regulation, Commission, to Gerard D. O'Connell, Chairman, Intermarket Surveillance Group (June 3, 1994) (available at: <https://www.sec.gov/divisions/marketreg/mr-noaction/isg060394.htm>) ("The hallmarks of such an agreement are that the agreement provides for the sharing of information about market trading activity, clearing activity, and customer identity; that the parties to the agreement have reasonable ability to obtain access to and produce requested information; and that no existing rules, laws, or practices would impede one party to the agreement from obtaining this information from, or producing it to, the other party.").

<sup>43</sup> See Bitwise Order, *supra* at note 16, 84 FR at 55411, ("The Commission recognizes that, over time, bitcoin-related markets may continue to grow and develop. For example, existing or newly created bitcoin futures markets that are regulated may achieve significant size, and an ETP listing exchange may be able to demonstrate in a proposed rule change that it will be able to address the risk of fraud and manipulation by sharing surveillance information with a regulated market of significant size related to bitcoin, *as well as, where appropriate, with the relevant spot markets* underlying such bitcoin derivatives") (emphasis added).

<sup>44</sup> See Winklevoss Order, *supra* at note 16, 83 FR at 37594; see also Bitwise Order, *supra* at note 16, 84 FR at 55410.

<sup>45</sup> See Winklevoss Order, *supra* at note 16, 83 FR at 37594.

The five Constituent Exchanges compose a market of significant size as there is a reasonable likelihood that a person attempting to manipulate the Shares of the Trust would also have to trade on the Constituent Exchanges in order to successfully manipulate the Shares. Trading data from the Constituent Exchanges is used to derive the price that makes up the CME CF BRR. As noted in the Rule Change, the CME CF BRR is utilized by the Trust for the purpose of valuing the Trust's bitcoin assets. Therefore, the most direct way to attempt to manipulate the Shares of the Trust would be to manipulate the Constituent Exchanges in order to manipulate the price of bitcoin utilized by the Trust to value its bitcoin assets.<sup>46</sup> However, as discussed in more detail below, it becomes more difficult to manipulate the Constituent Exchanges because potential countervailing forces are active in the CME bitcoin futures market, such that a potential manipulator would likely have to trade in both the CME bitcoin futures market as well as the market formed by the Constituent Exchanges.

With respect to whether it is unlikely that trading in the Trust would be the predominant influence on prices in the market composed of the Constituent Exchanges, please see the Sponsor's answer to Question 7 below.

## 2. *The Constituent Exchanges are Regulated*

As discussed above, each of the Constituent Exchanges uses established, non-discretionary methods under which orders interact with each other, and the buyers and sellers entering such orders must agree to such terms. In addition, each of the Constituent Exchanges are regulated by federal and state regulators. As noted in the Rule Change, each of the financial institutions constituting the Constituent Exchanges is registered with FinCEN as an MSB.<sup>47</sup> As a result, the Constituent Exchanges must fully comply with the BSA and AML requirements.<sup>48</sup> This is also consistent with recent guidance issued by the FATF which directs certain exchanges, including the Constituent Exchanges, to comply with AML regulations.<sup>49</sup>

In addition to its general regulatory and enforcement jurisdiction over the virtual currency derivatives markets, the Commodities Futures Trading Commission (the "CFTC") has jurisdiction to police fraud and manipulation in the cash or spot markets, including the Constituent Exchanges.<sup>50</sup> The CFTC has noted explicitly that "asserting legal authority over virtual currency derivatives in support of the CFTC's anti-fraud and manipulation efforts, including in underlying spot markets, is a key component in the CFTC's ability to effectively regulate these markets".<sup>51</sup> The CFTC has expressed its intention to continue to exercise this jurisdiction to enforce the law and prosecute fraud, abuse, manipulation or false solicitation in both the CME bitcoin futures market as well as the underlying spot trading, including on the

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<sup>46</sup> See CME Analysis, *supra* at note 12.

<sup>47</sup> See *supra* at note 25.

<sup>48</sup> See *supra* at note 26.

<sup>49</sup> See *supra* at note 27.

<sup>50</sup> See CFTC Backgrounder on Oversight of and Approach to Virtual Currency Futures Markets, January 4, 2018 (available at:

[https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/backgrounder\\_virtualcurrency01.pdf](https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/backgrounder_virtualcurrency01.pdf)) (the "CFTC Oversight Backgrounder").

<sup>51</sup> See *id.*

Constituent Exchanges.<sup>52</sup> Further, the CME has executed contracts with the Constituent Exchanges to explicitly adhere to the regulations.

Moreover, effective as of August 19, 2019, the BRR Administrator, was authorized by the United Kingdom Financial Conduct Authority (the “FCA”) and was granted a Part 4A permission under Part 4A of the Financial Services and Markets Act 2000 (“FSMA”) to carry on the regulated activity of administering a benchmark.<sup>53</sup> Because the BRR Administrator is a registered benchmark administrator under the EU Benchmark Regulations (the “EU BMR”), the Constituent Exchanges are subject to regulatory oversight by the FCA pursuant to Article 14 of the EU BMR. Further, CF Benchmarks has executed contracts with the Constituent Exchanges to explicitly adhere to the regulations.

Article 14 of the EU BMR requires that the BRR Administrator (i) “establish adequate systems and effective controls to ensure the integrity of input data in order to be able to identify and report to the competent authority any conduct that may involve manipulation or attempted manipulation of a benchmark, under Regulation (EU) No 596/2014” and (ii) “monitor input data and contributors in order to be able to notify the competent authority and provide all relevant information where the administrator suspects that, in relation to the benchmark, any conduct has taken place that may involve manipulation or attempted manipulation of the benchmark, under Regulation (EU) 596/2014 including collusion to do so.”<sup>54</sup> Input data is defined as “the data in respect of the value of one or more underlying assets, or prices, including estimated prices, quotes, committed quotes, or other values, used by an administrator to determine a benchmark.”<sup>55</sup> Thus, under the EU BMR, the BRR Administrator must establish adequate systems and effective controls to detect any attempted manipulation on each of the Constituent Exchanges and report any such attempts to the FCA.

Like the SEC’s regulation of national securities exchanges, the requirements of the EU BMR are designed to detect and deter manipulation on the Constituent Exchanges. By requiring the BRR Administrator to establish procedures to identify and report such manipulation to the FCA, the EU BMR increases market surveillance and deters would-be manipulators by mandating channels of information sharing through governmental oversight of the CME CF BRR. The EU BMR also fosters informational flow and therefore cooperation and coordination between the Constituent Exchanges, the CME and ultimately NYSE Arca, which collectively settle, clear, process information, and facilitate transactions with respect to bitcoin, bitcoin futures and the Shares of the Trust.

Additionally, each of the Constituent Exchanges uses established, non-discretionary methods (whether by providing a trading facility or by setting rules) under which orders interact with each other, and the buyers and sellers entering such orders agree to the terms of a trade.<sup>56</sup> The sets of rules dictating the processes of the Constituent Exchanges must be in line with the CME standards in order for each Constituent Exchange to be included in the calculation of the CME CF BRR. These non-discretionary rules explicitly address manipulation and fraudulent

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<sup>52</sup> See CFTC Oversight Backgrounder, *supra* at note 50.

<sup>53</sup> See [https://registers.esma.europa.eu/publication/details?core=esma\\_registers\\_bench\\_entities&docId=entity261](https://registers.esma.europa.eu/publication/details?core=esma_registers_bench_entities&docId=entity261).

<sup>54</sup> See Article 14 of Regulation (EU) 2016/11.

<sup>55</sup> See Article 1 of Regulation (EU) 2016/11.

