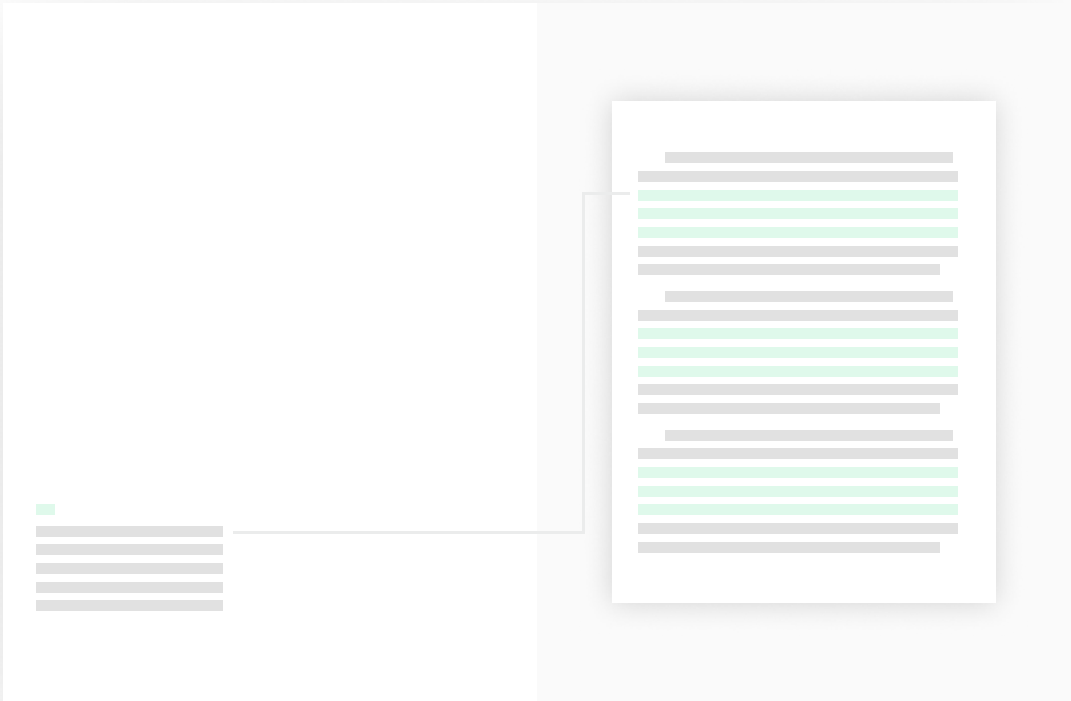


Annotated Commentary On The Winklevoss Order

A comprehensive analysis of how the SEC’s July 26, 2018, disapproval of the Winklevoss Bitcoin Trust does and does not apply to the Bitwise Bitcoin ETF Trust proposal.

By Matthew Hougan, Hong Kim, and Micah Lerner
June 11, 2019



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1

Bitwise Asset Management is a specialist asset manager that has applied to list the shares of a bitcoin exchange-traded product (ETP) on NYSE Arca, Inc. The proposed ETP, the Bitwise Bitcoin ETF Trust (the “Trust” or the “Bitwise Trust”), would aim to provide investors exposure to bitcoin at a price that is reflective of the actual bitcoin market where investors can purchase and sell bitcoin, less the expenses of the Trust’s operations.

Bitwise filed an initial registration statement for the Trust on form S-1 on January 10, 2019, and an amended S-1 on April 16, 2019. NYSE Arca, the proposed listing exchange for the Bitwise Trust, submitted a Rule 19b-4 Filing relating to the Bitwise Trust on January 28, 2019, and an amended Rule 19b-4 Filing on May 7, 2019 (the “NYSE Arca Rule 19b-4 Filing”).

Bitwise recognizes that several other prospective issuers have filed applications for bitcoin ETPs in the past and that the U.S. Securities and Exchange Commission and its Staff (the “Commission”) has spent significant time and resources reviewing those applications. The Commission has published detailed information regarding its concerns with these applications, including most notably in the July 26, 2018, “Order Setting Aside Action by Delegated Authority and Disapproving a Proposed Rule Change ... to List and Trade Shares of the Winklevoss Bitcoin Trust,” subsequently referred to as the “Winklevoss Order.”¹

This document examines how the Commission’s arguments in the Winklevoss Order do or do not apply to the Bitwise Trust S-1 and the related NYSE Arca Rule 19b-4 Filing. It examines critical differences in the design of the Bitwise Trust compared to the Winklevoss Trust; the evolution of the bitcoin market in the period between the publication of the Winklevoss Order and the present day; and new information about the fundamental nature of the bitcoin market as delivered to the Commission recently in two documents:

- The 226-slide presentation that Bitwise made to the Commission on March 19, 2019, subsequently referred to as the “Bitwise Study.”²
- The 104-page white paper filed as a comment to the public record by Bitwise related to [Release No. 34-85093; File No. SR-NYSEArca-2019-01] on May 24, 2019, and subsequently referred to as the “Bitwise White Paper.”³

The document also aims to clarify arguments and correct material misstatements of fact in certain Comment Letters surrounding the Winklevoss Bitcoin Trust, as those letters may have bearing on the Bitwise Trust as well.

Of note: Running 92 pages, the Winklevoss Order offers an exhaustive analysis of the issues surrounding the Winklevoss Trust application. Of necessity, the Winklevoss Order periodically reviews various assertions multiple times. In the interests of efficiency, we have not posted repeated responses to the same core issue each time it is raised; instead, we have provided one canonical response to each key assertion, and rely on the reader’s intuition to apply those responses to other areas of the Winklevoss Order.

Our goal in supplying this document to the Commission is to demonstrate that, while we believe the disapproval of the Winklevoss Order was correctly decided, the facts and circumstances surrounding the application to list the Bitwise Trust are materially different. We will attempt to show how and why, in light of the arguments laid out in the Winklevoss Order, the NYSE Arca Rule 19b-4 Filing supporting the listing of the Bitwise Trust is consistent with both the letter and the spirit of the Securities Exchange Act of 1934 (and particularly Section 6(b)(5)).

2

One important factor to consider when evaluating the relevance of the Winklevoss Order to the proposed listing of the Bitwise Trust is timing. As discussed in this section, Bats BZX Exchange, Inc. filed the original proposed rule change for the Winklevoss Trust on June 30, 2016⁴, and the review process followed thereon through the publication of the Winklevoss Order on July 26, 2018.

¹ “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 and Exchange Commission, July 26, 2018.

<https://www.sec.gov/rules/other/2018/34-83723.pdf>

² “Meeting with Bitwise Asset Management, Inc., NYSE Arca, Inc., and Vedder Price P.C,” U.S. Securities and Exchange Commission, Meeting on March 19, 2019, Regarding File No. SR-NYSEArca-2019-01.

<https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf>

³ “Economic and Non-Economic Trading in Bitcoin: Exploring the Real Spot Market for the World’s First Digital Commodity,” Matthew Hougan, Hong Kim, and Micah Lerner, Bitwise Asset Management, May 24, 2019.

<https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5574233-185408.pdf>

⁴ “Notice of Filing of a Proposed Rule Change to BZX Rule 14.11(e)(4), Commodity-Based Trust Shares, to List and Trade Winklevoss Bitcoin Shares Issued by the Winklevoss Bitcoin Trust,” Securities and Exchange Commission, July 8, 2016. <https://www.sec.gov/rules/sro/batsbzx/2016/34-78262.pdf>

1

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-83723; File No. SR-BatsBZX-2016-30)

July 26, 2018

Self-Regulatory Organizations; Bats BZX Exchange, Inc.; 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

I. INTRODUCTION

On June 30, 2016, Bats BZX Exchange, Inc. (“BZX”) filed a proposed rule change with the Commission, seeking to list and trade shares of the Winklevoss Bitcoin Trust.¹ The Commission, acting through authority delegated to the Division of Trading and Markets,² disapproved the proposed rule change on March 10, 2017,³ and BZX then filed a timely petition seeking Commission review of the disapproval by delegated authority.⁴ The Commission granted BZX’s Petition for Review, seeking public comments in support of or in opposition to the March

2

¹ BZX made this filing under Section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78s(b)(1) (“Exchange Act”) and Rule 19b-4 thereunder, 17 CFR 240.19b-4. The Commission published notice of the proposed rule change in the *Federal Register* on July 14, 2016. See Exchange Act Release No. 78262 (July 8, 2016), 81 FR 45554 (July 14, 2016) (SR-BatsBZX-2016-30). On August 23, 2016, the Commission designated a longer period within which to act on the proposed rule change. See Exchange Act Release No. 78653 (Aug. 23, 2016), 81 FR 59256 (Aug. 29, 2016). On October 12, 2016, the Commission instituted proceedings under Section 19(b)(2)(B) of the Exchange Act, 15 U.S.C. 78s(b)(2)(B), to determine whether to approve or disapprove the proposed rule change. See Exchange Act Release No. 79084 (Oct. 12, 2016), 81 FR 71778 (Oct. 18, 2016). On October 20, 2016, BZX filed Amendment No. 1 to the proposed rule change, replacing the original filing in its entirety, and Amendment No. 1 was published for comment in the *Federal Register* on November 3, 2016. See Exchange Act Release No. 79183 (Oct. 28, 2016), 81 FR 76650 (Nov. 3, 2016) (“Amendment No. 1”). On January 4, 2017, the Commission designated a longer period for Commission action on the proposed rule change. See Exchange Act Release No. 79725 (Jan. 4, 2017), 82 FR 2425 (Jan. 9, 2017). On February 22, 2017, BZX filed Amendment No. 2 to the proposed rule change (“Amendment No. 2”). Amendment No. 2 is available on the Commission’s website at <https://www.sec.gov/comments/sr-batsbzx-2016-30/batsbzx201630-1594698-132357.pdf>.

² See 17 CFR 200.30-3(a)(12).

³ See Exchange Act Release No. 80206 (Mar. 10, 2017), 82 FR 14076 (Mar. 16, 2017) (“March Disapproval Order”).

⁴ On March 17, 2017, pursuant to Rule 430 of the Rules of Practice, see 17 CFR 201.430(b)(1), BZX submitted a Notice of Intention to Petition for Review of Order Disapproving a Proposed Rule Change, and on March 24, 2017, BZX submitted its Petition for Review (“Petition for Review”). BZX’s Notice of Intention to Petition for Review is available on the Commission’s website at: <https://www.sec.gov/rules/sro/batsbzx/2017/batsbzx-petitionforreview.pdf>. BZX’s Petition for Review is available on the Commission’s website at: <https://www.sec.gov/rules/sro/batsbzx/2017/petition-for-review-sr-batsbzx-2016-30.pdf>.

2 Continued

As conveyed in both the Bitwise Study and the Bitwise White Paper, the bitcoin market went through a significant maturation phase between December 2017 and early 2019. Among the critical changes were:

- The introduction of regulated futures contracts on the Chicago Mercantile Exchange (CME) and the Chicago Board Options Exchange (Cboe) in late 2017, and the subsequent and significant growth in volume of those contracts in 2018 and 2019;
- The entry of a large number of sophisticated, well-capitalized, algorithmic market makers, including Jane Street and Flow Traders, into the crypto markets in 2018;
- The development of a robust short lending market for bitcoin in 2018;
- A significant expansion in the availability of, choice between, and quality of service offered by regulated, third-party bitcoin custodians;
- A significant expansion in the availability of and choice between providers offering insurance for bitcoin held in custody, as well as material improvements in the comprehensiveness of the insurance coverage offered;
- The increased regulation and explicit introduction of surveillance and reporting requirements for many leading spot bitcoin exchanges through the expansion of the New York State Department of Financial Services' BitLicense program, which issued guidance in February 2018 requiring exchanges to have such programs and reporting procedures in place for the first time⁵. We will explore these requirements in greater depth later in this document.

The market today is more institutional, more orderly, more regulated, and more established than it was both when the Bats BZX Exchange, Inc. entered its Rule 19b-4 Filing and when the Commission published the Winklevoss Order.

⁵ "DFS Takes Action to Deter Fraud and Manipulation in Virtual Currency Markets," DFS press release, February 7, 2018.
<https://www.dfs.ny.gov/about/press/pr1802071.htm>

Disapproval Order.⁵ Today's order sets aside the March Disapproval Order, and, for the reasons discussed below, disapproves BZX's proposed rule change.⁶

In response to BZX's Petition for Review, the Commission has conducted a *de novo* review of BZX's proposal⁷—giving careful consideration to the entire record, including BZX's amended proposal and Petition for Review and all comments and statements submitted by BZX and other persons—to determine whether the proposal is consistent with the requirements of the Exchange Act and the rules and regulations issued thereunder that are applicable to a national securities exchange.⁸ Specifically, the Commission has considered whether the BZX proposal is consistent with Exchange Act Section 6(b)(5), which requires, in relevant part, that the rules of a national securities exchange be designed “to prevent fraudulent and manipulative acts and practices” and “to protect investors and the public interest.”⁹

Under the Commission's Rules of Practice, the “burden to demonstrate that a proposed rule change is consistent with the Exchange Act and the rules and regulations issued thereunder ... is on the self-regulatory organization [‘SRO’] that proposed the rule change.”¹⁰ The

⁵ On April 24, 2017, pursuant to Rule 431 of the Rules of Practice, see 17 CFR 201.431, the Commission issued an order granting the Petition for Review, see Exchange Act Release No. 80511 (Apr. 24, 2017), 82 FR 19770 (Apr. 28, 2017) (“Review Order”), and designated May 15, 2017, as the date by which any party to the action or any other person could file a written statement in support of or in opposition to the March Disapproval Order. See *id.*

⁶ Commissioner Peirce dissents from the Commission's disapproval of this proposal, and her written dissent can be found on the Commission's website, <https://www.sec.gov>.

⁷ Pursuant to Rule 431(a) of the Commission's Rules of Practice, the Commission may affirm, reverse, modify, set aside, or remand for further proceedings, in whole or in part, an action made pursuant to delegated authority. 17 CFR 201.431(a).

⁸ Section 19(b)(2)(C) of the Exchange Act directs the Commission to approve a proposed rule change of an SRO, such as a national securities exchange, if the Commission finds that the proposed rule change is consistent with the requirements of the Exchange Act and the rules and regulations thereunder applicable to the SRO and directs the Commission to disapprove the proposed rule change if it is unable to make such a finding. See 15 U.S.C. 78s(b)(2)(C).

⁹ 15 U.S.C. 78f(b)(5).

¹⁰ Rule 700(b)(3), Commission Rules of Practice, 17 CFR 201.700(b)(3).

Bitwise Has No Commentary On The Information On This Page

description of a proposed rule change, its purpose and operation, its effect, and a legal analysis of its consistency with applicable requirements must all be sufficiently detailed and specific to support an affirmative Commission finding,¹¹ and any failure of an SRO to provide this information may result in the Commission not having a sufficient basis to make an affirmative finding that a proposed rule change is consistent with the Exchange Act and the applicable rules and regulations.¹²

BZX argues, among other things, that its proposal is consistent with Exchange Act Section 6(b)(5) on the grounds that the “geographically diverse and continuous nature of bitcoin trading makes it difficult and prohibitively costly to manipulate the price of bitcoin”¹³—and that therefore the bitcoin market “generally is less susceptible to manipulation than the equity, fixed income, and commodity futures markets”¹⁴—and because “novel systems intrinsic to this new market provide unique additional protections that are unavailable in traditional commodity markets.”¹⁵ BZX also asserts that the March Disapproval Order failed to appreciate that the proposal provides “traditional means of identifying and deterring fraud and manipulation,”¹⁶ and that the proposal meets the criteria that the Commission has utilized in approving other commodity-trust ETPs as it relates to the ability to monitor for, detect, and deter fraud and manipulation and violations of exchange rules and applicable federal securities laws and rules.¹⁷ BZX also claims that the March Disapproval Order overstates the extent to which surveillance

¹¹ See id.

¹² See id.

¹³ See Letter from Joanne Moffic-Silver, Executive Vice President, General Counsel & Corporate Secretary, BZX, at 12 (May 15, 2017) (“BZX Letter II”).

¹⁴ Id.

¹⁵ Id. at 26.

¹⁶ Id.

¹⁷ See id. at 22.

Bitwise Has No Commentary On The Information On This Page

and regulation of the underlying market have been present in prior commodity-trust ETP approval orders and the extent to which the Commission has relied on the existence of surveillance-sharing agreements between an ETP listing market and markets related to the underlying assets.¹⁸

The Commission addresses each of these arguments below. In Section III.B, the Commission addresses BZX's assertion that bitcoin and bitcoin markets, including the Gemini Exchange, are uniquely resistant to manipulation and finds that the record before the Commission does not support such a conclusion. In Section III.C, the Commission addresses whether what BZX describes as "traditional means" of identifying and deterring fraud and manipulation are sufficient to meet the requirements of Exchange Act Section 6(b)(5) and also finds that the record does not support such a conclusion.

Then, in Sections III.D and III.E, respectively, the Commission addresses the use and importance of surveillance-sharing agreements to detect and deter fraud and manipulation, and whether BZX has entered into a comprehensive surveillance-sharing agreement with a regulated market of significant size related to bitcoin.¹⁹ Although surveillance-sharing agreements are not the exclusive means by which an ETP listing exchange can meet its obligations under Exchange Act Section 6(b)(5), such agreements are a widely used means for exchanges that list ETPs to meet their obligations, and the Commission has historically recognized their importance.²⁰ And where, as here, a listing exchange fails to establish that other means to prevent fraudulent and manipulative acts and practices will be sufficient, the listing exchange must enter into a

¹⁸ See id. at 26–27.

¹⁹ The Commission considers two markets that are members of the Intermarket Surveillance Group to have a comprehensive surveillance-sharing agreement with one another, even if they do not have a separate bilateral surveillance-sharing agreement.