<sup>56</sup> See 15 U.S.C. § 78c(a)(1); see also 17 C.F.R. § 240.3b-16(a)(2).

activity.<sup>57</sup> Such rules and the review of such rules by BRR Administrator are comparable to those used by a national securities exchange or to the futures exchanges that are associated with the underlying assets of the commodity-trust ETPs approved to date.<sup>58</sup>

3. *Surveillance-sharing Agreements Are in Place to Give NYSE Arca the Ability to Obtain the Information Necessary to Detect and Deter Market Manipulation.*

Identifying a market of significant size is not, by itself, sufficient to satisfy the requirements of Section 6(b)(5) of the Exchange Act. In addition, an applicant must show that there is a surveillance-sharing agreement in place with such market or that the applicant holds Intermarket Surveillance Group membership in common with such market. As previously noted in this comment, the purpose of having such surveillance-sharing agreements is to facilitate the detection and deterrence of manipulation in such markets. The Trust also satisfies this requirement with respect to the Constituent Exchanges.

In order to be eligible for consideration as a Constituent Exchange, an exchange must comply with specific eligibility criteria established by the BRR Administrator.<sup>59</sup> In particular, the exchange must (i) have policies in place that ensure fair and transparent market conditions at all times, (ii) have processes in place to identify and impede illegal, unfair or manipulative trading practices, and (iii) comply with applicable law and regulation, including, but not limited to capital markets regulations, money transmission regulations, client money custody regulations, KYC regulations and AML regulations.<sup>60</sup> This provides each Constituent Exchange with all material trade information, including the information that can identify customers placing trades.

An effective AML program requires that each Constituent Exchange, among other things, (i) implement AML procedures, such as a Customer Identification Program (CIP) to identify customers and the source of funds, (ii) perform customer due diligence or enhanced due diligence, and (iii) monitor transactions and file Suspicious Activity Reports (SARs).<sup>61</sup>

In order to be an exchange eligible for inclusion in the CME CF BRR, the Constituent Exchanges are required to make both trade data and order book data available to the BRR Administrator in accordance with the policies and procedures of, and in the format prescribed by, the BRR Administrator from time to time.<sup>62</sup> The Constituent Exchanges are also required to have controls and processes in place to protect against, among other things, market abuse (including, without limitation, attempted manipulation of the CME CF BRR) and are responsible for making the relevant data available to the BRR Administrator at the relevant times and for ensuring that

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<sup>57</sup> See Constituent Exchange Criteria, *supra* at note 20.

<sup>58</sup> See, e.g., Exchange Act Rule 3b-16 (17 C.F.R. § 240.3b-16).

<sup>59</sup> See Constituent Exchange Criteria, *supra* at note 20.

<sup>60</sup> See *id.*; see also Gramm-Leach-Bliley Act, 15 U.S.C.A. § 6801 et seq. (requiring financial institutions to maintain and safeguard customer information); see also 31 CFR 103.33(g) for the “Travel” rule, which is one of many KYC and AML regulations that apply to the Constituent Exchanges, as recently reinforced by the director of FinCEN.

<sup>61</sup> See 31 CFR Part 1022.

<sup>62</sup> See Practice Standards (available at: <https://www.cryptofacilities.com/cms/storage/resources/cme-cf-practice-standards.pdf>) (the “Practice Standards”).

the data accurately represents the prices that were available/traded on their trading venues at the relevant times.<sup>63</sup>

An integral factor in the decision on whether to include a BTC:USD exchange as a constituent exchange for purposes of the CME CF BRR is the ability of such exchange to fully share relevant trade data, not just with the BRR Administrator but also publicly. In fact, the CME CF Oversight Committee (which is discussed below in more detail) recently rejected the inclusion of an exchange as a constituent exchange because the exchange made its market data publicly available only to corporate and institutional users.<sup>64</sup> The CME CF Oversight Committee was concerned with the impact this would have on the ability of the market at large to validate the CME CF BRR independently for full transparency and therefore did not vote to include such exchange as a constituent exchange.

Once admitted, each Constituent Exchange must demonstrate that it continues to fulfill each and all of the above criteria in order to continue to be included as a Constituent Exchange for the CME CF BRR.<sup>65</sup> Adherence to the eligibility criteria is monitored by the BRR Administrator and the CME CF Oversight Committee who have the ability to remove or suspend a Constituent Exchange from the CME CF BRR in the event such criteria are not being met.<sup>66</sup>

Consistent with the foregoing requirements, each Constituent Exchange is required to enter into surveillance-sharing agreements with each of the CME and the BRR Administrator.<sup>67</sup> Such surveillance-sharing agreements are how information related to customer identification, trade data, order book data and other trade relevant information and data are conveyed from each Constituent Exchange to the CME and BRR Administrator.

Both NYSE Arca and the CME are members of ISG. The Intermarket Surveillance Group (“ISG”) was established in the early 1980’s and is comprised of an international group of exchanges, market centers, and market regulators that perform front-line market surveillance in their respective jurisdictions.<sup>68</sup> The main purpose of ISG is to share the information which may lead to identifying possible fraudulent and manipulative activities across markets.<sup>69</sup> Members of

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<sup>63</sup> See *id.*

<sup>64</sup> See CME CF Oversight Committee Meeting Minutes - Summary, October 8, 2019 (available at: <https://www.cryptofacilities.com/cms/storage/resources/cme-cf-oversight-committee-meeting-minutes-october-2019.pdf>) (“The committee resolved that without further clarity on how market participants, both individual and institutions, could freely access the market data of the exchange then it would not be appropriate to include the exchange as a constituent exchange at this time.”).

<sup>65</sup> See Constituent Exchange Criteria, *supra* at note 20.

<sup>66</sup> See *id.* The removal or suspension of a Constituent Exchange for not adhering to the eligibility criteria has been exercised previously. For example, in April 2017 Bitfinex was removed as Constituent Exchange, and in January 2019 itBit was temporarily suspended as a Constituent Exchange due to data quality issues, which suspension was lifted in February 2019 (see Oversight Committee Minutes, February 27, 2019, available at: <https://www.cryptofacilities.com/cms/storage/resources/phphQMGB.pdf>).

<sup>67</sup> See *id.*

<sup>68</sup> See <https://www.isgportal.org/isgPortal/public/home.htm>.

<sup>69</sup> The ISG has two purposes: “the coordination and development of programs and procedures to identify possible fraudulent and manipulative activities across markets; and (2) information sharing. The organization is governed by a written Agreement that requires every member to represent that it has the ability to obtain and freely share regulatory information and documents with other ISG members in order to assist them in investigations and/or pursue disciplinary actions. An ISG member’s ability to share regulatory information must be generally

ISG must comply with certain criteria including: (i) having the authority to obtain trade related information, including information regarding the identity of persons affecting transactions in the markets subject to its jurisdiction, (ii) being able and willing to share such information with other ISG participants unencumbered by any bank secrecy laws or related blocking statutes, and (iii) maintaining rules that identify and prohibit specific trading practices that are generally deemed to be non-competitive or abusive (i.e. prohibitions related to insider trading, misuse of non-public information and/or practices that disadvantage customers).<sup>70</sup>

The Commission's Prior Orders acknowledged that, in lieu of a direct surveillance sharing agreement with a regulated market (or group of markets) of significant size, the listing exchange can hold ISG membership in common with such market.<sup>71</sup> The Commission "considers two markets that are members of the [ISG] to have a comprehensive surveillance-sharing agreement with one another, even if they do not have a separate bilateral surveillance-sharing agreement".<sup>72</sup>

Through NYSE Arca's and the CME's common membership in ISG, the CME can effectively share any information that it receives from each of the Constituent Exchanges with NYSE Arca.<sup>73</sup> This relationship permits NYSE Arca to properly detect any potential manipulation that may be attempted on any of the Constituent Exchanges. This also satisfies the Commission's requirements set forth in the Prior Orders for the listing exchange to have surveillance sharing agreements in place with such markets.

Separate from NYSE Arca's ability to detect manipulation on the Constituent Exchanges, the BRR Administrator is independently tasked with overseeing each Constituent Exchange for potential manipulation. This independent mandate adds an extra layer of manipulation detection. Specifically, the BRR Administrator is responsible for "establishing appropriate monitoring processes and procedures designed to identify...any attempted manipulation or manipulative behaviour and reporting any such incidents to the CME CF Oversight Committee in a timely manner".<sup>74</sup>

In addition, as noted above, there is a separate and independent CME CF Oversight Committee for the CME CF BRR. The CME CF Oversight Committee was established to protect the integrity of the methodology and calculation process, and is responsible for reviewing and providing challenge on all aspects of the methodology and calculation process and providing effective oversight of the BRR Administrator as it relates to the CME CF BRR, including the

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unencumbered by rules, nationally imposed blocking statutes or bank secrecy laws." Description of purpose of ISG by Intermarket Surveillance Group, available at <https://www.isgportal.org/isgPortal/public/home.htm>.