²⁰ See Section III.D.2(a), infra.

3

The degree to which bitcoin trading volume occurs overseas on lightly or entirely unregulated exchanges is generally overstated, driven by popular but incorrect data propagated by leading crypto data aggregators like CoinMarketCap.com.

As demonstrated in the Bitwise Study, nearly 30% of all bitcoin trading volume occurs on exchanges domiciled in the U.S., and the majority occurs on exchanges domiciled in or operating out of developed markets.

Moreover, nine of the ten exchanges with substantial real spot bitcoin trading volume are regulated as Money Services Businesses by the U.S. Department of Treasury's FinCEN division, and six are regulated under the BitLicense program by the NYDFS. These exchanges tend to be more established and well-capitalized than commonly understood. Coinbase, for instance, was founded in 2012, is valued at more than \$8 billion⁶ and has raised more than \$500 million⁷ in venture capital.

While crypto exchanges are not regulated in the same manner as national securities exchanges, and while bitcoin is a global market with significant trading in both U.S. and international markets, the real spot market for bitcoin is significantly smaller, more regulated, more orderly, and more developed-markets-focused than commonly reported.

⁶“Coinbase Valued At \$8 Billion In Latest Fundraising Round,” Aparajita Saxena, Rishika Chatterjee and Saumyadeb Chakrabarty, Reuters, October 30, 2018.

<https://www.reuters.com/article/us-crypto-currencies-coinbase/coinbase-valued-at-8-billion-in-latest-fundraising-round-idUSKCN1N41UW>

⁷Crunchbase reports a total fundraising amount of \$525.3 million as of May 9, 2019.

3

surveillance-sharing agreement with a regulated market of significant size because “[s]uch agreements provide a necessary deterrent to manipulation because they facilitate the availability of information needed to fully investigate a manipulation if it were to occur.”²¹ Based on the record before it, the Commission concludes that—unlike the listing exchanges for previously approved commodity-trust ETPs—BZX has not established that it has entered into, or currently could enter into, a surveillance-sharing agreement with a regulated market of significant size related to bitcoin.

Finally, in Section III.F, the Commission addresses arguments raised regarding the protection of investors and the public interest, and, in Section III.G, the Commission discusses additional factors supporting disapproval of the BZX proposal.

Although the Commission is disapproving this proposed rule change, the Commission emphasizes that its disapproval does not rest on an evaluation of whether bitcoin, or blockchain technology more generally, has utility or value as an innovation or an investment. Rather, the Commission is disapproving this proposed rule change because, as discussed in detail below, BZX has not met its burden under the Exchange Act and the Commission’s Rules of Practice to demonstrate that its proposal is consistent with the requirements of the Exchange Act Section 6(b)(5), in particular the requirement that its rules be designed to prevent fraudulent and manipulative acts and practices.

While the record before the Commission indicates that a substantial majority of bitcoin trading occurs on unregulated venues overseas that are relatively new and that, generally, appear

²¹ 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) (“NDSP Adopting Release”).

4

The size and significance of the regulated bitcoin futures market must be weighed in light of new information revealed about the true size of the bitcoin spot market by the Bitwise Study and the Bitwise White Paper.

As reported in the Bitwise Study, using the representative time period from April 1 - April 30, 2019, the most widely reported data regarding the bitcoin market suggested that global spot volumes averaged approximately \$11 billion in volume per day. The Bitwise Study showed, however, that this number is wildly inflated, and that real spot bitcoin volume was approximately \$554 million per day during this time. The Bitwise Study further demonstrated that the notional average daily trading volume for regulated bitcoin futures on Cboe and CME during this time period was approximately \$268 million per day, with the bulk of that (\$258 million) occurring on the CME.

\$268 million looks small in comparison to \$11 billion (2.4%), but is much more significant compared to the real average daily spot bitcoin volume of \$554 million (48.4%). To put it in context: During the time period studied, the CME's bitcoin futures average daily trading volume of \$258 million was bigger than the average daily trading volume on each of the ten real bitcoin spot exchanges.

Additionally, the volume of bitcoin futures has been generally growing over time. For instance, on May 13, 2019, a new record of 33,677 bitcoin contracts traded on the CME—the equivalent of over \$1.3 billion in notional volume. On that day, the largest single spot exchange (Binance) traded \$672 million.

5

We appreciate the Commission's willingness to consider the potential for continued evolution and growth in the bitcoin market, including in the regulated bitcoin futures market, and what it might mean for future bitcoin ETP applications.

Since the review process for the Winklevoss Order began, two important things have occurred that are worthy of consideration:

- First, the bitcoin market and surrounding bitcoin ecosystem has evolved and matured in critical ways, as mentioned in our commentary earlier in this document;
- Second, the true nature and size of the spot bitcoin market has been revealed by the Bitwise Study and the Bitwise White Paper.

In light of these developments, and the specific design of the Bitwise Trust, Bitwise believes that the bitcoin futures market has in fact achieved significant size and that its proposal (and more specifically the NYSE Arca Rule 19b-4 Filing in support of its proposal) is consistent with both the spirit and the letter of the requirements of the Exchange Act

⁸ "CME Bitcoin Futures Trading Clocks In A Number Of New Records In May," Frank Chaparro, The Block, Yahoo Finance, May 21, 2019. <https://finance.yahoo.com/news/cme-bitcoin-futures-trading-clocks-230537288.html>

4

to trade only digital assets,²² and while the record does not support a conclusion that bitcoin derivatives markets have attained significant size,²³ the Commission notes that regulated bitcoin-related markets are in the early stages of their development. Over time, regulated bitcoin-related markets may continue to grow and develop. For example, existing or newly created bitcoin futures markets 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 spot markets underlying relevant bitcoin derivatives. Should these circumstances develop, or conditions otherwise change in a manner that affects the Exchange Act analysis, the Commission would then have the opportunity to consider whether a bitcoin ETP would be consistent with the requirements of the Exchange Act.

5

II. DESCRIPTION OF THE PROPOSAL

BZX proposes to list and trade shares (“Shares”) of the Winklevoss Bitcoin Trust (“Trust”) as Commodity-Based Trust Shares under BZX Rule 14.11(e)(4).²⁴ The Trust would hold only bitcoins as an asset,²⁵ and the bitcoins would be in the custody of, and secured by, the

²² For example, the Registration Statement for the Winklevoss Bitcoin Trust discloses that “[t]he Bitcoin Exchanges on which bitcoin trades are new and, in most cases, largely unregulated.” See Registration Statement on Form S-1, as amended, dated February 8, 2017, at 22 (File No. 333-189752) (“Registration Statement”). See also Sections III.E.1 and III.E.2, *infra* (discussing the distribution of bitcoin trading and the state of regulation of bitcoin spot markets).

²³ See *infra* notes 312–316 and accompanying text.

²⁴ BZX Rule 14.11(e)(4)(C) permits the listing and trading of “Commodity-Based Trust Shares,” which are defined as a security (a) that is issued by a trust that holds a specified commodity deposited with the trust; (b) that is issued by the trust in a specified aggregate minimum number in return for a deposit of a quantity of the underlying commodity; and (c) that, when aggregated in the same specified minimum number, may be redeemed at a holder’s request by the trust, which will deliver to the redeeming holder the quantity of the underlying commodity.

²⁵ Bitcoins are digital assets that are issued and transferred via a decentralized, open-source protocol used by a peer-to-peer computer network through which transactions are recorded on a public transaction ledger known as (footnote continued...)

6

One way that the Bitwise Trust differs from the Winklevoss Trust is that the Bitwise Trust proposes using a third-party, regulated custodian to custody and secure its bitcoin, while the Winklevoss Trust proposed custodying assets with an affiliated entity.

Third-party custody has been the gold standard for pooled investment vehicles advised by third-party managers for decades, and we believe that it remains the best option for investor protection and security in bitcoin. We recognize, however, that our decision to use a regulated, third-party custodian is enabled in part by the dramatic evolution of the bitcoin custody market that occurred since the review process began for the Winklevoss Trust.

As noted in all four major documents supporting the Bitwise Trust's application—the Bitwise Study, the Bitwise White Paper, and both the Amended S-1 and Amended Rule 19b-4 Filing—the market for third-party, regulated bitcoin custodians has grown substantially in recent years. In 2017, for instance, there were just three regulated bitcoin custodians, and none of those custodians maintained insurance on custodied assets. Today, there are six regulated bitcoin custodians⁹, with four more in the process of pursuing regulatory status¹⁰ (largely as New York Limited Purpose Trust Companies).

Additionally, while no third-party custodian had a robust insurance program in place in 2017, many now do. Coinbase Custody Trust Company, LLC, for example, had not yet entered the market in 2017; today, it is regulated as a New York Limited Purpose Trust Company and maintains a \$255 million insurance policy on custodied assets placed by Lloyd's of London's registered broker, Aon.¹¹ Similarly, Fidelity Digital Assets Services, LLC, did not exist in 2017, and today maintains a similarly comprehensive insurance policy related to bitcoin held in custody on its platform.

7

The exclusive use of in-kind creations and redemptions is a significant positive in the design of any proposed bitcoin ETP, for two reasons:

- It helps ensure that the ETP in question maintains its targeted bitcoin-per-share regardless of concerns around the manipulation of the net asset value (NAV); and
- It externalizes the cost and (most importantly) the risk of transacting in the underlying spot market for bitcoin.

The Bitwise Trust takes this concept one step further by accruing all fees in bitcoin as well. As a result, even were the NAV successfully manipulated, the Trust would retain its targeted amount of bitcoin-per-share and shareholders would be protected.

Investors in the Trust are seeking exposure to bitcoin. By processing all creations, redemptions, and fee accruals in bitcoin, the Trust ensures that investors get the specific amount of bitcoin exposure per share that they expect in all scenarios.

8

The difference in the pricing methodology between the Winklevoss Trust and the proposed Bitwise Trust is significant.

Whereas the Winklevoss Trust proposed to price its NAV off a point-in-time auction from a single spot bitcoin exchange representing a tiny fraction of global spot bitcoin volume (approximately 0.3% of total daily spot volume, according to the Bitwise Study), the proposed Bitwise Trust's NAV pricing methodology incorporates prices from a large number of exchanges representing substantially all of real daily spot bitcoin trading volume. Moreover, it uses a sophisticated, volume-weighted-median-pricing methodology that aggregates prices over six sequential five-minute periods (or thirty minutes in all).

Capturing a significantly larger portion of global spot bitcoin volume, and aggregating prices from multiple exchanges in a volume-weighted manner over six sequential five-minute periods, provides multiple benefits when computing the calculation for the Bitwise NAV.

For one, the Bitwise pricing methodology makes market manipulation of the NAV both more difficult to conduct (because the bad actor must manipulate a majority of all trading volume to impact the price) and easier to identify (because such manipulation must be repeated to have any significant effect). Bitwise examined the protective mechanisms provided by its NAV pricing methodology in

⁹ BitGo, Coinbase Custody, Gemini, itBit, Kingdom Trust, and NYDIG.

¹⁰ Anchorage, DACC, Fidelity Digital Assets, and Xapo.

¹¹ "On insurance and cryptocurrency," Philip Martin, Coinbase, April 2, 2019. <https://blog.coinbase.com/on-insurance-and-cryptocurrency-d6db86ba40bd>

6

Trust's custodian, Gemini Trust Company LLC ("Custodian"), which is a limited-liability trust company chartered by the State of New York and supervised by the New York State Department of Financial Services ("NYDFS").²⁶ Gemini Trust Company is also an affiliate of Digital Asset

7

Services LLC, the sponsor of the Trust ("Sponsor").²⁷ The Trust would issue and redeem the Shares only in "Baskets" of 100,000 Shares and only to "Authorized Participants," and these transactions would be conducted "in-kind" for bitcoin only.²⁸

8

The investment objective of the Trust would be for the Shares to track the price of bitcoin on the Gemini Exchange, which is a digital-asset exchange owned and operated by the Gemini Trust Company.²⁹ The Net Asset Value ("NAV") of the Trust would be calculated each business day, based on the clearing price of that day's 4:00 p.m. Eastern Time ("ET") Gemini Exchange bitcoin auction, a two-sided auction open to all Gemini Exchange customers ("Gemini Auction").³⁰ The Intraday Indicative Value ("IIV") of the Trust would be calculated and disseminated by the Sponsor, every 15 seconds during BZX's regular trading session, based on the most recent Gemini Auction price.³¹

(...footnote continued)

the "Bitcoin Blockchain." The Bitcoin protocol governs the creation of new bitcoins and the cryptographic system that secures and verifies bitcoin transactions. See Amendment No. 1, *supra* note 1, 81 FR at 76652. The proposed rule change describes the ETP's underlying bitcoin asset as a "digital asset" and as a "commodity," see *id.* at 76652 & n.21, and describes the ETP as a Commodity-Based Trust. For the purpose of considering this proposal, this order describes a bitcoin as a "digital asset" and a "commodity."

²⁶ See *id.* at 76651–52.

²⁷ See *id.* at 76651.

²⁸ See *id.* at 76664–65. See also Amendment No. 2, *supra* note 1.

²⁹ See Amendment No. 1, *supra* note 1, 81 FR at 76652.

³⁰ See *id.* at 76652, 76664. In the event that the Sponsor determines that the Gemini Auction price, because of extraordinary circumstances, is "not an appropriate basis for evaluation of the Trust's bitcoin on a given Business Day," BZX's proposal provides that the Sponsor may use other specified criteria to value the holdings of the Trust. See *id.* at 76664.

³¹ See *id.* at 76666.

8 Continued

the Bitwise Study, as well as the Amended S-1 and Amended Rule 19b-4 filing for the Trust.

Of note, the Bitwise NAV calculation methodology is similar in many ways the CME CF Bitcoin Reference Rate methodology. A strong academic study of the protection that a volume-weighted median pricing methodology provides against aberrant pricing and market manipulation is available in "Analysis of the CME CF Bitcoin Reference Rate and Real Time Index."¹²

Beyond these protections against attempts at manipulation, the design of the Bitwise NAV calculation methodology has other benefits as well. For example, and as discussed in greater depth later in this document, incorporating a significant amount of the global spot bitcoin trading volume into the NAV methodology facilitates Authorized Participants in their efforts to create and redeem shares of the Trust in-kind.

¹² "Analysis of the CME CF Bitcoin Reference Rate and Real Time Index," Andrew Paine and William J. Knottenbelt, Imperial College Centre for Cryptocurrency Research and Engineering, October 20, 2016. <https://www.cmegroup.com/trading/files/bitcoin-white-paper.pdf>

BZX represents that it has entered into a comprehensive surveillance-sharing agreement with the Gemini Exchange.³² Further details regarding the proposal and the Trust can be found in Amendments No. 1 and 2 to the proposal,³³ and in the registration statement for the Trust.³⁴

III. DISCUSSION

A. Overview

The comment period for the proposed rule change filed by BZX ended November 25, 2016. The Commission, as of March 10, 2017, received 66 comment letters on the proposed rule change.³⁵ Additionally, in response to the Review Order, the Commission, as of July 13, 2018,

³² See id. at 76668.

³³ See Amendments No. 1 and 2, supra note 1.

³⁴ See Registration Statement, supra note 22. BZX represents in the proposed rule change that the Registration Statement will be effective as of the date of any offer and sale pursuant to the Registration Statement. See Amendment No. 1, supra note 1, 81 FR at 76651.

³⁵ See Letters from Robert D. Miller, VP Technical Services, RKL eSolutions (July 11, 2016) (“R.D. Miller Letter”); Jorge Stolfi, Full Professor, Institute of Computing UNICAMP (July 13, 2016) (“Stolfi Letter I”); Guillaume Lethuillier (July 26, 2016) (“Lethuillier Letter”); Michael B. Casey (July 31, 2016) (“Casey Letter I”); Erik A. Aronesty, Sr. Software Engineer, Bloomberg LP (Aug. 2, 2016) (“Aronesty Letter”); Dan Anderson (Aug. 27, 2016) (“Anderson Letter”); Robert Miller (Oct. 12, 2016) (“R. Miller Letter”); Anonymous (Oct. 13, 2016) (“Anonymous Letter I”); Nils Neidhardt (Oct. 13, 2016) (“Neidhardt Letter”); Dana K. Barish (2 letters; Oct. 13, 2016) (“Barish Letter I” and “Barish Letter II”); Xin Lu (Oct. 13, 2016) (“Xin Lu Letter”); Rodger Delehanty CFA (Oct. 14, 2016) (“Delehanty Letter”); Dylan (Oct. 14, 2016) (“Dylan Letter”); Dana K. Barish (Oct. 14, 2016) (“Barish Letter III”); Dana K. Barish (2 letters; Oct. 15, 2016) (“Barish Letter IV” and “Barish Letter V”); Jorge Stolfi, Full Professor, Institute of Computing UNICAMP (Nov. 1, 2016) (“Stolfi Letter II”); Michael B. Casey (Nov. 5, 2016) (“Casey Letter II”); Anonymous (Nov. 8, 2016) (“Anonymous Letter II”); Chris Burniske, Blockchain Products Lead, ARK Investment Management LLC (Nov. 8, 2016) (“ARK Letter”); Colin Keeler (Nov. 14, 2016) (“Keeler Letter”); Robert S. Tull, (Nov. 14, 2016) (“Tull Letter”); Mark T. Williams (Nov. 15, 2016) (“Williams Letter”); Anonymous (Nov. 21, 2016) (“Anonymous Letter III”); XBT OPPS Team (Nov. 21, 2016) (“XBT Letter”); Anonymous (Nov. 22, 2016) (“Anonymous Letter IV”); Ken I. Maher (Nov. 22, 2016) (“Maher Letter”); Kyle Murray, Assistant General Counsel, Bats Global Markets, Inc. (Nov. 25, 2016) (“BZX Letter I”); Colin Baird (Nov. 26, 2016) (“Baird Letter”); Scott P. Hall (Jan. 5, 2017) (“Hall Letter”); Suzanne H. Shatto (Jan. 24, 2017) (“Shatto Letter”); Joshua Lim and Dan Matuszewski, Treasury & Trading Operations, Circle Internet Financial, Inc. (Feb. 3, 2017) (“Circle Letter”); Zachary J. Herbert (Feb. 10, 2017) (“Herbert Letter”); Thomas Fernandez (Feb. 12, 2017) (“Fernandez Letter”); Diego Tomaselli (Feb. 17, 2017) (“Tomaselli Letter”); Hans Christensen (Feb. 20, 2017) (“Christensen Letter”); Jake Kim (Feb. 22, 2017) (“Kim Letter”); Andrea Dalla Val (Mar. 4, 2017) (“Dalla Val Letter”); Josh Barraza (Mar. 6, 2017) (“Barraza Letter”); Chad Rigsby (Mar. 6, 2017) (“Rigsby Letter”); Michael Lee (Mar. 6, 2017) (“Lee Letter”); Fabrizio Marchionne (Mar. 6, 2017) (“Marchionne Letter”); Ben Elron (Mar. 6, 2017) (“Elron Letter”); Patrick Miller (Mar. 6, 2017) (“P. Miller Letter”); Situation (Mar. 6, 2017) (“Situation Letter”); Steven Swiderski (Mar. 6, 2017) (“Swiderski Letter”); Marcia Paneque (Mar. 6, 2017) (“Paneque Letter”); Jeremy Nootenboom (Mar. 6, 2017) (“Nootenboom Letter”); Alan Struna (Mar. 6, 2017) (“Struna Letter”); Mike Johnson (Mar. 6, 2017) (“Johnson Letter”); Phil Chronakis (Mar. 7, 2017) (“Chronakis Letter”); Anonymous (footnote continued...)

Bitwise Has No Commentary On The Information On This Page

received eight comments in connection with the Petition for Review.³⁶ The comments cover a variety of topics, including the analysis of the BZX proposal in the March Disapproval Order,³⁷ the nature of the worldwide market for bitcoin,³⁸ the characteristics of the Gemini digital asset exchange,³⁹ the need for surveillance-sharing agreements with significant markets,⁴⁰ the state of the market for derivatives on bitcoin,⁴¹ and the protection of investors,⁴² as well as a number of comments on the nature of bitcoin and of the Bitcoin network, the structure of the Trust and the Trust's valuation and security protocols, and the effect that Commission approval of the BZX proposal could have on bitcoin and the bitcoin markets.⁴³

BZX's primary argument is that the standard set forth in the March Disapproval Order—the need for a surveillance sharing agreement between the ETP listing exchange and significant,

(...footnote continued)

(Mar. 7, 2017) ("Anonymous Letter V"); Brian Bang (Mar. 7, 2017) ("Bang Letter"); Anthony Schulte (Mar. 7, 2017) ("Schulte Letter"); Melissa Whitman (Mar. 7, 2017) ("Whitman Letter"); Harold Primm (Mar. 8, 2017) ("Primm Letter"); Shad (Mar. 8, 2017) ("Shad Letter"); Anonymous (Mar. 8, 2017) ("Anonymous Letter VI"); Patrick Turley (Mar. 9, 2017) ("Turley Letter"); Anonymous (Mar. 9, 2017) ("Anonymous Letter VII"); Richard Kemble (Mar. 9, 2017) ("Kemble Letter"); Anonymous (Mar. 9, 2017) ("Anonymous Letter VIII"); Daniel Ackerman (Mar. 10, 2017) ("Ackerman Letter"); Obed Medina (Mar. 10, 2017) ("Medina Letter"); and John Paslaqua (Mar. 10, 2017) ("Paslaqua Letter"). All comments on the proposed rule change are available on the Commission's website at: <https://www.sec.gov/comments/sr-batsbzx-2016-30/batsbzx201630.shtml>.

³⁶ See Letters from Douglas A. Cifu, Chief Executive Officer, Virtu Financial (May 11, 2017) ("Virtu Letter"); James A. Overdahl, Partner, Delta Strategy Group (May 12, 2017) ("Overdahl Letter"); Daniel H. Gallancy, SolidX Management LLC (May 15, 2017) ("SolidX Letter"); Jonathan G. Harris (May 15, 2017) ("Harris Letter"); Mick Kalishman, C&C Trading, LLC (May 15, 2017) ("C&C Letter"); Eric W. Noll, President and Chief Executive Officer, Convergenex Group (May 15, 2017) ("Convergenex Letter"); Jeffrey Yass, Managing Director, Susquehanna International Group, LLP (May 15, 2017) ("SIG Letter"); and BZX Letter II, *supra* note 13. All comments submitted in support of or in opposition to the March Disapproval Order are available on the Commission's website at: <https://www.sec.gov/comments/sr-batsbzx-2016-30/batsbzx201630.shtml>.

³⁷ See *infra* notes 44–48 and accompanying text.

³⁸ See Sections III.B.1(a) and III.E.2(a), *infra*.

³⁹ See Sections III.B.2(a) and III.E.1(a), *infra*.

⁴⁰ See Section III.D.1, *infra*.

⁴¹ See Section III.E.3(a), *infra*.

⁴² See Section III.F.1, *infra*.

⁴³ See Section III.G, *infra*.

Bitwise Has No Commentary On The Information On This Page

regulated markets related to the underlying asset⁴⁴—is not the only way that a listing exchange can satisfy Section 6(b)(5)’s requirement that its rules be designed to prevent fraudulent and manipulative acts and practices with respect to listing an ETP.⁴⁵ BZX argues that, in the case of a bitcoin commodity-trust ETP, traditional measures to detect and deter manipulation are sufficient.⁴⁶ BZX and certain commenters further argue that the March Disapproval Order misconstrued Section 6(b)(5) to mean that a bitcoin ETP can be listed and traded only if bitcoin “cannot be manipulated.”⁴⁷ They argue that such a standard is inconsistent with the “not readily susceptible to manipulation” standard applied to other commodities that underlie ETPs.⁴⁸

These arguments do not accurately reflect the nature of the Commission’s inquiry and past practice. The Commission agrees that, if BZX had demonstrated that bitcoin and bitcoin markets are inherently resistant to fraud and manipulation, comprehensive surveillance-sharing agreements with significant, regulated markets would not be required, as the function of such agreements is to detect and deter fraud and manipulation. But because the underlying commodities market for this proposed commodity-trust ETP is not demonstrably resistant to manipulation, BZX, as the ETP listing exchange, must enter into surveillance-sharing agreements with, or hold Intermarket Surveillance Group membership in common with, at least one significant, regulated market relating to bitcoin.

Moreover, the Commission is not applying a “cannot be manipulated” standard to this proposal. Instead, the Commission is examining whether the proposal meets the requirements of

⁴⁴ See March Disapproval Order, *supra* note 3, 82 FR at 14082–84.

⁴⁵ See BZX Letter II, *supra* note 13, at 26.

⁴⁶ See *id.* at 12; see also *id.* at 13, 26.

⁴⁷ See BZX Letter II, *supra* note 13, at 13; and Overdahl Letter, *supra* note 36, at 2, 9–11.

⁴⁸ See BZX Letter II, *supra* note 13, at 13; and Overdahl Letter, *supra* note 36, at 2, 9–11.

Bitwise Has No Commentary On The Information On This Page

the Exchange Act and, pursuant to its Rules of Practice,⁴⁹ is placing the burden on BZX to demonstrate the validity of its contention that the “novel systems intrinsic to this new market provide unique additional protections that are unavailable in traditional commodity markets,”⁵⁰ and to establish that the requirements of the Exchange Act have been met.

Finding that BZX has not demonstrated that bitcoin and bitcoin markets are inherently resistant to manipulation, the Commission subjects the proposal to the analysis it has historically used to analyze commodity-trust ETPs, focusing particularly on whether there are comprehensive surveillance-sharing agreements with significant, regulated markets. Because adequate surveillance-sharing agreements are not in place—and any current surveillance-sharing agreements are with bitcoin-related markets that are either not significant, not regulated, or both—the Commission concludes that the proposal is inconsistent with Exchange Act Section 6(b)(5).

Accordingly, the Commission will examine whether the proposed rule change is consistent with Section 6(b)(5) by first addressing the arguments by BZX and certain commenters that bitcoin and bitcoin markets are inherently resistant to manipulation. The Commission will then address BZX’s argument that what it describes as “traditional means” of identifying and deterring fraud and manipulation would be sufficient to comply with Exchange Act Section 6(b)(5), which requires that BZX’s rules be designed to “prevent fraudulent and manipulative acts and practices” and “to protect investors and the public interest.”⁵¹ Finding these arguments unpersuasive, the Commission concludes that the proposal is inconsistent with previously approved commodity-trust ETPs, which have universally relied on surveillance-

⁴⁹ See *supra* notes 10–12 and accompanying text.

⁵⁰ See BZX Letter II, *supra* note 13, at 26.

⁵¹ 15 U.S.C. 78f(b)(5).

Bitwise Has No Commentary On The Information On This Page

sharing agreements with significant, regulated markets relating to the underlying commodity in order to prevent fraud and manipulation and to protect investors and the public interest. Finally, the Commission addresses and rejects additional factors that BZX contends support approval.

B. The Susceptibility of Bitcoin and Bitcoin Markets to Manipulation

BZX asserts that intrinsic properties of bitcoin and bitcoin markets, including the Gemini Exchange, provide resistance to manipulation. But BZX has failed to carry its burden to demonstrate that its assertion is correct.

1. The Structure of the Spot Market for Bitcoin

(a) Summary of Comments Received

BZX argues that intrinsic properties of bitcoin and bitcoin markets make manipulation “difficult and prohibitively costly.”⁵² BZX argues that “novel systems intrinsic to this new market provide unique additional protections that are unavailable in traditional commodity markets.”⁵³ BZX asserts that the increasing strength and resilience of the global bitcoin marketplace serve to reduce the likelihood of price manipulation and that arbitrage opportunities across globally diverse marketplaces allow market participants to ensure approximately equivalent pricing worldwide. But BZX concedes that less liquid markets, such as the market for bitcoin, may be more susceptible to manipulation.⁵⁴

BZX asserts that a number of new bitcoin market participants have emerged, changing the once concentrated and non-regulated landscape of the global bitcoin exchange marketplace, and that the emergence of these new market participants, who are chiefly arbitrageurs, causes

⁵² BZX Letter II, *supra* note 13, at 12, 13, 26; *see also* Petition for Review, *supra* note 4, at 11.

⁵³ *See* *supra* note 50 and accompanying text.

⁵⁴ *See* BZX Letter I, *supra* note 35, at 7.

Bitwise Has No Commentary On The Information On This Page

global bitcoin exchange prices to converge.⁵⁵ BZX adds that arbitrageurs must have funds distributed across multiple bitcoin exchanges to take advantage of temporary price dislocations, and that this distribution of funds discourages concentration of funds on any one particular bitcoin exchange and mitigates the potential for manipulation on a bitcoin exchange because doing so would require overcoming the liquidity supply of arbitrageurs that are actively eliminating any cross-market pricing differences.⁵⁶

BZX also asserts that the bitcoin spot market generally is less susceptible to manipulation than the equity, fixed income, and commodity futures markets, in part, because: (a) a substantial over-the-counter (“OTC”) market provides liquidity and shock absorbing capacity; (b) the “24/7/365” trading of bitcoin provides constant arbitrage opportunities across all trading venues and means that there is no single market-close for investors to attempt to manipulate; and (c) it is unlikely that any one actor could obtain a dominant market share.⁵⁷ BZX also claims that the transparency that the Trust will provide with respect to its bitcoin holdings, and the dissemination of the IIV and NAV of the Trust, will reduce the ability of market participants to manipulate the price of bitcoin or the price of the Shares.⁵⁸

The Overdahl Letter, submitted in support of the BZX proposal,⁵⁹ asserts that the fungibility of bitcoin across bitcoin exchanges facilitates arbitrage and helps keep prices within the bounds of arbitrage, constraining the possibility of price manipulation on any one bitcoin

⁵⁵ See Petition for Review, *supra* note 4, at 15.

⁵⁶ See BZX Letter II, *supra* note 13, at 15–16; Petition for Review, *supra* note 4, at 15.

⁵⁷ See BZX Letter II, *supra* note 13, at 12; see also Petition for Review, *supra* note 4, at 11.

⁵⁸ See Petition for Review, *supra* note 4, at 16.

⁵⁹ See *supra* note 36.

Bitwise Has No Commentary On The Information On This Page

trading venue.⁶⁰ Because of this linkage, the Overdahl Letter contends, manipulation of the bitcoin price on any one venue would require manipulation of the global bitcoin price to be effective, which would be prohibitively costly and is therefore unlikely. But the Overdahl Letter concedes that any market can potentially be manipulated.⁶¹

The Overdahl Letter further claims that, to the extent that “spoofing conduct”⁶² is present in bitcoin markets, it is unlikely to have a material impact on the value of the Shares. According to the Overdahl Letter, this is because successful spoofing causes price oscillations of extremely small magnitudes (such as within the bid/ask spread) and does not result in a material change in the bitcoin price. This commenter also claims that spoofing victims are unlikely to be holders of the Shares, but rather market makers in the spot market, and concludes that the likelihood of spoofing in the bitcoin spot market is low.⁶³

The Overdahl Letter further claims that even a “dominant” exchange (by trading volume) cannot dictate the global price of bitcoin because an exchange does not coordinate trading across its membership to influence the market price. This commenter argues that the existence of a dominant exchange in terms of trading volume does not imply that there is a dominant actor on the dominant exchange with the ability to attain a dominant market share to manipulate the price of bitcoin. Rather, this commenter argues, the larger the market share of an exchange, the harder it would be for a dominant actor to obtain a dominant market share of the dominant exchange’s trading volume.⁶⁴

⁶⁰ See Overdahl Letter, *supra* note 36, at 1–2.

⁶¹ *Id.*

⁶² The Commodity Exchange Act defines “spoofing” as bidding or offering for sale with the intent to cancel the bid or offer before execution. See 7 U.S.C. 6c(a)(5)(C).

⁶³ See Overdahl Letter, *supra* note 36, at 2, 9; see also Petition for Review, *supra* note 4, at 14.

⁶⁴ See Overdahl Letter, *supra* note 36, at 9.

Bitwise Has No Commentary On The Information On This Page

Another analysis—the Lewis Letter⁶⁵—argues that, as a general matter, the underlying market for bitcoin is inherently resistant to manipulation.⁶⁶ The Lewis Letter posits that the underlying bitcoin market is not susceptible to manipulation because: (a) there is no inside information related to bitcoin, such as earnings announcements; (b) the asset is not subject to the dissemination of false or misleading information; (c) each bitcoin market is an independent entity, so that a demand for liquidity does not necessarily propagate across other exchanges; (d) a substantial OTC market provides additional liquidity and absorption of shocks; (e) there is no market-close pricing event to manipulate; (f) the market is not subject to “spoofing” or other high-frequency-trading tactics; (g) order books on exchanges worldwide are publicly visible and available through APIs (application program interfaces); and (h) it is unlikely that any one person could obtain a dominant market share because of the existence of in-kind creations and redemptions, arbitrage across bitcoin markets, and the enhanced transparency that a bitcoin ETP would bring to bitcoin markets.⁶⁷ The Lewis Letter acknowledges the risk that a single investor or a small group acting in collusion could own a dominant share of the available bitcoin, but argues that the structure of the spot bitcoin market and the arbitrage mechanism reduce that risk.⁶⁸

⁶⁵ See Craig M. Lewis, “SolidX Bitcoin Trust: A Bitcoin Exchange Traded Product” (Feb. 13, 2017) (“Lewis Letter I”), available at <https://www.sec.gov/comments/sr-nysearca-2016-101/nysearca2016101-1579480-131874.pdf>; Craig M. Lewis, “Supplemental Submission to SolidX Bitcoin Trust: A Bitcoin Exchange Traded Product” (Mar. 3, 2017) (“Lewis Letter II”, and together with Lewis Letter I the “Lewis Letter”), available at <https://www.sec.gov/comments/sr-nysearca-2016-101/nysearca2016101-1610031-135950.pdf>. The Lewis Letter was commissioned by SolidX Management LLC in support of the SolidX Bitcoin Trust. BZX Letter II, *supra* note 13, at 12; see also Exchange Act Release No. 80319 (Mar. 28, 2017), 82 FR 16247, 16249 n.43 (Apr. 3, 2017) (SR-NYSEArca-2016-101) (“SolidX Order”). The Commission notes that the Lewis Letter made additional assertions directed to the particular structure and pricing mechanism of another proposed bitcoin-based commodity-trust ETP, and the Commission does not address those arguments in this order.

⁶⁶ See Lewis Letter I, *supra* note 65, at 5–8.

⁶⁷ See Lewis Letter I, *supra* note 65, at 5–9; Lewis Letter II, *supra* note 65, at 2.

⁶⁸ See Lewis Letter I, *supra* note 65, at 6–7.

9

It is important to separate out the market for bitcoin in capital-controlled economies from the market for bitcoin in the integrated global market.

It has been broadly documented that bitcoin trades at different prices in markets with significant capital controls compared with markets that allow for the free flow of capital. The reason for this is simple: capital controls either prevent arbitrage or make it significantly more difficult. This explains the premiums seen in the bitcoin-vs.-Chinese yuan (CNY) trades referenced here, as well as the well-documented premium that can exist in the bitcoin market in South Korea. The difficulty in arbitraging prices in capital-controlled markets is documented in the Bloomberg article, "Bitcoin's 43% Arbitrage Trade Is A Lot Harder Than It Looks."¹³

The Bitwise Daily Bitcoin Reference Price methodology that serves as the underlying pricing methodology for the Bitwise Trust's NAV specifically excludes exchanges domiciled in capital-controlled economies for this reason.