<sup>70</sup> See *id.*

<sup>71</sup> See Amendment to Rule Filing Requirements for Self-Regulatory Organizations Regarding New Derivative Securities Products, Securities Exchange Act Release No. 40761 (Dec. 8, 1998, 63 FR 70952 at 70959 (ISG was formed, to coordinate, among other things, effective surveillance and investigative sharing arrangements). See also Winklevoss Order, *supra* at note 16, 83 FR at 37582 and Bitwise Order, *supra* at note 16, 84 FR at 55412.

<sup>72</sup> See Winklevoss Order, *supra* at note 16, 83 FR at 37580 n.19.

<sup>73</sup> As described in more detail below, the CME has entered into direct surveillance sharing agreements with each of the Constituent Exchanges.

<sup>74</sup> See Practice Standards, *supra* at note 62.



BRR Administrator's manipulation surveillance.<sup>75</sup> Of particular note, the CME CF Oversight Committee is responsible for reviewing reports on any complaints or concerns regarding the CME CF BRR's relevance, resistance to manipulation, replicability, transparency and/or compliance with the applicable methodology and overseeing the related investigation and remedial actions, if any.<sup>76</sup> Thus, the CME CF Oversight Committee is also responsible for reviewing and enforcing the BRR Administrator's manipulation surveillance and enforcement as it relates to the Constituent Exchanges.

Also, as a result of the CFTC requiring virtual currency self-certification to be effectuated under heightened review, as previously discussed, the CFTC not only has clear legal authority, but also has the means to police underlying spot markets for fraud and manipulation.<sup>77</sup> Specifically, heightened review requires designated contract markets ("DCM") to enter into direct or indirect information sharing agreements with spot market platforms to allow access to trade and trader data.<sup>78</sup> As noted above, in addition to the CME (as a DCM), the BRR Administrator also has entered into direct surveillance sharing agreements with the Constituent Exchanges.

Surveillance of the Constituent Exchanges is further reinforced by the FCA's oversight of the BRR Administrator and the BRR Administrator's obligations as a benchmark administrator under EU regulations. As previously noted, the BRR Administrator was authorized by the United Kingdom FCA and was granted a Part 4A permission under Part 4A of the FMSA to carry on the regulated activity of administering a benchmark. As a result, the BRR Administrator is subject to regulatory oversight by the FCA pursuant to Article 14 of the EU BMR. Moreover, the EU BMR protects the public interest by establishing clear legal mechanisms<sup>79</sup> for authorities to investigate and impose criminal penalties on persons that manipulate the BRR in violation of Regulation (EU) 596/2014<sup>80</sup>, which serves as a deterrence to any would-be manipulators.

Each Constituent Exchange is also required to cooperate with inquiries and investigations of regulators and the BRR Administrator upon request. This requirement of cooperation allows NYSE Arca to directly request from each Constituent Exchange any information that may be relevant to detecting potential manipulation.

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<sup>75</sup> See CF Benchmarks CME CF Cryptocurrency Pricing Products Oversight Committee Founding Charter, version 3, September 11, 2019 (available at: <https://www.cryptofacilities.com/cms/storage/resources/cme-cf-oversight-committee-charter.pdf>) (the "Oversight Committee Charter"); see also CME CF Oversight Committee Meeting Minutes - Summary, June 25, 2019 (available at: <https://www.cryptofacilities.com/cms/storage/resources/cme-cf-oversight-committee-meeting-minutes-jun-2019.pdf>) ("The committee resolved that the benchmark surveillance reports gave the committee sufficient information to provide oversight of the Administrators manipulation surveillance of the CME CF Cryptocurrency Pricing Products.").

<sup>76</sup> See Oversight Committee Charter, *supra* at note 75.

<sup>77</sup> See CFTC Oversight Backgrounder, *supra* at note 50; see also CFTC Backgrounder on Self-Certified Contracts for Bitcoin Products, December 1, 2017 (available at: [https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/bitcoin\\_factsheet120117.pdf](https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/bitcoin_factsheet120117.pdf)).

<sup>78</sup> See *id.*

<sup>79</sup> Article 41 of Regulation (EU) 2016/11.

<sup>80</sup> Regulation (EU) 596/2014.

Also, the Commission<sup>81</sup>, the CFTC<sup>82</sup> and the FCA have a long-standing history of consultation, cooperation and information sharing in regulating the securities markets. Under the FSMA, the FCA is obligated to take appropriate steps to cooperate with overseas regulators, including the Commission.<sup>83</sup> Ultimately, if the Commission has a rational basis for making a request to the FCA for disclosure of information from an entity regulated by the FCA, then the FCA has a statutory right under UK law to request such disclosure.<sup>84</sup> Thus, the Commission will be able to access any information that it needs to obtain regarding an attempt at manipulating the Constituent Exchanges by requesting the FCA to disclose such information obtainable by the BRR Administrator under the EU BMR.

As noted above, there are multiple levels of review and detection for any attempted manipulation on the Constituent Exchanges. First, each of the Constituent Exchange's themselves need to (i) make both trade data and order book data available to the BRR Administrator, (ii) comply with KYC and AML laws, which would include identifying customers and the source of virtual currency, and monitoring transactions and filing suspicious activity reports, and (iii) have controls and processes in place to protect against, amongst other things, market abuse (including, without limitation, attempted manipulation of the CME CF

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<sup>81</sup> See Memorandum of Understanding Concerning Consultation, Cooperation and the Exchange of Information Related to Market Oversight and the Supervision of Financial Services Firms between the Commission and, as successor in interest, the FCA (November 14, 2006). See also Memorandum of Understanding on Mutual Assistance and the Exchange of Information between (among others) the Commission and, as successor in interest, the FCA (September 25, 1991, as amended), which covers primarily information-sharing in the context of enforcement investigations; see also the IOSCO Multilateral Memorandum of Understanding Concerning Consultation and Cooperation and the Exchange of Information, to which the Commission and, as successor in interest, the FCA are signatories, which also covers information-sharing in the context of enforcement investigations.

<sup>82</sup> See Cooperation Agreement Concerning Cooperation and the Exchange of Information on Financial Technology Innovation between the CFTC and the FCA (February 19, 2018); see also Memorandum of Understanding on Exchange of Information between the Commission and, as successor in interest, the FCA in Matters Relating to Securities and between the CFTC and, as successor in interest, the FCA in Matters Relating to Futures (September 23, 1986); see also Financial Information Sharing Memorandum of Understanding between the CFTC and U.S. self-regulatory organizations and, as successor in interest, the FCA and U.K. self-regulatory organizations (September 1, 1988) and Addendum (May 15, 1989); see also Memorandum of Understanding on Mutual Assistance and the Exchange of Information between the Commission and CFTC and, as successors in interest, the FCA and Bank of England ("BOE") (September 25, 1991), amended to include HM Treasury (May 9, 1994); see also Memorandum of Understanding between the Commission and CFTC and, as successors in interest, the FCA and BOE (October 28, 1997); see also Declaration on Cooperation and Supervision of International Futures Markets and Clearing Organizations (as amended March 1998), to which the CFTC and, as successor in interest, FCA are signatories; see also Arrangement on Warehouse Information between the CFTC and, as successors in interest, the FCA and BOE (May 17, 2000); see also Memorandum of Understanding Concerning Consultation, Cooperation and the Exchange of Information Related to Market Oversight between the CFTC and, as successors in interest, the FCA and BOE (November 17, 2006); see also IOSCO Multilateral Memorandum of Understanding Concerning Consultation and Cooperation and the Exchange of Information (revised May 2012), to which the Authorities are signatories, which covers primarily information sharing in the context of enforcement matters; see also Memorandum of Understanding Concerning Consultation, Cooperation and the Exchange of Information related to the supervision of covered entities in the alternative investment fund industry between the CFTC and the FCA (July 22, 2013); see also Memorandum of Understanding Concerning Cooperation and the Exchange of Information in the Context of Supervising Covered Firms between the CFTC and the FCA (October 6, 2016); see also LCH Ltd Framework Arrangement among Crisis Management Group Members to which the Authorities are signatories (September 6, 2017).