Bitwise has demonstrated in all four major documents supporting the Bitwise Trust, but most thoroughly in the Bitwise White Paper, that arbitrage between prices on the ten real spot bitcoin exchanges is extremely effective, and that (at least since January 2018), any price deviations that emerge between those exchanges are rapidly arbitrated away. This argument is explored in greater depth later in this commentary.

10

The idea that bitcoin ownership is highly concentrated is based on an imperfect understanding of how bitcoin ownership and so-called "bitcoin wallets" work.

While there are many sources driving this narrative, many who hold this opinion reference articles like the December 8, 2017, Bloomberg article, "The Bitcoin Whales: 1,000 People Who Own 40 Percent of the Market."¹⁴

This and related articles tend to make use of the semi-transparent nature of bitcoin ownership: namely, that any user can see how much bitcoin is held at each "bitcoin wallet" address. This data is publicly available at multiple blockchain explorer websites, including the oft-referenced BitInfoCharts.com. As of May 24, 2019, for instance, BitInfoCharts.com showed that there were three bitcoin wallets holding more than 100,000 bitcoin each, representing 1.87% of all outstanding bitcoin. The site further showed that 41.79% of all bitcoin was located at the top 2,000 wallet

addresses, with each wallet holding more than 1,000 bitcoin. That sounds significantly concentrated.

This data, however, gives a false impression of the concentration of ownership, since most of the largest wallets are exchange wallets that blend the holdings of thousands or millions of individual investors. For instance, it is widely known (and in fact indicated on the aforementioned BitInfoCharts.com) that each of the three largest wallets -- that is, all wallets holding more than 100,000 bitcoin -- belong to exchanges. Suggesting that any of these wallets represents "one" owner is akin to suggesting that all equities custodied at Charles Schwab are held by a single investor.

The best and most recently analysis of the true concentration of ownership in bitcoin came in an October 10, 2018, report from the crypto research firm Chainalysis. Chainalysis's research showed that the 32 largest bitcoin wallets not belonging to exchanges as of August 2018 held about one million total bitcoin, or roughly 6% of the market, meaning each of those wallets held on average less than 0.2% of the bitcoin market.¹⁵

¹³ "Bitcoin's 43% Arbitrage Trade Is A Lot Harder Than It Looks," by Julie Verhange, Whanwoong Choi and Kyungji Cho, Bloomberg, January 9, 2018. <https://www.bloomberg.com/news/articles/2018-01-09/bitcoin-s-43-arbitrage-trade-is-a-lot-tougher-than-it-looks>

¹⁴ "The Bitcoin Whales: 1,000 People Who Own 40 Percent of the Market," Olga Kharif, Bloomberg, December 8, 2017. <https://www.bloomberg.com/news/articles/2017-12-08/the-bitcoin-whales-1-000-people-who-own-40-percent-of-the-market>

¹⁵ "The Not-So-Killer Whales of Bitcoin," Chainalysis, October 10, 2018. <https://blog.chainalysis.com/reports/bitcoin-whales-oct>

9

One commenter observes that the bitcoin/Chinese Yuan (BTC/CNY) quote is apt to trade at a significant premium to the bitcoin/U.S. dollar (BTC/USD) quote and points out that large arbitrage opportunities would not exist for long in efficient markets, but they do persist in bitcoin markets.⁶⁹ Another commenter claims that, because trade is now sparse on regulated U.S. exchanges, including Gemini, arbitrage will not occur efficiently or proportionally to mitigate manipulation from the dominant unregulated bitcoin exchanges.⁷⁰

10

One commenter asserts that, in January 2017, major Chinese bitcoin exchanges OKCoin, Huobi, and BTCC implemented changes requested by the People's Bank of China to halt margin lending and to institute transaction fees. This commenter claims that these changes were put in place to discourage price manipulation, to drive down "fake" trading volume, and to dampen bitcoin volatility, and further claims that these changes have had profound and beneficial effects on bitcoin spot markets worldwide.⁷¹

One commenter states that the market for bitcoin, by trade volume, is very shallow. This commenter states that the majority of bitcoin is hoarded by a few owners or is out of circulation. The commenter also states that ownership concentration is high, with 50 percent of bitcoin in the hands of fewer than 1,000 people, and that this high ownership concentration creates greater market liquidity risk, as large blocks of bitcoin are difficult to sell in a timely and market efficient manner. This commenter claims that daily trade volume is only a small fraction of total bitcoin mined.⁷²

⁶⁹ See ARK Letter, *supra* note 35, at 5.

⁷⁰ See Maher Letter, *supra* note 35.

⁷¹ See SIG Letter, *supra* note 36, at 6.

⁷² See Williams Letter, *supra* note 35, at 1–2.

11

The Bitwise Study and the Bitwise White Paper demonstrated that the ten real spot bitcoin exchanges in non-capital-controlled economies represent an integrated market with effective arbitrage in place. The Bitwise Study showed that temporary price dislocations between these exchanges are extremely rare and that, when they appear, are rapidly arbitrated away. The Bitwise White Paper showed that a majority of significant dislocations ($>1\%$) were arbitrated away in under five seconds, and that more than 90% of all dislocations were arbitrated away in under 35 seconds.

Additionally, Bitwise's conversations with leading market makers in the space suggest that they maintain capital at multiple exchanges to facilitate this arbitrage.

The well-connected nature of the market, distributed among multiple exchanges, both helps make the bitcoin market uniquely resistant to market manipulation in certain ways, and makes it more difficult and costly to profit from any attempt to manipulate that market.

One commenter asserts that the number of spot bitcoin exchanges worldwide far exceeds the number of venues for many commodity futures, some of which are underlying assets of existing commodity-trust ETPs. The commenter argues that, therefore, widespread global bitcoin liquidity makes bitcoin less susceptible to manipulation via trading activity conducted on a single exchange, as compared to less-liquid commodity futures that trade on a few exchanges.⁷³

One commenter states that bitcoin trades on a number of exchanges around the world and that most of these exchanges can be considered isolated liquidity pools, which are more vulnerable to manipulation or security breach than the broader market.⁷⁴ (See footnote #X)

Finally, both BZX and the Overdahl Letter argue that the Commodity Futures Trading Commission's ("CFTC") granting of registration to bitcoin swap-execution facilities ("SEFs") means that the CFTC has addressed the issue of manipulation and determined that the underlying spot markets for bitcoin are not susceptible to manipulation.⁷⁵

(b) Discussion

BZX has not demonstrated that the structure of the spot market for bitcoin is uniquely resistant to manipulation.

(i) *Bitcoin Market Structure & Arbitrage*

While two commenters questioned the effectiveness of arbitrage across bitcoin markets,⁷⁶ BZX, the Overdahl Letter, and the Lewis Letter argue that the structure of the bitcoin spot market and the availability of arbitrage will help keep worldwide bitcoin prices aligned,

⁷³ See SIG Letter, *supra* note 36, at 4–5.

⁷⁴ See ARK Letter, *supra* note 35, at 8.

⁷⁵ See BZX Letter II, *supra* note 13, at 17; Overdahl Letter, *supra* note 36, at 12. The Overdahl Letter also notes that the CFTC-regulated CME Group recently created a standardized bitcoin reference rate and a bitcoin spot price index. Overdahl Letter, *supra* note 36, at 12.

⁷⁶ See *supra* notes 69–70 and accompanying text.

12

Bitwise has attempted in its research, including both the Bitwise Study and the Bitwise White Paper, to supply the Commission with precisely this data, demonstrating that the ten spot bitcoin exchanges with real volume trade essentially at one price and that any dislocation in prices between those exchanges is rapidly arbitrated away.

The Bitwise White Paper showed that the average deviation in price between each of the ten exchanges and the globally integrated price in April was between 0.06% and 0.19%, figures that were less than the exchange-level fees and other trading overhead at those exchanges. This suggests that arbitrage does exist among these exchanges, which together represent substantially all of the real spot trading volume in bitcoin.

The Bitwise Study showed that instances of sustained deviations—periods where the price on one exchange deviated from the globally integrated price by more than 1% for more than 100 seconds—were vanishingly few, and that the limited instances of this occurring have diminished in frequency in recent months with the continued maturation of the market.

The Bitwise White Paper built on this analysis and showed that the majority of price dislocations of more than 1% were arbitrated away in under 5 seconds, and that nearly all price dislocations (>90%) were arbitrated away in under 35 seconds.

hindering manipulation.⁷⁷ The Overdahl Letter and Lewis Letter claim that economic analysis demonstrates that bitcoin markets are resistant to manipulation. But, as discussed below, the arguments submitted in support of this claim are incomplete and inconsistent, and are unsupported or contradicted by data.

BZX, the Overdahl Letter, and the Lewis Letter offer broad assertions that the increasing strength and resilience of the non-stop global bitcoin market place, the emergence of new market participants, and the transparency of the market have facilitated arbitrage that has caused global bitcoin exchange prices to converge.⁷⁸ But BZX, the Overdahl Letter, and the Lewis Letter offer no data or analysis regarding the actual effectiveness of arbitrage in the bitcoin spot market, either in terms of how closely prices are aligned across different bitcoin trading venues or how quickly price disparities are arbitrated away.⁷⁹ Similarly, the commenter who asserts that regulatory actions by the People's Bank of China were designed to discourage price manipulation, and have had profound and beneficial effects on bitcoin spot markets worldwide, has provided no empirical evidence to substantiate this claim.⁸⁰ In addition, the Commission notes that one commenter asserts that large arbitrage opportunities persist in bitcoin markets.⁸¹

While BZX cites a comment letter relating to a different proposed rule change for the proposition that price discrepancies across four selected USD-denominated bitcoin markets are

⁷⁷ See *supra* notes 52–68 and accompanying text.

⁷⁸ See *supra* notes 52–68 and accompanying text.

⁷⁹ While the Overdahl Letter compares the Gemini Exchange bitcoin price to the median price and the volume-weighted average price of a group of USD-denominated bitcoin markets, such an analysis does not demonstrate whether the range of prices across those other markets is broad or narrow.

⁸⁰ See *supra* note 71 and accompanying text.

⁸¹ See *supra* note 69 and accompanying text.

13

The Bitwise Study and the Bitwise White Paper examined substantially all of the real global spot bitcoin trading volume outside of capital-controlled economies, including volume conducted in pairs with the U.S. dollar, the Euro, the Japanese Yen, and the most popular stablecoin, Tether. They showed that price discrepancies across exchanges were extremely small and any discrepancies were generally arbitrated away very quickly regardless of venue, currency pair or any other identifiable factor. Both the Study and the White Paper examined all exchanges that contribute prices to the Bitwise Daily Bitcoin Reference Price, and therefore the Trust's NAV, as well as each of the four exchanges (Bitfinex, Bitstamp, GDAX (subsequently renamed Coinbase Pro), and itBit) cited in the May 15, 2017, Comment Letter by Daniel H. Gallancy of SolidX Management cited here.

generally arbitrated away in under a minute,⁸² even if that limited factual assertion is true, BZX has not explained why it is relevant to the Commission's consideration of the proposal, given that (a) the worldwide spot market for bitcoin is not limited to trading against the USD, (b) market participants could engage in creation or redemption transactions with the Trust using bitcoins sourced from any trading venue or from OTC transactions, and (c) the Gemini Exchange is not among the four bitcoin trading venues observed by the commenter. Thus, this argument does not support BZX's broad assertion about the effectiveness of arbitrage across the worldwide bitcoin market.

BZX also argues that manipulation in the bitcoin market is unlikely because would-be manipulators would have to overcome the liquidity supplied by arbitrageurs, who must have funds distributed across multiple bitcoin markets to engage in arbitrage,⁸³ and the Overdahl Letter asserts that the manipulation of bitcoin is prohibitively expensive because manipulating the price of bitcoin on any given venue would require manipulation of the entire global bitcoin market to be effective.⁸⁴ These theoretical arguments depend on effective arbitrage existing across bitcoin markets, but, as noted above, the Commission concludes that BZX has not provided a factual basis in the record to conclude that arbitrage across bitcoin exchanges is effective.

Moreover, these arguments are inconsistent: If, in fact, market participants must disperse their capital across multiple trading venues to engage in effective arbitrage, then a market participant may be able to manipulate trading on a single trading venue by concentrating its

⁸² See BZX Letter II, *supra* note 13, at 15 n.28 (citing Letter from Daniel H. Gallancy, SolidX Partners, Inc., to Brent J. Fields, Secretary, Commission (Mar. 15, 2017) (SR-NYSEArca-2016-101)).

⁸³ See *supra* note 56 and accompanying text.

⁸⁴ See *supra* notes 60–61 and accompanying text.

14

It is difficult to quantify the impact of the OTC market given the lack of transparency in that market. The data does show, however, a correlation between the empirical improvement in the quality of the bitcoin market and the public entry of a large number of algorithmic market makers into the market in early 2018, as detailed in the Bitwise Study and the Bitwise White Paper. Spreads, arbitrage, and other studied factors have all improved since that time. There are, however, multiple contributors to this improvement.

capital and trading activity there. The Overdahl Letter's argument that manipulation of one bitcoin trading venue would require overcoming liquidity on all bitcoin venues is also inconsistent with the assertion by the Lewis Letter and another commenter that each bitcoin market is an independent entity and that, therefore, demand for liquidity does not necessarily propagate across other exchanges.⁸⁵ In addition, BZX, the Overdahl Letter, and the Lewis Letter do not adequately take into account that a market participant with a dominant ownership position would not find it prohibitively expensive to overcome the liquidity supplied by arbitrageurs and could use dominant market share to engage in manipulation.⁸⁶ And their arguments that substantial liquidity provided by the OTC market can absorb liquidity shocks and help resist manipulative activity are not supported by any data in the record on which the Commission could base a conclusion that OTC activity contributes to preventing manipulation.

BZX also argues that bitcoin markets are uniquely resistant to manipulation because the 24/7/365 trading of bitcoin means that there is no single market-close for investors to attempt to manipulate.⁸⁷ Similarly, a commenter asserts that the large number of bitcoin trading venues makes bitcoin less susceptible to manipulation than an asset, such as a commodity, trading on a single exchange or just a few exchanges.⁸⁸ In the context of the Trust, however, there is a single market and a single market-close event that an investor may have incentive to manipulate: the Gemini Auction, which the Trust would use to calculate NAV.⁸⁹ And the argument by BZX and a commenter that the transparency of a bitcoin commodity-trust ETP regarding its bitcoin

⁸⁵ See *supra* notes 67, 74 and accompanying text.

⁸⁶ See Section III.B.1(b)(ii), *infra* (discussing the potential for market domination).

⁸⁷ See *supra* note 57 and accompanying text.

⁸⁸ See *supra* note 73 and accompanying text.

⁸⁹ See Section III.E.1, *infra*. While the Lewis Letter makes a similar argument about the lack of a single market close, see *supra* note 67 and accompanying text, it does so in the context of a bitcoin ETP proposal that would not base its price on a single market auction.

15

Of note, the TeraExchange settlement¹⁶ focused on a singular instance of a pre-arranged wash trade between two participants, which TeraExchange arranged to prove the functionality of its system. It was not a systematic or ongoing program of wash transactions.

¹⁶ “CFTC Settles with TeraExchange LLC, a Swap Execution Facility, for Failing to Enforce Prohibitions on Wash Trading and Prearranged Trading in Bitcoin Swap,” U.S. Commodity Futures Trading Commission, September 24, 2015. <https://www.cftc.gov/PressRoom/PressReleases/pr7240-15>

holdings, as well as its dissemination of the IIV and NAV, would reduce the ability of market participants to manipulate the price of bitcoin is unpersuasive because: (a) there is no comprehensive and accurate regulatory data source reflecting bitcoin pricing or trading; (b) there is no basis to conclude that the Trust's IIV would be considered an authoritative price when several other spot prices for bitcoin are already disseminated and often differ from one another;⁹⁰ and (c) the Trust's NAV would differ from the Gemini Auction price only if the auction price, which is publicly disseminated itself, is determined not to reflect a fair price for bitcoin.

Both the Overdahl Letter and the Lewis Letter contend that bitcoin markets are not subject to "spoofing," a manipulative quoting strategy.⁹¹ Neither letter, however, presents any data or analysis to support its claim, and there is no basis in the record to conclude whether bitcoin spot markets are subject to spoofing or other deceptive quoting practices. As a general matter, the manipulation of asset prices can occur simply through trading activity that creates a false impression of supply or demand, whether in the context of a closing auction or in the course of continuous trading, and does not require formal linkages among markets (such as consolidated quotations or routing requirements) or the complex quoting behavior associated with high-frequency trading.⁹² The Commission also notes that, in contrast to the theoretical arguments in the Overdahl Letter and the Lewis Letter, TeraExchange (a market for swaps on bitcoin) arranged for participants to make manipulative "wash" transactions.⁹³

⁹⁰ For example, the website <https://data.bitcoinity.org/markets/arbitrage/USD> tracks price differences between last trades on 13 bitcoin markets.

⁹¹ See *supra* notes 62–63, 67 and accompanying text.

⁹² Even if transparent order books and transaction reports on bitcoin markets would include the quoting or trading activity of a person or group attempting to manipulate the market, along with the activity of all other market participants, such information could not, by itself, definitively establish in real time which activity represented bona fide trading interest and which did not.

⁹³ See *In re TeraExchange LLC*, CFTC Docket No. 15-33, 2015 WL 5658082 (CFTC Sept. 24, 2015) (Order Instituting Proceedings Pursuant to Sections 6(c) and 6(d) of the Commodity Exchange Act Making Findings (footnote continued...))

16

We agree with the Commission's argument that the potential for material nonpublic information about bitcoin exists.

We have argued, however, in the Bitwise Study, as well as both the Amended S-1 and Amended Rule 19b-4 Filing in support of the Trust, that the bitcoin market is nonetheless uniquely resistant to market manipulation in significant ways because bitcoin itself is uniquely different from other commodities in certain ways.

Our goal in making these arguments is not to suggest that the bitcoin market is immune from each and every form of potential manipulation, inclusive of outright fraud, but rather, to make two points:

- First, that while certain risks arise from the fact that bitcoin is transparently traded on exchanges, these risks must be weighed against the equally strong protective benefits that accrue from this same fact; and
- Second, that, as with past ETP approvals, the unique quality of the bitcoin market adds comfort to the additional fact that there is a surveillance-sharing agreement in place between the proposed listing exchange for the Bitwise Trust and a regulated market of significant size (the CME bitcoin futures market).

In the Gold Order (approving streetTRACKS Gold Shares)¹⁷, the Commission found comfort in the liquidity and diversity of the gold OTC market, even though its approval hinged on the existence of a surveilled market for gold futures. We believe that this situation is directly analogous to the situation in bitcoin.

¹⁷ "Order Granting Approval of Proposed Rule Change and Notice of Filing and Order Granting Accelerated Approval to Amendments No. 1 and No. 2 Thereto to the Proposed Rule Change by the New York Stock Exchange, Inc. Regarding Listing and Trading of streetTRACKS Gold Shares," U.S. Securities and Exchange Commission, October 28, 2004.
<https://www.sec.gov/rules/sro/nyse/34-50603.pdf>

Finally, BZX's, the Lewis Letter's, and the Overdahl Letter's discussions of the possible sources of manipulation are incomplete and do not form a basis to find that bitcoin is uniquely resistant to manipulation—or to find, by implication, that there is no need for a surveillance-sharing between an exchange listing shares of a bitcoin-based ETP and significant markets trading bitcoin or bitcoin derivatives. For example, assuming there is no inside information related to the earnings or revenue of bitcoin, there may be material nonpublic information related to: the actions of regulators with respect to bitcoin; order flow, such as plans of market participants to significantly increase or decrease their holdings in bitcoin; new sources of demand, such as new ETPs that would hold bitcoin; or the decision of a bitcoin-based ETP, a bitcoin trading venue, or a bitcoin wallet service provider with respect to how it would respond to a “fork” in the blockchain, which would create two different, non-interchangeable types of bitcoin.⁹⁴ Moreover, bitcoin is susceptible to the dissemination of false or misleading information regarding the types of material, nonpublic information just discussed. The

(...footnote continued)

and Imposing Remedial Sanctions (“TeraExchange Settlement Order”)), available at <http://www.cftc.gov/ido/groups/public/@lrenforcementactions/documents/legalpleading/enfteraexchangeorder92415.pdf>. See also Kevin Dowd & Martin Hutchinson, *Bitcoin Will Bite the Dust*, 35 Cato J. 357, 374 n.13 (2015) (Bitcoin markets are subject to the “usual market manipulation tactics.”), available at <https://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2015/5/cj-v35n2-12.pdf>.

⁹⁴ For example, as described in the Trust's Registration Statement, *supra* note 22, in the event the Bitcoin Network undergoes a “hard fork” into two blockchains, the Custodian and the Sponsor will determine which of the resulting blockchains to use as the basis for the assets of the Trust and, under certain circumstances, will have discretion to determine which blockchain is “most likely to be supported by a majority of users or miners.” *Id.* at 113. See also Lee Letter, *supra* note 35; Johnson Letter, *supra* note 35; Schulte Letter, *supra* note 35; Anonymous Letter V, *supra* note 35; Anonymous Letter VI, *supra* note 35. The decision of the Custodian and Sponsor to support one resulting blockchain over another could have a material effect on the relative value of the bitcoins in each of the blockchains. A fork between bitcoin and “Bitcoin Cash” occurred on August 1, 2017, and a fork between bitcoin and “Bitcoin Gold” occurred on October 24, 2017.

17

The findings of the Feng, Wang, and Zhang paper are interesting, but limited by the timeframe of its analysis, which focuses on an early era in the development of the bitcoin market. Just 4 of the 46 events studied in the paper took place in 2017, and none took place following the launch of regulated bitcoin futures on the CME and Cboe in December 2017.

18

The Feder, Gandal, Hamrick and Moore paper, though published in January 2018, examines the impact that distributed denial-of-service attacks (DDoS) on the Mt. Gox exchange had on the global price of bitcoin between April 2011 and November 2013.

While the early history of the bitcoin market is interesting, it's important to note that the bitcoin exchange marketplace has materially matured since that time, and both the specific methodology of the attack mentioned and the generalized risks related to the potential disruption of the bitcoin trading ecosystem have been significantly mitigated.

Regarding the methodology of attack: DDoS attacks were a plague of the early internet era. While still a concern today, sophisticated DDoS protection measures now exist that can significantly mitigate the risk. Coinbase, to take one example, relies on the CloudFlare software solution to prevent such attacks¹⁸; CloudFlare is one of the world's largest providers of network security measures.

Regarding the impact of any single exchange failure: It is important to note that, at the start of the Feder et al. study in April 2011, bitcoin was trading for roughly \$1 and had a total market capitalization of approximately \$10 million. On May 28, 2019, at the time of writing, bitcoin was trading at roughly \$8,500, and had a market capitalization in excess of \$150 billion. The size, scale, and maturity of the industry has changed dramatically.

Similarly, at the time of the Feder et al. study, Mt. Gox accounted for the vast majority of spot bitcoin exchange volume worldwide, and there were no significantly capitalized or regulated crypto exchanges. Today, no single bitcoin exchange accounts for a majority of spot bitcoin trading volume, and multiple large, sophisticated exchanges exist. As a result, the failure of any single exchange (or even multiple exchanges) would not have the same impact on the market as it did at the time of Mt. Gox; volume could simply migrate to another exchange.

Moreover, six of the ten significant spot bitcoin exchanges are regulated under the BitLicense program by the New York State Department of Financial Services, which conveys certain capitalization and market manipulation obligations, making their catastrophic failure significantly less likely.¹⁹

Other critical changes include the launch of and establishment of a significant regulated bitcoin futures market and the entry of large-scale institutional market makers into the space.

As discussed in the Risk Factors section of the Bitwise Trust's Amended S-1, there are still risks that attend the bitcoin trading ecosystem, but those risks have been significantly mitigated by time and are further mitigated by the careful design of the Bitwise Trust.

19

There is a theoretical risk that a malicious actor could attempt to exert control over the Bitcoin Network by conducting a so-called 51% attack, which would involve becoming the dominant source of mining power on the network. In practice, however, this would be extraordinarily hard to achieve. The cost to acquire sufficient computing power to conduct such an attack would measure in the billions of dollars²⁰, and the implementation and other challenges would be steep. It's not clear how a malicious actor would profit from this opportunity given the high capital costs involved, the uncertainty related to being able to complete such an act, and the destructive impact such an attempt would likely have on the value of the network. (Also please note that while 51% attacks can theoretically allow you to double spend bitcoin you already own or censor transactions of others, it notably does not allow you to steal the bitcoin of others.)

¹⁸ "CloudBleed and Coinbase", Philip Martin, Feb 24, 2017, <https://blog.coinbase.com/cloudbleed-and-coinbase-1b62c3783eef>

¹⁹ "New York Codes, Rules and Regulations - Part 200 Virtual Currencies," New York State Department of Financial Services, March 15, 2019. <https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRuleandRegulations?guid=I7444ce80169611e594630000845b8d3e>

²⁰ "Analysis: Bitcoin Costs \$1.4 Billion to 51% Attack, Consumes as Much Electricity as Morocco," Mitchell Moos, November 29, 2018. <https://cryptoslate.com/analysis-bitcoin-costs-1-4-billion-to-51-attack-consumes-as-much-electricity-as-morocco/> Moos provides a basic estimation of the cost by multiplying the cost of an ASIC (special-purpose bitcoin mining hardware) to the number of units that would be needed to match the current mining hash rate.

17

Commission also notes a recent academic paper finding empirical evidence of trading in bitcoin markets based on material nonpublic information.⁹⁵

18

Two additional risks that the Trust's Registration Statement acknowledges—(1) hacking and (2) malicious control of the Bitcoin Network—further undermine BZX's argument that bitcoin and bitcoin markets are inherently resistant to fraud and manipulation. The Trust's Registration Statement recognizes that bitcoin trading venues can be and have been attacked by hackers, which can affect liquidity and result in volatile prices.⁹⁶ Profit-motivated hackers can launch such attacks to manipulate bitcoin and achieve their “intended effect of artificially raising or lowering prices.”⁹⁷ The Trust's Registration Statement also recognizes the risk of a “malicious

19

actor” obtaining control of the processing power dedicated to mining on the Bitcoin Network and thus “exerting authority” over the Bitcoin Network.⁹⁸ Such control can be used to manipulate bitcoin pricing.⁹⁹ And there may be material nonpublic information related to hacking plans or

⁹⁵ See Wenjun Feng, Yiming Wang & Zhengjun Zhang, *Informed Trading in the Bitcoin Market*, Fin. Res. Letters, Dec. 2, 2017, available at <https://www.sciencedirect.com/science/article/pii/S1544612317306992>.

⁹⁶ Registration Statement, *supra* note 22, at 21–23, 29, 60–61.

⁹⁷ Amir Feder, Neil Gandal, J.T. Hamrick, and Tyler Moore, *The Impact of DDoS and Other Security Shocks on Bitcoin Currency Exchanges: Evidence From Mt. Gox*, Journal of Cybersecurity (Jan. 31, 2018), at 137 (explaining that a profit-motivated hacker can manipulate bitcoin prices up or down by hacking larger trading venues while trading on smaller trading venues, and thereby “creat[] an unfair financial advantage for the perpetrator at the expense of ordinary participants”), available at <https://academic.oup.com/cybersecurity/article/3/2/137/4831474>; see also David Groshoff, *Kickstarter My Heart: Extraordinary Popular Delusions and the Madness of Crowdfunding Constraints and Bitcoin Bubbles*, 5 Wm. Mary Bus. L. Rev. 489, 519 (2014).

⁹⁸ Registration Statement, *supra* note 22, at 17, 56. The Registration Statement notes that obtaining control in excess of 50% of the processing power on the Bitcoin network is sufficient, and that “there are some academics and market participants who believe the applicable threshold required to exert authority over the Bitcoin Network could be less than fifty (50) percent, which would increase the chances of a malicious actor exerting authority over the Bitcoin Network.” *Id.* at 17.

⁹⁹ Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, Bitcoin.org (Oct. 31, 2008), at 4 (malicious actor could exploit his control of the Bitcoin Network by “using it to generate new coins”), available at <https://bitcoin.org/bitcoin.pdf>; see also Kevin Dowd & Martin Hutchinson, *Bitcoin Will Bite the Dust*, 35 Cato J. 357, 372–74 (2015), available at <https://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2015/5/cj-v35n2-12.pdf>; Sanya Samtani and Varun Baliga, *On Monopolistic Practices in Bitcoin: A Coded Solution*, 11 Indian J. L. & Tech. 106, 107–08 (2015), available at <http://ijlt.in/wp-content/uploads/2015/09/Sanya-Samtani-and-Varun-Baliga-5.pdf> (malicious actor could achieve “devaluation” of bitcoin).

19 Continued

While there have been 51% attacks on minor blockchains, there has not been a documented successful 51% attack on the bitcoin blockchain in its history, likely because of the extremely high costs, lack of economic incentive, and implementation challenges that would necessarily attend such an effort.

20

The Winklevoss Order and the Bats BZX Exchange, Inc. Rule 19b-4 Filing did not establish key facts about the bitcoin market, such as that it is widely distributed and institutionally mature and that extremely effective arbitrage exists between various trading venues. The distributed nature of the bitcoin market and the strong arbitrage-ability of bitcoin prices contribute to its unique resistance to market manipulation.

The Rule 19b-4 Filing in support of the Bitwise Trust explores additional ways in which the bitcoin market is uniquely resistant to market manipulation. These are driven by the unique nature of bitcoin as the first digital commodity, and include protection against the inherent risks in the coordinated fix pricing schema that impact much of the commodities market, and the fact that there is no supply-constrained physical chokepoint for derivatives contracts in the bitcoin market.

21

The Griffin-Shams paper raises concerns about the ability of an exchange that engages in the fully fraudulent printing of a stablecoin cryptoasset to drive up the prices of another cryptoasset such as bitcoin. The paper asserts that Bitfinex engaged in this manipulation by fraudulently printing Tether and investing it in bitcoin.

The primary flaw in the Griffin-Shams argument is that it supposes as a precondition to its findings that the stablecoin creation is in fact fraudulent and does not reflect investor demand to enter the crypto market. The paper's findings unwind if you assume that all (or even most) of the growth in issuance of Tether (the stablecoin in question) reflects organic demand, as then, all the paper shows is that rising demand to invest in cryptoassets leads to more issuance of Tether which coincides with rising prices in cryptoassets. This is an unsurprising finding, and not market manipulation.

Recent revelations stemming from the New York State Attorney General's April 2019 court order against iFinex and Tether suggest that Tether is undercollateralized and that Bitfinex (the exchange and public arm of iFinex) co-mingled and engaged in non-arms-length transactions between its corporate account and the Tether treasury. Subsequent revelations suggest that Tether (the company) may have invested a "a small amount" of its reserve assets in bitcoin.²¹ These are unfortunate developments and deserve scrutiny and sanction.²²

Nothing about the court order or subsequent revelations, however, suggest that the Tether issuance was fraudulent or reflected anything other than organic investor demand; indeed, both the New York Attorney General's court order and subsequent statements by Bitfinex and Tether are predicated on the idea that Tether's growth did in fact reflect (at least to a large degree) investor demand, and that those investors contributed cash in exchange for Tether. Tether's decision to invest a small amount of its reserve assets in bitcoin is unfortunate, but again, does not align with the assertions in the Griffin-Shams paper.

We do not take the situation with Bitfinex and Tether lightly. On disclosure of the NY AG's court order, the Bitwise Crypto Index Committee voted to immediately remove Bitfinex as a pricing source.²³ But the findings, while worrisome, do not support the accusations in the Griffin-Shams paper at this time.

In fact, the widespread attention that has been focused on Tether, Bitfinex, and the stablecoin ecosystem in the wake of the NY AG's court order are an effective prophylactic against future instances of the exact kind of fraud that the Griffin-Shams paper imagines. Whether such fraud happened in the past—something the NY AG's court order does not support—heightened scrutiny of the stablecoin space makes it extremely unlikely that the fraudulent printing of a stablecoin asset could easily happen in the future.

²¹ "Tether Admits In Court To Investing Some Of Its Reserves In Bitcoin," Larry Cermak, The Block, May 21, 2019. <https://www.theblockcrypto.com/2019/05/21/tether-admits-in-court-to-investing-some-of-its-reserves-in-bitcoin/>

²² "Attorney General James Announces Court Order Against "Crypto" Currency Company Under Investigation For Fraud," Letitia James, NY Attorney General, April 25, 2019. <https://ag.ny.gov/press-release/attorney-general-james-announces-court-order-against-crypto-currency-company-under>

²³ "Bitwise Crypto Index Committee Meeting—April 25, 2019," Matt Hougan, Bitwise Asset Management, April 26, 2019. <https://www.bitwiseinvestments.com/resources/index-committee-meetings/bitwise-crypto-index-committee-meeting-april-25-2019>

20

attempts to gain control of the Bitcoin Network, and such information could be exploited through fraudulent trading.

Based on the analysis above, the Commission concludes that there is an insufficient basis in the record before it to decide that the bitcoin spot markets are inherently resistant to manipulation. This conclusion, again, is bolstered by the Trust's Registration Statement, which explains:

Over the past four (4) years, a number of Bitcoin Exchanges have been closed due to fraud, failure or security breaches. In many of these instances, the customers of such Bitcoin Exchanges were not compensated or made whole for the partial or complete losses of their account balances in such Bitcoin Exchanges. ... Further, the collapse of the largest Bitcoin Exchange in 2014 suggests that the failure of one component of the overall Bitcoin ecosystem can have consequences for both users of a Bitcoin Exchange and the Bitcoin industry as a whole.¹⁰⁰

21

Additionally, the Commission notes that recent academic papers suggest that the price of bitcoin can be, and has been, manipulated through activity on bitcoin trading venues. One recent academic paper examined whether the growth of the circulating supply of Tether (a cryptocurrency that claims to be backed by the U.S. dollar) through new issuances "is primarily driven by investor demand, or is supplied to investors as a scheme to profit from pushing cryptocurrency prices up."¹⁰¹ Through statistical analysis of the blockchains of bitcoin and Tether, the authors conclude that entities associated with a specific cryptocurrency trading venue—which the authors link to Tether's founders—"use Tether to purchase bitcoin when prices are falling"; that "[s]uch price supporting activities are successful, as Bitcoin prices rise after the period of intervention," with "substantial aggregate price effects" across bitcoin trading platforms; and that this activity "occurs more aggressively right below salient round-number

¹⁰⁰ Registration Statement, *supra* note 22, at 23.

¹⁰¹ Griffin, John M. and Amin Shams, *Is Bitcoin Really Un-Tethered* (June 13, 2018) (manuscript at 33) ("Griffin-Shams Paper"), available at https://ssrn.com/abstract_id=3195066.

22

The Gandal, Hamrick, Moore and Oberman paper, though published in 2018, focuses on reported manipulation at the failed Mt. Gox exchange in 2013. As mentioned earlier, unlike any exchange today, Mt. Gox had a market dominant position at this time handling more than 70% of the world's bitcoin trading volume.²⁴ Moreover, it was an extremely immature business.