<sup>83</sup> See Financial Services and Markets Act 2010, Section 169.

<sup>84</sup> See Financial Services Authority v Amro International [2010] EWCA Civ 123, para. 39.

BRR). In addition, the BRR Administrator is responsible for establishing monitoring processes and procedures designed to identify any attempted manipulation or manipulative behavior on the Constituent Exchanges. Also, the CME CF Oversight Committee exists to provide effective oversight of the BRR Administrator as it relates to the CME CF BRR, including the BRR Administrator's manipulation surveillance. Finally, the EU BMR and the FCA impose additional requirements on the BRR Administrator regarding identifying and reporting such manipulation to the FCA.

*Questions 5 and 6. What are commenters' views on whether there is a reasonable likelihood that a person attempting to manipulate the Shares would also have to trade on the CME to manipulate the Shares? What are commenters' views on the trading relationship between the CME and the Constituent Platforms or the bitcoin spot market more broadly? For example, what is the relative size of these markets, and where does bitcoin price formation occur? Does the market, spot or futures, in which price formation occurs affect commenters' analysis of whether it is reasonably likely that someone attempting to manipulate the Shares would have to trade on the CME, or that trading in the Shares would be the predominant influence on prices on the CME?*

#### CME Bitcoin Futures Market

The Commission's interpretation of the term "market of significant size" depends not on the actual size of the market, but rather on the interrelationship between the market with which the listing exchange has a surveillance-sharing agreement and the proposed ETP.<sup>85</sup>

#### **A. The CME Bitcoin Futures Market is a Market of Significant Size.**

The CME CF BRR is one of the linchpins that ties the CME bitcoin futures market together with the Constituent Exchange spot markets.<sup>86</sup> As described below, it connects the markets through regulatory requirements, surveillance sharing agreements, and as a settlement and arbitrage mechanism linking futures and spot markets. Therefore, the CME bitcoin futures market meets the condition that there is a reasonable likelihood that a person attempting to manipulate the ETP would also trade on that market to successfully manipulate the ETP.

##### *1. The Size of the Bitcoin Futures Market in Relation to Constituent Exchanges.*

The bitcoin futures market is larger in size (as a percentage of trading on the Constituent Exchanges) than the size of the gold futures market in relation to the gold OTC market (expressed as a percentage). As noted in the Rule Change, using the data cited by the World Gold Council, an affiliate of the SPDR Gold Shares (GLD), for 2016, the ratio of daily trading volume of Gold futures on COMEX (\$28.9 billion) to daily trading volume on gold OTC

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<sup>85</sup> See Winklevoss Order, *supra* at note 16, 83 FR at 37594; see also Bitwise Order, *supra* at note 16, 84 FR at 55410.

<sup>86</sup> The CME CF BRR is the rate on which bitcoin futures contracts are cash-settled in USD at CME and serves as a reference rate in the settlement of financial derivatives based on the price of bitcoin.

markets (\$167.9 billion, which is the midpoint of the estimated high and low points by the World Gold Council) is approximately 17.2%.<sup>87</sup>

In comparison, and as also noted in the Rule Change, using data from the CME and the five CME CF BRR Constituent Platforms over the 6-month period of October 1, 2018 to March 31, 2019, the ratio of daily trading volume of bitcoin futures on the CME (\$90.4 million) to the daily trading volume on the Constituent Exchanges (\$149.5 million)<sup>88</sup> is approximately 60.5%.<sup>89</sup>

## 2. *The Significance of the Bitcoin Futures Market.*

The Sponsor has completed an independent analysis of bitcoin price discovery using CME bitcoin futures trades and the CME CF Bitcoin Real Time Index (the “CME CF BRTI”), which is the real-time intraday spot rate constructed from the real-time spot prices from the Constituent Exchanges.<sup>90</sup> The Sponsor modeled its methodology for the bitcoin price formation analysis based on the price discovery methodology employed in the Securities and Exchange Commission Department of Economic Risk Analysis working paper “Intentional Access Delays, Market Quality, and Price Discovery: Evidence from IEX Becoming an Exchange”<sup>91</sup>, which in turn, draws from the price formation work of Ozturk et al.<sup>92</sup> and de Jong et al.<sup>93</sup>, both of which focus on price formation in fragmented markets, particularly in equities, with more than two pricing sources. The body of analysis specific to price formation in futures versus spot markets generally employs a different set of price formation metrics that focus particularly on price formation between two markets, futures and spot, and for this price formation analysis, the

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<sup>87</sup> Data available at <https://www.gold.org/goldhub/data>.

<sup>88</sup> For the 6-month period of October 1, 2018 to March 31, 2019, the total daily trading volume of BTC:USD on the Constituent Exchanges was \$149,455,797, consisting of (i) \$37,241,927 on Bitstamp; (ii) \$48,472,422 on Coinbase; (iii) \$19,028,101 on itBit; (iv) \$26,848,318 on Kraken; and (v) \$17,865,028 on Gemini.

<sup>89</sup> Analysis performed by the Sponsor using data available from (i) the CME with respect to the CME futures, and (ii) Kaiko//Challenger Deep with respect to BTC:USD spot.

<sup>90</sup> Tick data comprising the official record of trade times and prices as well as quantities for electronic trades in bitcoin futures (Time and Sales data set) are available via the CME DataMine market data facility. Market data messages for the CME CF BRR and CME CF BRTI are also available via CME DataMine market data facility. Data is transferred from the CME Group DataMine market data facility to an AWS S3 bucket via the TickSmith Automatic S3 Transfer service integrated in the CME DataMine market data facility. The official data sets from the CME Group are decompressed and stored on the EBS volume attached to an AWS EC2 virtual machine. Rolling futures trade prices and CME CF BRTI levels are aggregated into 1-minute intervals using the respective median value in each interval during CME bitcoin futures, CME Globex and CME ClearPort daily trading hours of 5 p.m. to 4 p.m. (Central Time), Sunday through Friday. Previous values are used if data is unavailable for one of the intervals. Time stamps for all input timeseries are aligned to Central Time. Parallelized numerical calculations are performed on an AWS m5.24xlarge virtual machine instance containing ninety-six (96) virtual cores and 384GB of memory. More information about the CME datasets is available at:

<https://www.cmegroup.com/confluence/display/EPICSANDBOX/Time+and+Sales>;

<https://www.cmegroup.com/confluence/display/EPICSANDBOX/24-7+CME+CF+Cryptocurrency+Indices>.

<sup>91</sup> See Hu, Edwin, (March 15, 2019) “Securities and Exchange Commission Department of Economic Risk Analysis, Intentional Access Delays, Market Quality, and Price Discovery: Evidence from IEX Becoming an Exchange”.

<sup>92</sup> See also Ozturk, S., Van der Wel, M. and van Dijk, D. (2017) “Intraday Price Discovery in Fragmented Markets”, *Journal of Financial Markets* 32, 28–48.

<sup>93</sup> See also De Jong, F. and Schotman, P., (2010) “Price discovery in fragmented markets”, *Journal of Financial Econometrics* 8, 1–28.

Sponsor calculates, in a two-component system, the Gonzalo and Granger component share<sup>94</sup> to analyze the contribution of futures and spot to price formation.<sup>95</sup> The component share from CME bitcoin futures contracts as compared to the CME CF BRTI spot rate was 62.69% in the second half of 2019 in a two-component model of futures and spot markets indicating that the futures contracts contributed more to price formation than spot. This finding corroborates several recent journal publications which also find Gonzalo and Granger price formation component shares for CME bitcoin futures are larger than the component share for bitcoin spot.<sup>96</sup> Based on its analysis and the findings of multiple recent publications, the Sponsor concludes that the CME bitcoin futures contribution to price formation is greater than the contribution from the Constituent Exchanges and has increased over time, therefore indicating that the futures contribute more to price formation.