In fact, it can be hard to imagine today just how immature Mt. Gox was in 2013. Consider this paragraph from a Wired Magazine profile of the business written in 2014:

"Mt. Gox [according to one developer] didn't use any type of version control software – a standard tool in any professional software development environment. This meant that any coder could accidentally overwrite a colleague's code if they happened to be working on the same file. According to this developer, the world's largest bitcoin exchange had only recently introduced a test environment, meaning that, previously, untested software changes were pushed out to the exchanges customers – not the kind of thing you'd see on a professionally run financial services website. And, he says, there was only one person who could approve changes to the site's source code: [CEO] Mark Karpeles. That meant that some bug fixes – even security fixes – could languish for weeks, waiting for Karpeles to get to the code. "The source code was a complete mess," says one insider."²⁵

Bitwise does not discount the possibility that the bitcoin market was susceptible to market manipulation in 2013, four years after the creation of bitcoin, prior to the development of any material regulation or the entry of large companies into the space. But applying those concerns to today's market—which is dominated by exchanges valued in the billions of dollars, most of which are regulated by the NYSDFS under the BitLicense program—is perhaps misplaced. The exact concerns raised by this paper are mitigated by the existence of a well-functioning, distributed market, with multiple significant exchanges that are connected by efficient arbitrage.

²⁴ "Five Things About The Mt. Gox Crisis," Paul Vigna, The Wall Street Journal, February 25, 2014.

<https://blogs.wsj.com/briefly/2014/02/25/5-things-about-mt-goxs-crisis>

²⁵ "The Inside Story Of Mt. Gox, Bitcoin's \$460 Million Disaster," Robert McMillan, Wired, March 3, 2014.

<https://www.wired.com/2014/03/bitcoin-exchange>

price thresholds where the price support might be most effective.”¹⁰² The paper finds that the periods of strongest Tether flows are “associated with 50% of Bitcoin compounded return” from March 1, 2017, to March 31, 2018.¹⁰³ Overall, the authors conclude that their findings “provide substantial support for the view that price manipulation may be behind substantial distortive effects in cryptocurrencies” and “suggest that external capital market surveillance and monitoring may be necessary to obtain a market that is truly free.”¹⁰⁴ The Commission also notes another recent academic paper, which concludes that there was fraudulent and manipulative activity on a single bitcoin trading venue.¹⁰⁵

These studies supplement the Commission’s conclusion that there is an insufficient basis in the record before it to decide that the bitcoin spot markets are inherently resistant to manipulation.¹⁰⁶ Even without these studies, however, the Commission would still find that BZX

¹⁰² Id.

¹⁰³ See id. at 23–24.

¹⁰⁴ Id. at 33; see also id. at 1 (“[P]urchases with Tether are timed following market downturns and result in sizable increases in Bitcoin prices,” thus “Tether is used to provide price support and manipulate cryptocurrency prices.”); id. at 2 (Bitcoin exchanges “largely operate outside the purview of financial regulators” and “[t]rading on unregulated exchanges ... could leave cryptocurrencies vulnerable to gaming and manipulation.”); id. at 3 (“[T]he coordinated supply of Tether creates an opportunity to manipulate cryptocurrencies.”); id. at 6 (“Tether seems to be used both to stabilize and manipulate Bitcoin prices.”).

¹⁰⁵ See Neil Gandal, J.T. Hamrick, Tyler Moore & Tali Oberman, Price Manipulation in the Bitcoin Ecosystem, J. Monetary Econ., Jan. 2, 2018, available at <https://doi.org/10.1016/j.jmoneco.2017.12.004>. According to the authors of this paper, the fraudulent and manipulative activity led to an average of approximately a four to five percent rise in the bitcoin/USD exchange rate in 2013 on days when that activity occurred, compared to a slight decline on days without such activity. Id. at 2.

¹⁰⁶ While another recent academic paper examines the relationship between bitcoin and Tether and claims “not [to] find any evidence suggesting that Tether issuances cause subsequent increases in Bitcoin returns,” W.C. Wei, The Impact of Tether Grants on Bitcoin (May 9, 2018) (manuscript at 6) (“Wei Paper”), available at <https://ssrn.com/abstract=3175876>, the Commission believes that this paper’s analysis reflects significant limitations in the study design and is not as persuasive as the empirical papers cited herein that conclude there has been fraud and manipulative activity in bitcoin markets, including the Griffin-Shams Paper. First, the paper uses only daily traded price and aggregate trading volume, whereas the Griffin-Shams Paper, supra note 101, performs a more granular statistical analysis of blockchain transactions and finds that the largest effects of Tether issuances on bitcoin prices occur between three and twelve hours after a Tether issuance. Second, the paper uses a single vector autoregression specification with 52 coefficients, but without any robustness checks. And third, while the paper concludes that Tether issuances increase bitcoin trading volume but do not affect bitcoin returns, the paper does not include any discussion of or control for collinearity between changes in

(footnote continued...)

23

This is an important point. All four major documents supporting the Bitwise application—the Bitwise Study, the Bitwise White Paper, and both the Amended S-1 and the Amended Rule 19b-4 Filing—argue both that the underlying nature of bitcoin and the bitcoin market provides critical protections against certain forms of market manipulation and that the proposed listing exchange for the Trust has a surveillance-sharing agreement in place with a related and regulated derivatives market of significant size.

While we believe that each argument is convincing on its own, the two arguments together are mutually reinforcing and positive, and we believe form the basis for satisfying the concerns of the Exchange Act.

has not demonstrated that the structure of the spot market for bitcoin is uniquely resistant to manipulation. Moreover, even if the record supported the proposition that some features of bitcoin and bitcoin markets mitigate some types of manipulation to some degree, the Commission concludes that such mitigation is insufficient to justify dispensing with the detection and deterrence of fraud and manipulation provided by surveillance-sharing agreements with significant, regulated markets.¹⁰⁷

(ii) *Market Domination*

While BZX argues that it is unlikely that any one actor could obtain a dominant market share,¹⁰⁸ BZX does not address the risk of pre-existing dominant positions, a risk that the Lewis Letter acknowledges.¹⁰⁹ Similarly, while the Overdahl Letter maintains that the existence of a dominant bitcoin exchange would not imply the existence of a dominant ownership position, and that the existence of a market with a large share of trading volume would make it more difficult for a market participant to obtain a dominant ownership position,¹¹⁰ the Overdahl Letter does not address the risk of pre-existing dominant positions in bitcoin. The Lewis Letter, however, specifically acknowledges this risk, noting: “One of the risks associated with bitcoin is the possibility that a single investor or a small group acting in collusion could own a dominant share

(...footnote continued)

bitcoin trading volume and prices. Thus, the Commission does not believe that the Wei Paper supports a conclusion that bitcoin is inherently resistant to manipulation.

¹⁰⁷ Even if BZX’s argument is that bitcoin and bitcoin markets are “not readily susceptible to manipulation,” BZX has not demonstrated that contention. Indeed, the Commission concludes, consistent with its past practice, that surveillance-sharing agreements with significant, regulated markets ensure that commodity-trust ETPs are “less readily susceptible to manipulation.” Exchange Act Release No. 35518 (Mar. 21, 1995), 60 FR 15804, 15807 (Mar. 27, 1995) (SR-Amex-94-30); accord Exchange Act Release No. 82538 (Jan. 19, 2018), 83 FR 3807, 3810 (Jan. 26, 2018) (SR-CboeBZX-2018-005) (“The Exchange has in place a surveillance program for transactions in ETFs to ensure the availability of information necessary to detect and deter potential manipulations and other trading abuses, thereby making the Shares less readily susceptible to manipulation.”).

¹⁰⁸ See *supra* note 57 and accompanying text.

¹⁰⁹ See *supra* note 68 and accompanying text.

¹¹⁰ See *supra* note 64 and accompanying text.

Bitwise Has No Commentary On The Information On This Page

of the available bitcoin.”¹¹¹ The Lewis Letter goes on to explain that “[i]t is possible, and in fact, reasonably likely that a small group of early bitcoin adopters hold a significant proportion of the bitcoin that has thus far been created.”¹¹² Additionally, another commenter contends that the majority of bitcoin is held by a few owners, estimating that 50% of bitcoins are held by fewer than 1,000 people.¹¹³

The Lewis Letter argues that the nature of the spot bitcoin market and the arbitrage mechanism should reduce the risk of manipulation through ownership of a dominant market share,¹¹⁴ but this argument addresses whether market participants might acquire a dominant share of bitcoin ownership by trading in bitcoin markets and does not address the potential market effect of large bitcoin positions held by early adopters. Multiple academic studies have found the existence of concentrated holdings in an asset presents a meaningful risk of manipulation.¹¹⁵ Whether a dominant position came from being an early adopter of bitcoin or from trading activity would not alter the Commission’s view that a person or group with a

¹¹¹ Lewis Letter I, *supra* note 65, at 6. The Lewis Letter states that there is “no compelling evidence” to suggest that any single investor or group has acquired a dominant position in bitcoin, but its recognition that “there is no registry showing which individuals or entities own bitcoin or the quantity owned,” and its citation of “media estimates” regarding the holdings of certain individuals, demonstrates that there is some risk of a person or group holding or acquiring a significant proportion of bitcoins and that this risk should not be dismissed. *Id.* at 6 & n.7.

¹¹² Lewis Letter I, *supra* note 65, at 6 (citing Amendment No. 4 to Form S-1 of SolidX Bitcoin Trust at 16). A recent letter from Commission staff notes such concerns of “potential manipulation in the underlying cryptocurrency markets.” *Engaging on Fund Innovation & Cryptocurrency-Related Holdings*, 2018 WL 480851, at *1–2 (SEC No Action Letter Jan. 18, 2018) (citing David Z. Morris, *Could Bitcoin’s ‘Whales’ Manipulate the Market?*, *Fortune* (Dec. 10, 2017)). See also Olga Kharif, *The Bitcoin Whales: 1,000 People Who Own 40 Percent of the Market*, *Bloomberg Businessweek* (Dec. 8, 2017), available at <https://www.bloomberg.com/news/articles/2017-12-08/the-bitcoin-whales-1-000-people-who-own-40-percent-of-the-market>.

¹¹³ See *supra* note 72 and accompanying text.

¹¹⁴ See *supra* note 68 and accompanying text.

¹¹⁵ See, e.g., Craig Pirrong, *The Economics of Commodity Market Manipulation: A Survey*, *J. Commodity Mkt.*, Mar. 2017, at 1 (describing manipulation in commodities markets); Franklin Allen, Lubomir P. Litov & Jianping Mei, *Large Investors, Price Manipulation, and Limits to Arbitrage: An Anatomy of Market Corners*, 10 *Rev. Finance* 645 (2006) (describing manipulation in equity and commodities markets).

Bitwise Has No Commentary On The Information On This Page

dominant position may be capable of engaging in manipulative activity. The Commission thus cannot, on the record before it, conclude that bitcoin markets are uniquely resistant to manipulation.

(iii) *Prior Regulatory Actions Regarding Bitcoin*

Although commenters suggest that the CFTC has conclusively determined that bitcoin markets are not susceptible to manipulation because it has permitted the registration of bitcoin swap execution facilities as consistent with the Commodity Exchange Act (“CEA”),¹¹⁶ the CFTC has made no such sweeping finding as to bitcoin or bitcoin spot markets either in permitting the registration of those swap execution facilities or in more recently permitting the self-certification by Chicago Mercantile Exchange Inc. (“CME”) and Cboe Futures Exchange, LLC (“CFE”) of bitcoin futures contracts. The Commission notes that CFTC Chairman Giancarlo has described “heightened review” of the CME and CFE self-certifications as addressing the narrower question of whether the particular bitcoin futures products and cash-settlement processes—under the specific terms proposed by those two futures exchanges—were “readily susceptible to manipulation.”¹¹⁷ And the CFTC stated that the self-certification process for bitcoin futures contracts “does NOT provide for ... value judgments about the underlying spot market,” and U.S. law “does not provide for direct, comprehensive Federal oversight of underlying Bitcoin or virtual currency spot markets.”¹¹⁸

¹¹⁶ See *supra* note 75.

¹¹⁷ See Written Testimony of J. Christopher Giancarlo, Chairman, Commodity Futures Trading Commission, Before the Senate Banking Committee at text accompanying n.17 (Feb. 6, 2018) (“Giancarlo Testimony”), available at <https://cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo37>. See also *infra* notes 285–288 (discussing role of CFTC with respect to underlying bitcoin spot markets).

¹¹⁸ CFTC Backgrounder on Oversight of and Approach to Virtual Currency Futures Markets (Jan. 4, 2018) (“CFTC Backgrounder”), at 1, 2, available at http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/backgrounder_virtualcurrency01.pdf. See also *infra* note 288.

Bitwise Has No Commentary On The Information On This Page

Moreover, the CFTC's statutory authority to review new derivative products differs substantially from the Commission's authority, under Section 19(b) of the Exchange Act,¹¹⁹ with respect to the review of proposed rule changes by SROs. While there are "limited grounds" for the CFTC to take affirmative action to stay new product self-certifications,¹²⁰ the Commission must, to approve a proposed rule change, make an affirmative finding that the proposed rule change is consistent with the Exchange Act, with the burden of demonstrating consistency with the Exchange Act resting with the SRO proposing the rule change.¹²¹ The Commission is also mindful that the primarily institutional markets that the CFTC supervises are materially different from the securities markets in which many retail investors participate directly. The CFTC acknowledges that "[m]ost participants in the futures markets are commercial or institutional commodities producers or consumers" and "[t]rading commodity futures and options is a volatile, complex and risky venture that is rarely suitable for individual investors or 'retail customers.'"¹²²

Accordingly, the Commission cannot conclude that actions taken to date by the CFTC determine whether the proposed bitcoin ETP is consistent with the applicable requirements of the Exchange Act, and the Commission must reach its own decision, under its own statutory

¹¹⁹ 15 U.S.C. 78s(b).

¹²⁰ See CFTC Backgrounder, *supra* note 118, at 2.

¹²¹ See *supra* notes 8, 10–12 and accompanying text. Compare 7 U.S.C. 7a-2(c) and 17 C.F.R. 40.6 with 15 U.S.C. 78(b)(1) and 17 CFR 240.19b-4.

¹²² Futures Market Basics, CFTC, available at <http://www.cftc.gov/ConsumerProtection/EducationCenter/FuturesMarketBasics/index.htm>. Furthermore, the record does not contain evidence about whether CME or CFE can, in practice, actually obtain trading information from bitcoin exchanges, and thus whether the CFTC can obtain such information from CME or CFE.

Bitwise Has No Commentary On The Information On This Page

mandate, to determine whether the proposal is designed to “protect investors and the public interest.”¹²³

2. Manipulation of the Gemini Exchange and the Gemini Auction

(a) Summary of Comments Received

BZX acknowledges in its comment letter that less-liquid markets, such as the market for bitcoin, may be more easily manipulated, but claims that these concerns are mitigated with respect to the Shares and the trading on the Gemini Exchange. BZX asserts that the Gemini Auction price is based on an extremely similar mechanism to the one leveraged for BZX’s own Opening and Closing Auctions and allows full and transparent participation from all Gemini Exchange participants in the price discovery process. BZX states that the auction process leverages mechanics that have proven over the years to be robust and effective on BZX and other national listing exchanges in both liquid and illiquid securities alike. BZX argues that, because the time of the Gemini Auction coincides with BZX’s Closing Auction, efficient real-time arbitrage between the closing price of the Trust and the Gemini Auction price will be prevalent and will lead to resilient and effective pricing of both the Trust and the underlying bitcoin asset, leading to convergence between the Trust’s closing price and its NAV.¹²⁴ BZX asserts that the Gemini Auction price typically deviates very little from the prevailing price on other bitcoin exchanges, and BZX presents statistics purporting to show that this price is consistent with the prices of other U.S.-based exchanges.¹²⁵

¹²³ 15 U.S.C. 78f(b)(5).

¹²⁴ See BZX Letter I, supra note 35, at 8; BZX Letter II, supra note 13, 10–11. See also SIG Letter, supra note 36, at 2–6; C&C Letter, supra note 36, at 1.

¹²⁵ See BZX Letter I, supra note 35, at 8–9.

Bitwise Has No Commentary On The Information On This Page

BZX asserts that the Gemini Auction price is uniquely resistant to manipulation and that it more accurately reflects the bitcoin price than any other individual event or cross-market snapshot, because the largest bitcoin transactions each day usually occur via the Gemini Auction. BZX also claims that volumes transacted in the Gemini Auction are generally more than 50% larger than the second-largest trade in the world, drawing an average daily volume of 1,200 bitcoins compared to approximately 800 bitcoins.¹²⁶

In addition, BZX asserts that the Gemini Auction occurs at a scheduled time each day to maximize participation and price formation, while other liquidity events are often unpredictable and irregular.¹²⁷ Another commenter claims that the Gemini Auction also concentrates liquidity and trading volume at a single moment each day.¹²⁸

BZX further asserts that, from its launch through May 12, 2017, the Gemini Auction price on business days has deviated from the Gemini midpoint price (the midrange of the highest bid and lowest offer prices) by 0.22% on average and 0.71% at most, that it has deviated from the median price of all U.S.-based bitcoin exchanges by 0.52% on average, and that it has deviated from the median price of all global USD-denominated bitcoin exchanges by 0.70% on average.¹²⁹ BZX also claims that the Gemini Exchange is regularly near the top of bitcoin exchanges in terms of market-quality metrics for overall trading.¹³⁰

The Overdahl Letter asserts that the Gemini Auction price is reliable in that it generally reflects bitcoin traded at other U.S.-based bitcoin exchanges and bitcoin traded at USD-based

¹²⁶ See BZX Letter II, *supra* note 13, at 19–20.

¹²⁷ See *id.* at 20.

¹²⁸ See Overdahl Letter, *supra* note 36, at 11.

¹²⁹ See BZX Letter II, *supra* note 13, at 20.

¹³⁰ *Id.*

Bitwise Has No Commentary On The Information On This Page

exchanges globally and that, when noticeable discrepancies appear, arbitrage mechanisms quickly force prices back into alignment.¹³¹ The Overdahl Letter provides some update to the statistics provided by BZX and states that, from September 21, 2016 (the launch of the Gemini Auction), to March 1, 2017, the average daily deviation of the Gemini Auction price from the median 4:00 p.m. price of all U.S.-based bitcoin exchanges was 0.0058 percent and the average absolute deviation (that is, the average absolute value of deviations) was 0.1804 percent. The Overdahl Letter also states that, during the same period, the average daily deviation of the Gemini Auction price from the median 4:00 p.m. price of all global USD-denominated bitcoin exchanges was 0.0489 percent with an average absolute deviation of 0.2398 percent.¹³²

The Overdahl Letter also contends that the surveillance agreement between the Gemini Exchange and BZX allows for continuous monitoring of trading activity to detect and deter manipulation of the Gemini Auction price and that BZX's rules are reasonably designed to prevent fraudulent and manipulative acts and practices with respect to determining the NAV of the Trust Shares.¹³³ The Overdahl Letter further claims that the Gemini Auction is designed to not be readily susceptible to manipulation because it includes pre-trading transparency, which allows for full and transparent participation by all participants, uses a mechanism similar to that used by other exchanges in setting opening and closing prices, and concentrates liquidity and trading volume in a single moment each day.¹³⁴ Regarding the calculation of NAV, the Overdahl Letter also argues that the Trust's valuation procedures greatly reduce the risk that a malicious

¹³¹ See Overdahl Letter, *supra* note 36, at 1.

¹³² See *id.* at 4.

¹³³ See *id.* at 2. Specifically, according to the Overdahl Letter, the type of potential manipulation most relevant for determining the NAV of the Trust's Shares would be a malicious actor attempting to use the Gemini Auction price to influence the NAV of the Trust. See *id.* at 11.

¹³⁴ See Overdahl Letter, *supra* note 36, at 11.

Bitwise Has No Commentary On The Information On This Page

actor could influence the NAV of the Trust by manipulating the Gemini Auction, because alternative means can be used to value the Trust's bitcoin if the Trust sponsor determines that the Gemini Auction price does not reflect the fair value of bitcoin.¹³⁵

Several commenters claim that the Gemini Exchange has low trading volumes,¹³⁶ and one commenter claims that, of all the exchanges, Gemini has the worst pricing.¹³⁷ Another commenter asserts that the Gemini Exchange has relatively low liquidity and trade volume and that there is a significant risk that the nominal ETP share price will be manipulated by relatively small trades that manipulate the bitcoin price at that exchange.¹³⁸ This commenter states that, while U.S.-based bitcoin exchanges are subjected to stricter regulations and auditing for the holding of client accounts, the trading itself seems to occur in a regulatory vacuum and seems impossible to audit effectively.¹³⁹ This commenter expresses concerns regarding the Gemini Exchange Spot Price, noting that the nominal price of the Shares under the proposal is supposed to be tied to the market price of bitcoins at the Gemini Exchange, which is closely tied to the ETP proponents.¹⁴⁰

One commenter claims that most daily trading volume is conducted on poorly capitalized, unregulated exchanges located outside the United States and that these non-U.S. exchanges and their practices significantly influence the price discovery process.¹⁴¹ Another

¹³⁵ See *id.* at 2.

¹³⁶ See, e.g., Maher Letter, *supra* note 35; Stolfi Letter I, *supra* note 35; Anonymous Letter III, *supra* note 35.

¹³⁷ See Anonymous Letter III, *supra* note 35.

¹³⁸ See Stolfi Letter I, *supra* note 35; see also Stolfi Letter II, *supra* note 35 (concluding that the Gemini Auction volume has shown a decreasing trend since its inception and is now under \$1 million USD during work days, and considerably less during weekends, and that "[w]ith such low volume, it seems possible to manipulate the NAV value by entering suitable bids or asks in the auction").

¹³⁹ See Stolfi Letter II, *supra* note 35.

¹⁴⁰ See Stolfi Letter I, *supra* note 35.

¹⁴¹ See Williams Letter, *supra* note 35, at 2.

24

The idea that a majority of trading volume and price discovery takes place on Chinese exchanges is both widespread and not supported by the data. The Bitwise Study showed that the vast majority of bitcoin trading volume takes place on exchanges domiciled in or operating out of developed markets.

The popular belief in China's heavy influence on bitcoin is a carryover from an earlier time in bitcoin's evolution when popular data aggregators commonly reported that more than 90% of all bitcoin trading took place on Chinese domiciled exchanges in BTC-CNY pairs. These volumes, however, were dramatically exaggerated through wash-trading that the exchanges encouraged by offering zero fees. When China instituted a ban on fee-free trading in bitcoin on January 24, 2017, trading volumes on one of the leading Chinese exchanges at that time (BTCC) fell by more than 80% overnight.²⁶ China subsequently banned bitcoin trading altogether, and whatever volume existed migrated elsewhere.

²⁶ "Bitcoin's Price Unfazed s China's Exchanges Add Fees," Pete Rizzo, CoinDesk, January 24, 2017.
<https://www.coindesk.com/bitcoin-price-china-exchange-fees>

commenter states that the biggest and most influential bitcoin exchange is located outside U.S. jurisdiction.¹⁴²

One commenter states that, since 2013, the price of bitcoin has been defined mostly by the major Chinese exchanges, whose volumes dwarf those of exchanges outside China, and that the price of bitcoin is defined entirely by speculation, without any ties to fundamentals.¹⁴³ Another commenter observes that Chinese markets drive much of the volume in the bitcoin markets.¹⁴⁴

One commenter states that it makes sense to value the proposed ETP based on the Gemini Auction because doing so would guarantee sufficient liquidity and because other bitcoin trading venues are not subject to the same level of oversight as the Gemini Exchange.¹⁴⁵ Another commenter asserts that the Gemini Auction is not a robust mechanism for price discovery because Gemini's fee structure would make self-trading or collusive wash trades between accounts profitable, which would artificially inflate the volume of the Gemini Auction.¹⁴⁶

One commenter states that the Gemini Auction could be an improvement over other bitcoin pricing mechanisms, but asserts that the Gemini Auction has not improved volume.¹⁴⁷ The commenter observes that the Gemini Auction data show that traders in the auction are taking advantage of the discounted auction price. The commenter states that the daily two-sided Gemini Auction process was designed to maximize price discovery and reduce price volatility that could

¹⁴² See Anonymous Letter V, *supra* note 35.

¹⁴³ See Stolfi Letter II, *supra* note 35.

¹⁴⁴ See ARK Letter, *supra* note 35, at 5.

¹⁴⁵ See Delehanty Letter, *supra* note 35 (but noting that using the Gemini Auction to value the ETP, which is also the sponsor of the ETP, creates a potential conflict of interest).

¹⁴⁶ See Anonymous Letter VIII, *supra* note 35.

¹⁴⁷ See Anonymous Letter III, *supra* note 35.

Bitwise Has No Commentary On The Information On This Page

be the result of momentum pricing, but asks what measures have been put in place to address traders who take advantage of the discounted auction price. The commenter also states that, while other financial products sometimes have auctions to determine price, an auction on a stock exchange does not require money to be deposited in advance with the exchange to be in the auction. The commenter states that, by contrast, the Gemini Exchange requires dollars or bitcoin to be deposited before participation. The commenter believes that this is a problem because the Gemini Auction is limited and has failed on at least two occasions.¹⁴⁸

Other commenters believe that the Gemini Exchange conducts sufficient volume to support the Winklevoss Bitcoin Trust. One commenter states that trading volume on the Gemini Exchange is sufficient and that manipulation of these Shares, while possible, would equally be possible for other exchange-traded funds.¹⁴⁹ Another commenter asserts that trading volume in the recent Gemini bitcoin daily auctions seemed “to be of reasonable size.”¹⁵⁰

One commenter claims that there are more robust ways to value the Trust’s holdings than using the spot price of a single exchange, such as the Gemini Exchange.¹⁵¹ The commenter also states that the Gemini Exchange typically processes less than 10% of the total volume in the bitcoin/USD pair and states that an index of the most reliable exchanges should be constructed to value the Trust’s holdings. The commenter questions whether using only the Gemini Exchange’s spot price could serve to incentivize Authorized Participants and other market participants to direct traffic and flow to Gemini, at the expense of best execution.¹⁵²

¹⁴⁸ See *id.*

¹⁴⁹ See Anonymous Letter I, *supra* note 35.

¹⁵⁰ See Delehanty Letter, *supra* note 35.

¹⁵¹ See ARK Letter, *supra* note 35, at 7–8.

¹⁵² See *id.* at 8–9.

25

Bitwise is a strong believer in the positive potential impact that regulation can have on the crypto exchange ecosystem, and applauds the efforts by the NYDFS to put guardrails and consumer protections around crypto activity through its BitLicense program. It is worth noting, however, that the comment here is out-of-date.

In early 2017, when this Comment Letter was filed, Gemini and itBit were the only significant exchanges regulated under the BitLicense program. But since then, Coinbase, BitFlyer, Bitstamp, and Poloniex (by virtue of its acquisition by Circle) have all come under the BitLicense regulation.

Another commenter takes a different view on the merits of single- versus multiple-price sources. This commenter observes that bitcoin spot prices diverge across exchanges due to various factors and that some exchanges may suffer from lack of oversight and a lack of transparency or fairness. The commenter claims that these facts strengthen the case for an investment product that does not rely on the spot price of less-credible exchanges to value its holdings and instead relies on the spot price on the Gemini Exchange, which is subject to substantive regulation of its exchange activity and custody of assets by the NYSDFS. This commenter also states that, while leveraged trading on some other exchanges has historically sparked excessive price volatility and instability, Gemini does not offer such products and would be able to serve as a trusted, regulated spot exchange for institutional market participants driving the arbitrage mechanism that ensures efficient pricing between the spot price and the Shares. The commenter claims that the Gemini Exchange has the potential for more-robust price discovery as liquidity is concentrated on that exchange.¹⁵³

One commenter states that there is an inherent trade-off to using one exchange versus an average of several exchanges, some of which may be less scrupulous. The commenter acknowledges that manipulation is a legitimate concern, but notes that it is not uncommon to see a very small number of physical trades determine the base price for a much larger paper market.¹⁵⁴

Other commenters view the risk of manipulation as more significant. One commenter states that it would be surprising if manipulative practices that would be illegal in other financial markets did not occur on certain bitcoin exchanges that experience lack of regulations and

¹⁵³ See Circle Letter, *supra* note 35, at 2.

¹⁵⁴ See Delehanty Letter, *supra* note 35.

26

This referenced comment letter overlooks or misinterprets key tenets of the regulations that govern many bitcoin exchanges, and specifically in this instance, the market manipulation and reporting requirements that apply to exchanges with BitLicenses (which include six of the ten exchanges that have real spot bitcoin trading volume).

In the NYSDFS' February 7, 2018, press release, titled "DFS Takes Action to Deter Fraud and Manipulation in Virtual Currency Markets,"²⁷ the NYSDFS directed virtual currency entities *"to adopt measures that include, at a minimum, effective implementation of a written policy that:*

- *Identifies and assesses the full range of fraud-related and similar risk areas, including, as applicable, market manipulation;*
- *Provides effective procedures and controls to protect against identified risks;*
- *Allocates responsibility for monitoring risks; and*
- *As part of its procedures and controls to protect against identified risks, virtual currency entity must provide for the effective investigation of fraud and other wrongdoing, whether suspected or actual, including, as applicable, market manipulation.*

In addition, immediately upon discovering any wrongdoing, a virtual currency entity must submit to DFS a report stating all pertinent details known at the time of the report. Virtual currency entities must also submit to DFS, as soon as practicable, a further report or reports of any material developments relating to the originally reported events, along with:

- *A statement of the actions taken or proposed to be taken with respect to such developments, and*
- *A statement of changes, if any, in the virtual currency entity's operations that have been put in place or are planned in order to avoid repetition of similar events."*

At least in part in response to these requirements, exchanges with BitLicenses have adopted and implemented sophisticated market surveillance tools, either from third-party providers like NICE Actimize or Irisium, or by building them in-house, as detailed in the Bitwise Study and the Bitwise White Paper.

Given the robustness of the BitLicense regulation, the existence of additional international regulations, the globally connected nature market for bitcoin, and the existence of a robust and regulated bitcoin futures market, suggestions that

manipulating the market would be "easy to implement" or "impossible to detect" do not hold up.

27

The Williams Letter referenced here includes a large number of factual misstatements regarding the underlying nature of the bitcoin market, including suggestions that the majority of bitcoin trading volume takes place on unregulated "bucket shop" exchanges domiciled in emerging markets, that the majority of bitcoin is owned by fewer than 1,000 people, and other commonly held misunderstandings. The referenced concern about front-running and preferential treatment is made without any supporting data, noting, "If manipulation can happen in the highly regulated LIBOR market, imagine what level of fraud could happen in the global, unregulated bitcoin exchange traded market."

Comparisons to LIBOR are precisely inapt, as the LIBOR pricing scandal arose from its use of coordinated fix pricing, whereas one of the unique ways that bitcoin is resistant to market manipulation is that its pricing takes place in a public forum, as detailed in the Bitwise Study.

²⁷ "DFS Takes Action to Deter Fraud and Manipulation in Virtual Currency Markets," DFS press release, February 7, 2018.
<https://www.dfs.ny.gov/about/press/pr1802071.htm>

26

oversight, since these practices would be easy to implement, impossible to detect, perfectly legal under the rules applicable to those bitcoin exchanges, and extremely lucrative.¹⁵⁵ This

commenter also states that the Gemini Auction closing volumes have been low and have shown a slight decreasing trend since the inception of the Gemini Auction. The commenter states that, with low volumes, it seems possible to manipulate the NAV by entering suitable bids or asks in the Gemini Auction.¹⁵⁶ Another commenter agrees that bitcoin traders can manipulate trading on the Gemini Exchange because of its low trading volumes and notes that the Trust's

documentation states that momentum pricing of bitcoin has resulted, and may continue to result, in speculation regarding future appreciation in the value of bitcoin, making the price of bitcoin more volatile.¹⁵⁷ The commenter states that the value of bitcoin may therefore be more likely to fluctuate due to changing investor confidence in future appreciation in the Gemini Auction price, which could adversely affect an investment in the Shares.¹⁵⁸ According to another commenter, in

27

this unregulated environment, price manipulation and front-running of large buy or sell orders can happen and well-connected customers can gain preferential treatment in order execution.¹⁵⁹

(b) Discussion

For the reasons discussed below, the Commission concludes that BZX has not demonstrated that the Gemini Exchange and the Gemini Auction are resistant to manipulation. Commenters disagree about whether the Gemini Exchange and the Gemini Auction are susceptible to manipulation. BZX promotes the Gemini Exchange as one of the top three bitcoin

¹⁵⁵ See Stolfi Letter II, *supra* note 35.

¹⁵⁶ See *id.*

¹⁵⁷ See Anonymous Letter III, *supra* note 35.

¹⁵⁸ See *id.*

¹⁵⁹ See Williams Letter, *supra* note 35, at 2.

28

The Bitwise NAV calculation methodology incorporates prices from substantially all spot bitcoin exchanges, and captures prices over a thirty-minute time period (as opposed to a single point-in-time). As a result, it captures substantially more volume than the Gemini auction.

For instance, the average number of bitcoin captured by the Bitwise Daily Bitcoin Reference Price during the relevant 30-minute window (3:30-4:00pm ET) during the month of April 2019 was roughly 1,412 bitcoin per day, or roughly 23X that was on average captured by the 4pm ET Gemini bitcoin auction during the same time period.²⁸

²⁸ Gemini bitcoin auction volume taken from: <https://gemini.com/auction-data>

exchanges in the United States,¹⁶⁰ and some commenters believe that the Gemini Exchange conducts sufficient volume to support the Winklevoss Bitcoin Trust.¹⁶¹ Other commenters, however, question these assertions, some noting that the majority of bitcoin trading, including trading denominated in USD, occurs on unregulated exchanges outside the United States,¹⁶² and one suggesting that the low liquidity and trading volume on the Gemini Exchange create a significant risk that the ETP share price could be manipulated by relatively small trades.¹⁶³

While BZX claims in its May 2017 comment letter that the average volume of the Gemini Auction is 1,200 bitcoins,¹⁶⁴ calculations based on public data from the Gemini Exchange website show that more recent Gemini Auction volume has been significantly lower. As of March 31, 2018, the average number of bitcoins traded in the Gemini Auction on a business day was just 178.07 bitcoins over the previous month, 122.20 bitcoins over the previous three months, and 138.46 bitcoins over the previous six months. Median volume figures for the same periods are even lower: 146.51 bitcoins, 85.09 bitcoins, and 90.42 bitcoins, respectively. Although the Gemini Exchange conducts the Gemini Auction on each calendar day, to better represent auction volume for days on which creations or redemptions might occur in the Shares, these calculations of average and median auction volume exclude auctions that occurred on weekends and days on which the U.S. equities markets were closed. Days on which no Gemini Auction price was reached were also excluded to avoid skewing data.

¹⁶⁰ See *supra* note 130 and accompanying text.

¹⁶¹ See *supra* notes 149–150 and accompanying text.

¹⁶² See *supra* notes 141–144 and accompanying text.

¹⁶³ See *supra* note 138 and accompanying text.

¹⁶⁴ See BZX Letter II, *supra* note 13, at 20.

29

The Bitwise Bitcoin ETF Trust has a proposed Creation basket size of 25,000 shares. At launch, the NAV is expected to be set at 1/100th the price of bitcoin, meaning each creation basket is expected to include 250 bitcoin.