The Sponsor's conclusions set forth above are also consistent with decades of research literature on futures and spot price trends in general, and specifically, more recent analysis of the bitcoin futures and spot markets. Studies on price formation between the spot and futures markets broadly often find that the futures market leads.<sup>97</sup> As previously noted, there is a specific

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<sup>94</sup> See Gonzalo, J. and Granger, C. (1995) "Estimation of common long-memory components in cointegrated systems" *Journal of Business & Economic Statistics*, 13, 27-35 (available at: <https://www.jstor.org/stable/1392518>) ("Gonzalo and Granger").

<sup>95</sup> This price formation metric is employed in several of the recent bitcoin price formation studies from different groups comparing futures and spot so there are several findings to tie to.

<sup>96</sup> See Mizrach, B. and Aleti, S. (2019). "Bitcoin Spot and Futures Market Microstructure" (available at: <https://ssrn.com/abstract=3459111>) ("Mizrach and Aleti"); see also Alexander, C. and Heck, D. (2019) "Price Discovery, High Frequency Trading and Jumps in Bitcoin Markets" (available at: <https://ssrn.com/abstract=3383147>) ("Alexander and Heck"); see also Entrop, O. Frijns, B. and Seruset, M. (2019). "The Determinants of Price Discovery on Bitcoin Markets" (available at: [https://acfr.aut.ac.nz/\\_data/assets/pdf\\_file/0009/296424/B-Frijns-Bitcoin\\_Paper.pdf](https://acfr.aut.ac.nz/_data/assets/pdf_file/0009/296424/B-Frijns-Bitcoin_Paper.pdf)) ("Entrop, Frijns and Seruset"); see also Kapar, B. and Olmo, J. (2018). "An Analysis of Price Discovery between Bitcoin Futures and Spot Markets", *Economics Letters*, 174, 62-64 (available at: <https://www.sciencedirect.com/science/article/abs/pii/S0165176518304440>) ("Kapar and Olmo"); See also Erdinc Akyildirim, Shaen Corbet, Paraskevi Katsiampa, Neil Kellard, Ahmet Sensoy (2019). "The development of Bitcoin futures: Exploring the interactions between cryptocurrency derivatives", *Finance Research Letters* (available at: <http://www.sciencedirect.com/science/article/pii/S1544612319304714>); see also Fassas, A., Papadamou, S. and Koulis, A. (2019). "Price Discovery in Bitcoin Futures" *Research in International Business and Finance* (available at: <https://www.sciencedirect.com/science/article/abs/pii/S0275531919305628>) ("Fassas, Papadamou and Koulis").

<sup>97</sup> See Stoll, H. and Whaley, R. (1990) "The Dynamics of Stock Index and Stock Index Futures Returns", *The Journal of Financial and Quantitative Analysis*, 25(4), 441-468 (for equities and stock indices) (available at: <https://www.jstor.org/stable/2331010?seq=1>); see also Chen, Y. and Gau, Y. (2010) "News Announcements and Price Discovery in Foreign Exchange Spot and Futures Markets", *Journal of Banking & Finance*, 34, 1628-1636 (for foreign exchange spot and futures) (available at: <https://www.sciencedirect.com/science/article/abs/pii/S037842661000107X>); see also Figuerola-Ferretti, I. and Gonzalo, J. (2010) "Modeling and Measuring Price Discovery in Commodity Markets", *Journal of Economics*, 158(1), 95-107 (for commodities spot and futures) (available at: <https://www.sciencedirect.com/science/article/abs/pii/S0304407610000552>); see also Theissen, E. (2012) "Price Discovery in Spot and Futures Markets: A Reconsideration", *The European Journal of Finance*, 18(1), 969-987 (for the DAX spot and futures)

([https://www.researchgate.net/publication/48264009\\_Price\\_discovery\\_in\\_spot\\_and\\_futures\\_markets\\_A\\_reconsideration](https://www.researchgate.net/publication/48264009_Price_discovery_in_spot_and_futures_markets_A_reconsideration)); see also Mizrach, B. and Otsubo, Y. (2014) "The Market Microstructure of the European Climate Exchange", *Journal of Banking and Finance*, 39, 107-116 (for markets for carbon emissions) (available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1621340](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1621340)); see also Chen, Y.L. and Tsai, W.C. (2017) "Determinants of price discovery in the VIX futures market", *Journal of Empirical Finance*, 43, 59-73 (for markets

body of research that has been performed which confirms that the majority of price discovery for bitcoin takes place in the futures market.<sup>98</sup> Research indicates that the futures market often leads the spot market due to inherent leverage, low transaction costs, the absence of short-selling restrictions and greater transparency.<sup>99</sup>

When interrelated securities or commodities trade in multiple markets, the information share and component share measures are statistical measures used to measure contribution to and trends in price discovery. Using both the Gonzalo and Granger component share<sup>100</sup> and the Hasbrouck information share<sup>101</sup> measures, research suggests that a majority of long run price information is derived from the futures market.<sup>102</sup> Additionally, it has been observed that price movements in the futures markets are often accompanied or followed by price movements of the spot market in the same direction.<sup>103</sup> Conclusions have also been reached that the CME futures have become a major driver of bitcoin spot prices, with high-volume trades from its large institutional investor clients effectively arbitraging away any spikes in the basis within minutes, if not seconds.”<sup>104</sup>

In addition to the static time invariant approaches noted above, research has also been performed applying the time-varying Granger causality test of Shi et al.<sup>105</sup> and the time-varying cointegration tests of Park & Hahn.<sup>106</sup> Such research has confirmed prior findings, based on static time invariant approaches, that bitcoin futures lead the bitcoin spot market in price formation.<sup>107</sup> Using such time-varying price discovery measures it was found that the bitcoin futures markets consistently lead the price discovery process.<sup>108</sup>

Trade volume and trade size can also be determinants of price discovery. It is widely acknowledged that the Constituent Exchanges have a higher average trade volume than the CME bitcoin futures market, and conversely, the average size of trades on the CME bitcoin futures

for VIX indices) ((available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2972441](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2972441)); see also Dimpfl, T., Flad, M. and Jung, R.C. (2017) “Price Discovery in Agricultural Commodity Markets in the Presence of Futures Speculation”, *Journal of Commodity Markets*, 5, 50-62 (for spot and futures of eight agricultural commodities) ((available at <https://www.sciencedirect.com/science/article/pii/S2405851318300941>)).

<sup>98</sup> See *supra* at note 96.

<sup>99</sup> See Alexander and Heck, *supra* at note 96; see also Kapar and Olmo, *supra* at note 96, pgs. 62-64.

<sup>100</sup> See Gonzalo and Granger, *supra* at note 94.

<sup>101</sup> See Hasbrouck, J. (1995) “One security, many markets: Determining the contributions to price discovery” *The Journal of Finance*, 50, 1175-1199.

<sup>102</sup> See Alexander and Heck, *supra* at note 96.

<sup>103</sup> See Alexander and Heck, *supra* at note 96, pg. 22.

<sup>104</sup> See Alexander and Heck, *supra* at note 96, pg. 24.

<sup>105</sup> See Shi, S., Phillips, P.C. and Hurn, S. (2018). “Change detection and the causal impact of the yield curve” *Journal of Time Series Analysis*, 39, 966-987.

<sup>106</sup> See Park, J.Y. and Hahn, S.B. (1999). “Cointegrating regressions with time varying coefficients” *Econometric Theory*, 15, 664-703.

<sup>107</sup> See Hu, Y., Hou, Y. and Oxley, L. (2019). “What role do futures markets play in Bitcoin pricing? Causality, cointegration and price discovery from a time-varying perspective” (available at: <https://ssrn.com/abstract=3442706>) (“Hu, Hou and Oxley”). (“It is clear that the IS (upper bound, lower bound and mid point) and GIS measures of the CME futures are higher than those of spot markets, indicating that the CME futures market outperforms in terms of static information shares price discovery.”).

<sup>108</sup> See Hu, Hou and Oxley, *supra* at note 107, pg. 28. (noting that, overall, the CME futures market has higher means of the GIS than the spot counterpart, indicating that the CME futures market leads in the dynamic price discovery process.).

market are much larger than the average size of trades on the Constituent Exchanges.<sup>109</sup> However, a relative number of small trades in a given bitcoin market is statistically insignificant for purposes of price discovery.<sup>110</sup> Although the trading volume on the CME bitcoin futures market may be lower than the trading volume on the Constituent Exchanges, the average trade size on the CME futures market facilitates its lead in price discovery versus the Constituent Exchanges. Furthermore, the CME bitcoin futures trading volume is higher than each of the Constituent Exchanges when taken individually, which also facilitates price discovery within the futures market.

Research has consistently shown an interrelationship between the prices on the CME futures market and the prices on the Constituent Exchanges based on the determinants of price discovery and that, in most instances, the CME futures market is the market that leads prices on the Constituent Exchanges. Although the Trust will not be buying or selling bitcoin futures, this lead-lag relationship between the CME bitcoin futures market and the Constituent Exchanges underscores that a would-be manipulator of the Trust would trade on the CME bitcoin futures market in order to successfully manipulate the prices on the Constituent Exchanges, which is the sole source for the Trust's bitcoin valuation.<sup>111</sup>

## **B. The CME Bitcoin Futures Market is Regulated**

The CME is a DCM registered and regulated by the CFTC with self-regulatory responsibilities. As a threshold matter, a DCM may not list a contract that is readily susceptible to manipulation.<sup>112</sup> Pursuant to Section 5(d) of the Commodity Exchange Act, a DCM must establish, monitor and enforce rules of trading on its contract market, including access requirements, terms and conditions for trading, and rules prohibiting manipulation on the contract market.<sup>113</sup> Further, a DCM is required to ensure appropriate mechanisms to surveil, detect and share information regarding any manipulation or price distortion on the contract market and apply appropriate sanctions to any person that violates the rules of the contract market.<sup>114</sup> Moreover, the CME, as a DCM, has robust surveillance over all bitcoin futures contracts traded on its contract market and thus, has the ability to share such surveillance as may be requested by the CFTC or pursuant to any information-sharing agreement. Ultimately, the

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<sup>109</sup> See Mizrach and Aleti, *supra* at note 96, pg. 3 (“The most active spot exchange in our sample, Coinbase, executes an average of more than 50,000 trades per day; the median trade is less than \$75. In contrast, the CME Bitcoin futures exchange executes an average of less than 2,400 trades per day with a median trade size of over \$18,000.”); Fassas, Papadamou and Koulis, *supra* at note 96, pg. 8.

<sup>110</sup> See Entrop, Frijns and Seruset, *supra* at note 96, pg. 19.

<sup>111</sup> See Bitwise Order, *supra* at note 16, 84 FR at 55411 (“The Commission also notes that the record contains no evidence about the lead-lag relationship between the bitcoin futures market and the spot market, *which is central* to understanding whether it is reasonably likely that a would-be manipulator of the ETP would need to trade on the bitcoin futures market to successfully manipulate prices on those spot platforms that feed into the proposed ETP’s pricing mechanism.”). (emphasis added)

<sup>112</sup> See 17 C.F.R. §38.200

<sup>113</sup> 7 U.S. Code § 7.

<sup>114</sup> See 17 C.F.R. §38.251; *See also*

[https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/bitcoin\\_factsheet120117.pdf](https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/bitcoin_factsheet120117.pdf) (“The board of trade shall maintain rules and procedures to provide for the recording and safe storage of all identifying trade information in a manner that enables the contract market to use the information: (a) to assist in the prevention of customer and market abuses; and (b) to provide evidence of any violations of the rules of the contract market.”).

CME uses a combination of real-time monitoring, position limits, and information sharing agreements with the underlying cash exchanges to prevent and detect manipulative practices.<sup>115</sup>

With respect to CME bitcoin futures, the staff of the CFTC engaged in a “heightened review”<sup>116</sup> which included the voluntary cooperation of the CME with a set of steps that is unprecedented in scope.<sup>117</sup> Among other things, heightened review includes (i) the CME monitoring data from cash markets with respect to price settlements and other bitcoin prices more broadly, and identifying anomalies and disproportionate moves in the cash markets compared to the futures markets, (ii) the CME agreeing to engage in inquiries, including at the trade settlement level when necessary, and (iii) the CME agreeing to regular coordination with CFTC surveillance staff on trade activities, including providing the CFTC surveillance team with trade settlement data upon request.<sup>118</sup> As noted by CFTC Chairman J. Christopher Giancarlo, “in crafting its process of ‘heightened review’ for compliance with core principles, CFTC staff prioritized visibility and monitoring of markets for bitcoin derivatives and underlying settlement reference rates. Staff felt that in gaining such visibility, the CFTC could protect for bitcoin market participants and consumers as well as the public interest in Federal surveillance and enforcement. This visibility greatly enhances the agency’s ability to prosecute fraud and manipulation in both the new bitcoin futures markets and in its underlying cash markets.”<sup>119</sup>

### **C. NYSE Arca has Surveillance Sharing Agreement with the CME Bitcoin Futures Market.**

Both NYSE Arca and the CME are members of ISG. Through their common membership in ISG, the CME can effectively share any information from the CME bitcoin futures market with NYSE Arca. This relationship permits NYSE Arca to properly detect any potential manipulation that may be attempted on the CME bitcoin futures market. This satisfies the Commission’s requirements set forth in the Prior Orders for the listing exchange for having surveillance sharing agreements in place with the regulated market (or group of markets) of significant size.

*Question 7. What are commenters’ views on the Exchange’s representation that, “given the nature of the Trust and the composition of its assets, trading in the Trust would not be the predominant influence on prices (i) that make up the CME CF BRR, (ii) in the [b]itcoin futures market on the CME, or (iii) in the USD/BTC spot market on the Constituent Platforms?” In addition, what are commenters’ views on the Exchange’s conclusion that, because the Trust will only purchase bitcoin if (1) required to as a result of the monthly rebalancing of its assets or (2) if it sells Shares to new investors, and will*

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<sup>115</sup> See Remarks of Commissioner Brian Quintenz at the Technology and Standards: Unlocking Value in Derivatives Markets Conference London, United Kingdom, November 30, 2017 (available at: <https://www.cftc.gov/PressRoom/SpeechesTestimony/opaquintenz4>).

<sup>116</sup> See CFTC Oversight Backgrounder *supra* at note 50. (“At the heart of the CFTC’s heightened review is extensive visibility and monitoring of markets for virtual currency derivatives and underlying settlement reference rates.”).

<sup>117</sup> See Remarks of Chairman J. Christopher Giancarlo to the ABA Derivatives and Futures Section Conference, Naples Florida, January 19, 2018 (available at: <https://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo34>) (“Giancarlo Remarks”)

<sup>118</sup> See CFTC Oversight Backgrounder, *supra* at note 50.

<sup>119</sup> See Giancarlo Remarks, *supra* at note 117.



*only sell bitcoin if required to as a result of the monthly rebalancing of its assets, “trading in the Shares will not cause the Trust to purchase or sell [b]itcoin and will therefore not influence the price of [b]itcoin?”*

As noted in the Rule Change, for several reasons, it is unlikely that trading in the Trust would be the *predominant* influence on prices in the identified markets of significant size. The three critical factors in arriving at this conclusion are (i) the events causing the Trust to buy or sell bitcoin, (ii) the frequency with which it will do so and (iii) the composition of the assets of the Trust.

#### *Events Causing the Trust to Buy or Sell Bitcoin*

The Trust will only buy bitcoin in connection with the issuance of Shares of the Trust or potentially in connection with the rebalancing of the Trust’s assets each month. The Trust will only sell bitcoin in connection with the redemption of Shares by holders or potentially in connection with the rebalancing of the Trust’s assets. In no event will the Trust buy or sell bitcoin as a result of trading of the Shares of the Trust on the Exchange.<sup>120</sup> The Sponsor thoughtfully and intentionally created the Trust in this manner in order to limit any effect the Trust could potentially have on the underlying bitcoin market.

#### *Frequency at Which the Trust Will Buy or Sell Bitcoin*

It is also important to note the frequency at which such events occur. The Trust will only redeem Shares and rebalance its assets monthly and will only issue Shares in offerings that will occur from time to time. Additionally, in order to redeem Shares, a holder of Shares must submit a notice of redemption at least five (5) Business Days prior to the redemption date. As a result, the issuance and redemption of Shares and the rebalancing of the Trust’s assets, will not have a daily or continuous effect, and will not be the predominant influence, on the CME bitcoin futures prices or prices on the Constituent Exchanges.

#### *Composition of the Assets of the Trust*

Another important consideration is the composition of the Trust. Unlike prior bitcoin ETP applications, the Trust has two constituents: bitcoin and T-Bills. This makes the Trust, and consequently the Shares of the Trust, an imperfect substitute for bitcoin pricing due to its T-Bill component. Therefore, the price of the Shares issued by the Trust would not be an appropriate or accurate proxy for the pricing of stand-alone bitcoin on the Constituent Exchanges or the CME bitcoin futures. This fact further reinforces the conclusion that trading in the Trust would not be the predominant influence on prices on the Constituent Exchanges or the CME bitcoin futures. Furthermore, in the case of the issuance of Shares, only a portion of the cash received in connection with such issuance will be used to purchase bitcoin with the remainder being used to purchase T-Bills, so the impact of any such issuance of Shares on the identified markets will be muted relative to the value of the Shares issued.

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<sup>120</sup> The Trust does not permit creation and redemption baskets; instead, Shares of the Trust can only be purchased using USD currency (as opposed to bitcoin or other cryptocurrencies) initially from the Trust and, once approved for listing on NYSE Arca, on that exchange.

As further described in the Registration Statement, the Trust's allocation of its bitcoin and T-Bill assets will change on a monthly basis based on the allocations determined by the Index, taking into consideration any expenses and liabilities of the Trust for such period.<sup>121</sup> The Index allocations are based on the realized volatility of the CME CF BRR.<sup>122</sup> Accordingly, trading in the Trust's shares will not have a direct effect on the re-allocation of the Index components, and consequently, will not have an impact on the determination of the Trust to buy or sell bitcoin in connection with such rebalancing. Dependent on the Index, the Trust may be required to increase its exposure to bitcoin in connection with such rebalancing; if there are simultaneous redemption requests, it is possible that in order to rebalance the assets and satisfy the redemption request the Trust only has to liquidate T-Bills without having to purchase any bitcoin because such liquidation would result in both the required, higher bitcoin to T-Bill ratio and sufficient cash to satisfy the redemption request. Likewise, in connection with the rebalancing of the Trust's assets, bitcoin may or may not need to be purchased or sold, and in the event that it does, the amount of bitcoin to be purchased or sold will be limited to the amounts necessary to replicate the weighting of the bitcoin component as indicated by the Index. Lastly, it is important to note that the more volatility bitcoin exhibits, the lower the ratio of bitcoin to T-Bills in the Index and the fewer the amount of bitcoin to be bought by the Trust in connection with rebalancing, if any.

*Question 8. According to the Exchange, (a) the level of the Index is published on each business day at approximately 5:00 p.m. Eastern time (U.S.), (b) the CME CF BRR aggregates the trade flow of the Constituent Platforms during a calculation window into the U.S. dollar price of one bitcoin as of 4:00 p.m. London time, (c) the Trust's NAV will be determined daily as of 4:00 p.m. Eastern time (U.S.), and (d) the Trust will determine the price of the Trust's bitcoin by reference to the Bitcoin Reference Rate, which is published between 4:00 p.m. and 4:30 p.m. London time. What are commenters' views on whether (and if so, how) the variation in timing with respect to the calculation and price determination of the underlying bitcoin price, Index level, and NAV would affect the susceptibility of the Shares to fraudulent and manipulative acts and practices? What are commenters' views on whether this variation in timing would affect the ability of arbitrage to keep the price of the Shares aligned with the value of the portfolio at all times during the trading day?*

The variation in timing is the result of the time at which the value of the assets of the Trust, bitcoin and T-Bills, are determined. The determination of the CME CF BRR, which yields the Bitcoin Price used to determine the value of the bitcoin assets of the Trust when the NAV of the Trust is determined, takes place at 4:00 p.m. London time, which is earlier than the determination of the value of the Trust's T-Bill assets and the NAV of the Trust, which takes place at 4:00 p.m. Eastern time (U.S.).<sup>123</sup> This early availability of the Bitcoin Price however

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<sup>121</sup> See *supra* at note 5.

<sup>122</sup> See *supra* at notes 5 and 8.

<sup>123</sup> Variation in timing for valuation of assets and other purposes is not unique to the Trust and is faced by many established ETPs and ETFs that invest in assets that are trading on markets in more than one jurisdiction or market. See, e.g., Prospectus for iShares MSCI ACWI ETF, pg. 26 ("The Fund invests in non-U.S. securities. Foreign currency exchange rates with respect to the portfolio securities denominated in non-U.S. currencies are generally determined as of 4:00 p.m., London time. Non-U.S. securities held by the Fund may trade on weekends or other days when the Fund does not price its shares. As a result, the Fund's NAV may change on days when Authorized

does not benefit a potential manipulator for a number of reasons: first, the Trust's assets consist not only of bitcoin but also of T-Bills, and while the value of the Bitcoin Price is set at 4:00 p.m. London time, the value of the T-Bills continues to change during the day; (2) second, any information that the potential manipulator would have would be available publicly (i.e., the entire market and any other trader); and third, and perhaps most importantly, even if a potential manipulator were able to determine the NAV of the Trust before 4:00 p.m. Eastern time, the manipulator might have an information advantage over some market participants and could engage in information arbitrage, but this would not be useful for manipulation purposes. In addition, the information would be available publicly and therefore, given efficient markets, any information advantage would quickly disappear as information is "priced in" by the market.

Another critical time, not expressly mentioned in the Order, is the redemption order cut-off time, which is the date by which a holder of Shares would need to submit a redemption order in order to redeem its shares on the last Business Day of such month (the "Redemption Date"). The redemption order cut-off is five (5) Business Days prior to the applicable Redemption Date (the "Redemption Order Cut-Off").

It is critical that the Redemption Cut-Off must be prior to any of the daily valuation determination times of the assets of the Trust (i.e. bitcoin and T-Bills). If this is not the case, then a potential manipulator could redeem the Trust's Shares at the prior price at the time of the asset value determination versus the current trading price, which would allow the potential manipulator to reap a benefit to the detriment of others. If the Redemption Order Cut-Off is properly set before any asset value determination times then there is no possibility of redeeming Shares of the Trust after any of the asset valuation times, regardless of when NAV itself is actually published. This is accomplished in the Trust's case because the Redemption Order Cut-Off is five (5) Business Days before the determination of the NAV on the Redemption Date.

The publication time of the Index also does not offer a potential for manipulation as the Index is only an indicative value, is not a tradable price and is neither used nor related to the daily calculation of the NAV.

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Participants will not be able to purchase or redeem Fund shares. Generally, trading in non-U.S. securities, U.S. government securities, money market instruments and certain fixed-income securities is substantially completed each day at various times prior to the close of business on the NYSE. The values of such securities used in computing the NAV of the Fund are determined as of such times."), publicly available at <https://www.ishares.com/us/library/stream-document?stream=reg&product=I-ACWI&shareClass=NA&documentId=926345%7E926071%7E926300%7E1168203%7E1103590&iFrameUrlOverride=%2Fus%2Fliterature%2Fprospectus%2Fp-ishares-msci-acwi-etf-7-31.pdf>, and Prospectus for iShares S&P GSCI Commodity-Indexed Trust p.48 (NAV is determined as of 4:00 p.m. while daily settlement price for index futures contracts currently held by the Trust is established on each trading day, generally at 2:40 p.m. (New York time), by the CME Group Inc., and its designed contract markets, including the CME, CBOT (Board of Trade of the City of Chicago, Inc.), NYMEX (New York Mercantile Exchange), COMEX and KCBT (the "CME Group") staff), publicly available at <https://www.ishares.com/us/library/stream-document?stream=reg&product=I-GSCITS&shareClass=NA&documentId=925450%7E925427&iFrameUrlOverride=%2Fus%2Fliterature%2Fprospectus%2Fp-ishares-s-and-p-gsci-commodity-indexed-trust-prospectus-12-31.pdf>.

*Question 9. What are commenters' views on the requirement that shareholders may redeem all or a portion of its Shares only on the last business day of each calendar month? What are commenters' views on whether this restriction on redemptions would affect the ability of arbitrage to keep the price of the Shares aligned with the value of the portfolio continuously during the trading day over each monthly period? What are commenters' views on whether this restriction on redemptions would affect the resistance of the Shares to manipulation?*

As discussed more fully in the Rule Change, redeeming Shares on the last Business Day of each calendar month protects the Trust's bitcoin assets as it reduces the frequency by which bitcoin assets of the Trust are moved, and is designed to coincide with the rebalancing activities of the Trust. It is important to note that this redemption feature is available to any investor of the Trust, subject to meeting the minimum redemption requirements. Other ETPs that employ a creation and redemption basket model with authorized participants limit redemptions to only authorized participants. Monthly or weekly redemption models have successfully been employed by a number of other commodity-based ETPs that have previously been approved by the Commission.<sup>124</sup> It is also important to note, that even though the Shares are redeemed from an operational perspective only on the last Business Day of each calendar month, the holders of the Shares may submit redemption requests throughout the month up to and including the Redemption Order Cut-Off.

The ability of holders of Shares to redeem monthly does not affect the ability of arbitrage to keep the price of the Shares aligned with the value of the portfolio continuously during the trading day over each monthly period in a positive or negative manner. Historical trading data for other similarly structured ETPs that are listed on NYSE Arca shows that shares of such ETPs typically trade within a narrow band around NAV of the applicable portfolio.<sup>125</sup>

The ability of a holder of Shares to redeem monthly affects the Shares' resistance to manipulation because (i) of the significant passage of time between when a redemption request must be submitted and when the redemption is priced and distributed (as noted above in the

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<sup>124</sup> See, e.g., Securities Exchange Act Release No. 61496 (February 4, 2010), 75 FR 6758 (February 10, 2010) (SR-NYSEArca-2009-113) (approving listing on the Exchange of Sprott Physical Gold Trust) (the "Sprott Gold Trust"); Securities Exchange Act Release No. 63043 (October 5, 2010), 75 FR 62615 (October 12, 2010) (SR-NYSEArca-2010-84) (approving listing on the Exchange of the Sprott Physical Silver Trust) (the "Sprott Silver Trust"); Securities Exchange Act Release No. 68430 (December 13, 2012) (SR-NYSEArca-2012-111) (Order Approving a Proposed Rule Change, as Modified by Amendment No. 1, to List and Trade Units of the Sprott Physical Platinum and Palladium Trust Pursuant to NYSE Arca Equities Rule 8.201) (the "Sprott Platinum and Palladium Trust"); Securities Exchange Act Release No. 82448 (January 5, 2018) (SR-NYSEArca-2017-131) (Notice of Filing of Amendment No. 2 and Order Approving on an Accelerated Basis a Proposed Rule Change, as Modified by Amendment No. 2, to List and Trade Shares of the Sprott Physical Gold and Silver Trust under NYSE Arca Rule 8.201-E) (the "Sprott Gold and Silver Trust"); Securities Exchange Act Release No. 66930 (May 7, 2012), 77 FR 27817 (May 11, 2012) (SR-NYSEArca-2012-18) (order approving listing and trading shares of the APMEX Physical-1 oz. Gold Redeemable Trust).

<sup>125</sup> As of December 9, 2019: (i) the Sprott Gold Trust has a NAV of approximately \$2.37 billion with a -1.51% discount, (ii) the Sprott Silver Trust has a NAV of approximately \$1 billion with a -1.64% discount, (iii) the Sprott Platinum and Palladium Trust has a NAV of approximately \$112 million with a -3.81% discount, and (iv) the Sprott Silver and Gold Trust has a NAV of approximately \$2.8 billion with a -3.7% discount.

response to Question 8) and (ii) it limits the window during which someone could successfully manipulate the Shares in order to profit from such redemption. This method also reduces operational risk, counterparty risk, and other risks thus increasing investor protection.

## **II. Conclusion**

This comment (i) discusses how the Constituent Exchanges and the CME CF BRR are inherently resistant to fraud and manipulation, (ii) addresses how the Constituent Exchanges and the CME bitcoin futures, together with surveillance sharing agreements on the Constituent Exchanges, each comprise a “market of significant size” in relation to the Trust, including a detailed analysis of bitcoin price formation, and in particular, the widely adopted view that the CME futures market leads bitcoin spot prices on the Constituent Exchanges, (iii) discusses the comprehensive amount of information surveillance sharing that exists on both the CME bitcoin futures market and the market composed by the Constituent Exchanges, which facilitates the accessibility and sharing of market trading information and assists with detection of manipulation, and (iv) shows how such information can be provided to, and retrieved, by NYSE Arca, providing a deterrent to any such manipulation and providing NYSE Arca with the ability to conduct prompt investigations into possible trading violations.

The Commission is empowered, and charged, with employing an approach that recognizes the rapid evolution of the markets for securities, and the underlying markets, as appropriate.<sup>126</sup> At the time Congress adopted the Exchange Act, it was widely recognized that a regulatory structure for securities exchanges would “be of little value tomorrow if it is not flexible enough to meet new conditions immediately as they arise and demand attention in the public interest.”<sup>127</sup> In 1934, the Senate recognized that, “exchanges cannot be regulated efficiently under a rigid statutory program...”.<sup>128</sup> Such reading of the Exchange Act requirements are as true today as they were when the drafters of the Exchange Act enacted it as law. Careful consideration of the segment of the market for bitcoin relevant to the Rule Change, together with the particular characteristics of the Trust, leads to a determination that approval of the Rule Change is in the public interest, and consistent with the protection of investors.

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<sup>126</sup> This charge is necessary for the efficacy of the Commission, whose tripartite mission to (1) protect investors, (2) maintain fair, orderly, and efficient markets, and (3) facilitate capital formation is dependent upon keeping abreast of technological innovation. *See, e.g.*, Department of Treasury Report, *supra* at note 6; Oversight of the Securities and Exchange Commission: Wall Street’s Cop on the Beat, SEC Testimony before the U.S. House of Representatives Committee on Financial Services (Sept. 24, 2019) (“As technological advancements and commercial developments have changed how our securities markets operate, the SEC’s ability to remain an effective regulator requires that we continually monitor the market environment and, as appropriate, adjust and modernize our expertise, rules, regulations and oversight tools and activities.”).

<sup>127</sup> SEC, *Report of the Special Study of the Securities Markets of the Securities and Exchange Commission*, H.R. Doc. No. 95, 88th Cong., 1st Sess. Pt. 1 (1963), at 6.

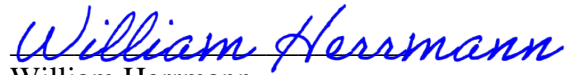
<sup>128</sup> S. Rep. No. 792, 73rd Cong., 2d Sess. (1934) at 5.

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For the reasons noted above, the Rule Change is consistent with the requirements of the Exchange Act and the rules and regulations thereunder applicable to a national securities exchange, and in particular, with Section 6(b)(5) of the Exchange Act. Therefore, the Rule Change should be approved.

Very truly yours,



William Herrmann

Managing Partner

Wilshire Phoenix Funds LLC

cc: Gregg S. Bateman, Esq., Seward & Kissel LLP  
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