As mentioned, the Bitwise Daily Bitcoin Reference Price calculation methodology that underlies the Trust's NAV captures approximately 1,412 bitcoin per day, based on recent trading volume, suggesting there is sufficient liquidity in the NAV calculation window to support trading in the Trust and mitigate the concerns the Commission had with the Winklevoss Trust's design.

In reality, however, the NAV calculation window is not the only (or even the primary) time that Authorized Participants will participate in the underlying markets in an effort to facilitate liquidity in the Trust. Because the Bitwise Bitcoin ETF Trust only allows for in-kind creations and redemptions—and because the size of its creation and redemption baskets are knowable in advance—Authorized Participants will be able to confidently provide liquidity and arbitrage any premium or discount that may appear in the Trust's share price at any time throughout the trading day.

For instance, if the Trust is trading at a premium at any point during the day, Authorized Participants can sell the Trust's shares and buy spot bitcoin to hedge that position. At the end of the day, they can use the bitcoin they acquired to create new shares in the Trust using the in-kind creation mechanism, allowing them to close out their position with no basis risk. Similarly, if the Trust is trading at a discount at any point during the day, Authorized Participants can buy the Trust's shares and take an offsetting short position (either by selling bitcoin short or by using bitcoin futures). At the end of the day, they can redeem their shares in the Trust and receive bitcoin in exchange, allowing them to close out their position with little or no basis risk.

The use of in-kind creations and redemptions means the dollar-denominated NAV of the Trust is not relevant to the Authorized Participant's ability to close the arbitrage loop when facilitating liquidity in the marketplace.

The volume of the Gemini Auction is of particular relevance to BZX's proposal, and to the susceptibility of the ETP shares to manipulation, because the Gemini Auction price is used to determine the NAV of the Trust, which is publicly disseminated and which is the price used for creation and redemption transactions. Taking into account the recent low auction volume calculated above, which is a small fraction of the 1,000 bitcoins in a creation or redemption basket,¹⁶⁵ the Commission concludes that there is a substantial risk that either (1) any creation and redemption activity in the Trust would have a substantial effect on the Trust's pricing or (2) Authorized Participants would be forced to source bitcoins on other venues where prices may or may not be aligned with that of the Gemini Auction, limiting the purported effectiveness of arbitrage.

Additionally, given the current disparity between the Gemini Auction volume and the trading volume that would equal a creation unit—and the resulting likelihood that creation or redemption activity would substantially affect the Gemini Auction price—BZX has not shown that the ability of the Trust to use other criteria to value the Trust's bitcoins in “extraordinary circumstances”¹⁶⁶ adequately addresses the risk that creations and redemptions, or manipulative activity such as front running, may affect the Gemini Auction price on an ordinary day. In light of the risks that creation and redemption activity may substantially affect the Gemini Auction price—and that the use of other valuation criteria may fail to address the effects of creation and redemption activity or of manipulative activity—the Commission cannot conclude that the bitcoin pricing mechanism of the Trust is uniquely resistant to manipulation.

¹⁶⁵ See Amendment No. 2, *supra* note 1 (setting size of creation unit at 100,000 shares, with the value of a share at 0.01 bitcoin, making content of a creation unit 1,000 bitcoins).

¹⁶⁶ See *supra* note 30.

30

The Bitwise Trust's NAV pricing methodology incorporates prices from substantially all exchanges with real spot bitcoin trading volume. As such, it's unlikely that the introduction of an ETF would impact the dynamics of trading in that market. Unlike the Gemini exchange auction in isolation, the spot bitcoin market has proven itself to be significantly extensible, with daily volume rising and ebbing in response to market developments. Daily global spot bitcoin trading volume has ranged from under \$200 million to multiple billions of dollars, showing a significant ability to flex and incorporate additional demand.

Given that the Bitwise proposal's NAV calculation methodology captures substantially all of the global spot volume for bitcoin, Bitwise is confident that the NAV price will stay in-line with the globally integrated price of bitcoin. Any additional demand generated through creation demand will simply be distributed throughout the entire ecosystem, and will not overwhelm any individual point reference price.

Further, given that recent Gemini Auction volumes are inadequate to support creation or redemption activity, BZX has not sufficiently supported its claim that the design and mechanisms of the Gemini Auction would allow for efficient arbitrage between the Shares and the underlying bitcoin. Similarly, the statistics offered by BZX and the Overdahl Letter to argue that the Gemini Auction creates a price closely aligned with U.S.-based and global USD-denominated bitcoin exchanges do not establish that bitcoin trading on the Gemini Exchange is uniquely resistant to manipulation because these statistics do not reflect, and cannot predict, the dynamics of trading on the Gemini Exchange if the Gemini Auction were used as the basis to calculate NAV for the Trust. Given the small size of the Gemini Auction relative to the size of a creation unit, the launch of the proposed ETP would be likely to fundamentally affect supply and demand in the Gemini Auction, and the use of the Gemini Auction price to calculate NAV would introduce a significant incentive to manipulate the Gemini Auction that does not currently exist. The Commission cannot therefore conclude that arbitrage would render the Shares uniquely resistant to manipulation.

The Trust's Registration Statement acknowledges that the reliance on a single bitcoin exchange has risks to shareholders in the Trust: "Trading on a single Bitcoin Exchange may result in less favorable prices and decreased liquidity for the Trust and, therefore, could have an adverse effect on the Trust and Shareholders."¹⁶⁷ Moreover, although commenters have suggested that approval of the proposal would naturally lead to greater activity in the Gemini Auction,¹⁶⁸ such speculation does not provide an adequate basis to decide that future Gemini Auction volume would be sufficient to prevent manipulation of the Gemini Auction from

¹⁶⁷ Registration Statement, *supra* note 22, at 22.

¹⁶⁸ See Maher Letter, *supra* note 35; Overdahl Letter, *supra* note 36, at 3; SIG Letter, *supra* note 36, at 8.

31

To summarize, the Bitwise Bitcoin ETF Trust's NAV calculation methodology differs from the Winklevoss Bitcoin Trust in critical ways, including:

- The use of prices from substantially all spot bitcoin exchanges in the world, instead of one bitcoin exchange;
- Capturing substantially all global spot bitcoin volume in the NAV calculation, as opposed to one point-in-time price;
- The use of a volume-weighted median price methodology, as opposed to a single, last price methodology;
- The size of a Creation basket relative to the volume of liquidity captured in the NAV price;
- The exclusive use of in-kind creations and redemptions, as well as fee accruals in-kind, which ensures that the fund maintains the targeted amount of bitcoin-per-share in all situations.

For these and other reasons explored in the related Rule 19b-4 Filing, we believe that both the NAV calculation and the Trust itself are uniquely resistant to market manipulation.

affecting the NAV of the Trust, and BZX has not explained how the favorable market quality metrics it attributes to the Gemini Exchange would be affected if trading interest at the Gemini Auction were dominated by creation and redemption activity.¹⁶⁹ Therefore, again, the Commission cannot conclude that the pricing mechanism of the Trust would render the Shares uniquely resistant to manipulation.

C. The Availability of “Traditional Means” to Detect and Deter Fraud and Manipulation

BZX has not demonstrated, given the current absence of a surveillance-sharing agreement with a regulated bitcoin market of significant size, that the alternative surveillance procedures BZX purports to identify—including BZX’s assertion that it would be able to obtain certain information regarding trading in the Shares and in the underlying bitcoin or any bitcoin derivative—would be sufficient to satisfy the requirement of Exchange Act Section 6(b)(5) that an exchange’s rules be designed to prevent fraudulent and manipulative acts and practices.

1. Summary of Comments Received

BZX asserts that the March Disapproval Order failed to appreciate that the proposal provides “traditional means of identifying and deterring fraud and manipulation” that meet the criteria that the Commission has utilized in approving other commodity-trust ETPs.¹⁷⁰ BZX states that a particular area of surveillance focus for the Commission in prior commodity-trust ETP approval orders was the implementation of exchange rules requiring market makers in the commodity-trust ETP shares to disclose their dealings in the underlying commodities. BZX contends that analogous requirements are included in this proposal, with BZX Rule 14.11(e)(4) mandating that market makers in the Shares disclose all of their commodity trading accounts,

¹⁶⁹ See *supra* note 130 and accompanying text.

¹⁷⁰ See BZX Letter II, *supra* note 13, at 22, 26.

Bitwise Has No Commentary On The Information On This Page

disclose all trading in bitcoin or bitcoin derivatives, and make available all related books and records.¹⁷¹ BZX also contends that, in the prior commodity-trust ETP approval orders, the Commission also reviewed the adequacy of the ETP listing exchange's rules and procedures for surveillance of trading activity in the ETP shares. According to BZX, similar surveillance rules and procedures are in place at BZX regarding the proposed bitcoin ETP, as the listing exchange can obtain information regarding trading in Shares from Intermarket Surveillance Group members and affiliate members, as well as trading information available on the blockchain and information available through a surveillance-sharing agreement with the Gemini Exchange.¹⁷²

The Overdahl Letter also contends that BZX's rules are reasonably designed to prevent fraudulent and manipulative acts and practices with respect to determining the NAV of the Trust Shares.¹⁷³ Specifically, according to the Overdahl Letter, the type of potential manipulation most relevant for determining the NAV of the Trust's Shares would be a malicious actor attempting to use the Gemini Auction price to influence the NAV of the Trust. The Overdahl Letter also asserts that, in addition to BZX's surveillance procedures and anti-manipulation rules, penalties for engaging in manipulative conduct serve as a deterrent against manipulation of the Gemini Auction price and the resulting Trust's NAV. The Overdahl Letter states that, although a penalty is applied after a manipulation occurs or is attempted, penalties are nonetheless a useful tool for deterring, and therefore preventing, manipulation.¹⁷⁴

Finally, one commenter claims that the March Disapproval Order reflects the Commission's "unspoken but obvious concern" with bitcoin, and argues that this issue can be

¹⁷¹ See *id.* at 23.

¹⁷² See *id.* The surveillance-sharing agreement between BZX and the Gemini Exchange is discussed in Section III.E.1, *infra*.

¹⁷³ See Overdahl Letter, *supra* note 36, at 2.

¹⁷⁴ See *id.* at 11.

Bitwise Has No Commentary On The Information On This Page

cured by having the bitcoin exchange sign a memorandum of understanding with the Commission to share information.¹⁷⁵

2. Discussion

The Commission concludes that BZX has not demonstrated—given the current absence of a surveillance-sharing agreement with a regulated bitcoin market of significant size—that the alternative surveillance procedures discussed above would, by themselves, be sufficient to satisfy the requirement of Exchange Act Section 6(b)(5) that an exchange’s rules be designed to prevent fraudulent and manipulative acts and practices.¹⁷⁶

While BZX would, pursuant to its listing rules, be able to obtain certain information regarding trading in the Shares and in the underlying bitcoin or any bitcoin derivative through registered market makers,¹⁷⁷ this trade information would be limited to the activities of members who were registered with BZX as market makers in the Shares and would not encompass all BZX market participants.¹⁷⁸ Furthermore, neither BZX’s ability to surveil trading in the Shares nor its ability to share surveillance information with other securities exchanges trading the Shares would give BZX insight into the activity and identity of market participants trading in the underlying bitcoin in the OTC market or on other bitcoin trading venues.

Additionally, while BZX represents that it can obtain information about bitcoin trading made publicly available through the bitcoin blockchain,¹⁷⁹ the blockchain identifies parties to a transaction only by a pseudonymous public-key address, and it does not distinguish bitcoin

¹⁷⁵ See Convergen Letter, *supra* note 36, at 2.

¹⁷⁶ See 15 U.S.C. 78f(b)(5).

¹⁷⁷ See *supra* note 171 and accompanying text.

¹⁷⁸ See BZX Rule 14.11(e)(4)(G).

¹⁷⁹ See Amendment No. 1, *supra* note 1, 81 FR at 76668.

Bitwise Has No Commentary On The Information On This Page

trading activity from other transfers of bitcoin (e.g., for remittances, purchases of goods or services, or other purposes). Therefore, the public blockchain ledger, even in combination with the other monitoring abilities BZX identifies, does not provide comprehensive customer trading or identity information, which is particularly important here because pseudonymous bitcoin account holding means, among other things, that the number of accounts or number of trades would not reveal whether a person or group has a dominant ownership position in bitcoin, or is using or attempting to use a dominant ownership position to manipulate bitcoin pricing.¹⁸⁰

One commenter asserts that existing “penalties for engaging in manipulative conduct” can serve to deter manipulation of the Gemini Auction price and, therefore, the Trust’s NAV.¹⁸¹ However, the Commission concludes that, based on the facts and circumstances of this proposal, the ability of relevant authorities to potentially sanction manipulative activity after the fact—if it is discovered—is insufficient, by itself, to meet BZX’s obligation to have rules “designed to prevent fraudulent and manipulative acts and practices.”¹⁸² Before penalties can be imposed for engaging in manipulative conduct, such conduct must be detected and investigated; as discussed below, that is the necessary function of comprehensive surveillance-sharing agreements.¹⁸³ Moreover, as discussed below, a substantial majority of bitcoin trading occurs outside the United States,¹⁸⁴ and even within the United States, there is no comprehensive federal oversight of bitcoin spot markets.¹⁸⁵

¹⁸⁰ See also Section III.B.1(b)(ii), *supra* (discussing market domination).

¹⁸¹ See *supra* note 174 and accompanying text.

¹⁸² 15 U.S.C. 78f(b)(5) (emphasis added).

¹⁸³ See Section III.D, *infra*.

¹⁸⁴ See *infra* notes 281–282 and accompanying text.

¹⁸⁵ See *infra* notes 286–288 and accompanying text.

Bitwise Has No Commentary On The Information On This Page

Another commenter suggests that the Commission sign a Memorandum of Understanding (“MOU”) with the Gemini Exchange to address what the commenter claims is the Commission’s unspoken but obvious concern with bitcoin.¹⁸⁶ While the Commission is a party to several MOUs, these are generally arrangements with other foreign or domestic regulators.¹⁸⁷ MOUs are tools to assist the Commission in performing its regulatory functions, not a mechanism for the Commission to assume an SRO’s obligations under the Exchange Act.

D. The Use of Surveillance-Sharing Agreements to Detect and Deter Fraudulent and Manipulative Acts and Practices with Respect to Commodity-Trust ETPs

The Commission has historically recognized the importance of comprehensive surveillance-sharing agreements to detect and deter fraudulent and manipulative activity. Because BZX has not demonstrated that bitcoin and bitcoin markets are uniquely resistant to manipulation—or that alternative means of detecting and deterring fraud and manipulation are sufficient in the absence of a surveillance-sharing agreement with a significant, regulated market related to bitcoin—the absence of such an agreement compels the Commission to conclude that the proposed rule change must be disapproved.

1. Summary of Comments Received

BZX claims that the March Disapproval Order overstates the extent to which surveillance and regulation of the underlying market have been present in prior commodity-trust ETP

¹⁸⁶ See *supra* note 175 and accompanying text.

¹⁸⁷ See, e.g., Memorandum of Understanding Between the Internal Revenue Service and the Securities and Exchange Commission for Tax Exempt Bonds/Municipal Securities Compliance (Mar. 2, 2010), available at <https://www.sec.gov/info/municipal/sec-irs-mou030210.pdf>; Memorandum of Understanding Between the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission Regarding Coordination in Areas of Common Regulatory Interest (Mar. 11, 2008), available at https://www.sec.gov/news/press/2008/2008-40_mou.pdf; and Memorandum of Understanding Between the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission Regarding the Oversight of Security Futures Product Trading and the Sharing of Security Futures Product Information (Mar. 17, 2004), available at <http://www.cftc.gov/idc/groups/public/@internationalaffairs/documents/file/moubetweencftcandsec031704.pdf>.

Bitwise Has No Commentary On The Information On This Page

approval orders, asserting that none of these orders “offers even a cursory analysis about whether the regulated markets for trading futures on the underlying commodity are ‘well-established’ or ‘significant.’”¹⁸⁸ In particular, BZX argues that the Commission orders approving the ETFS Platinum Trust ETP (“Platinum Order”) and the ETFS Palladium Trust ETP (“Palladium Order”),¹⁸⁹ along with their exchange filings, discuss neither whether the New York Mercantile Exchange (“NYMEX”) and the Tokyo Commodity Exchange (“TOCOM”) are well-established or significant, nor the relevance of NYMEX being the largest exchange in the world for trading palladium and platinum derivatives.¹⁹⁰ BZX claims that—because the exchange filings regarding the platinum and palladium ETPs note that TOCOM is not a member of the Intermarket Surveillance Group and that the respective listing exchange did not have a comprehensive surveillance-sharing agreement with TOCOM—those approval orders did not require the existence of an information-sharing agreement with the underlying exchange.¹⁹¹ BZX further asserts that the Platinum Order and Palladium Order discuss only whether the listing exchange (1) can obtain information from market makers relating to their trading in the applicable commodity or related derivatives; (2) has a rule preventing market makers from using material, nonpublic information regarding trading in the underlying commodity or its derivatives; and (3) can obtain trading information via the Intermarket Surveillance Group from other Intermarket Surveillance Group member exchanges.¹⁹²

¹⁸⁸ See BZX Letter II, *supra* note 13, at 26–27.

¹⁸⁹ See Exchange Act Release No. 61219 (Dec. 22, 2009), 74 FR 68886 (Dec. 29, 2009) (SR-NYSEArca-2009-95) (approving ETFS Platinum Trust); Exchange Act Release No. 61220 (Dec. 22, 2009), 74 FR 68895 (Dec. 29, 2009) (SR-NYSEArca-2009-94) (approving ETFS Palladium Trust).

¹⁹⁰ See BZX Letter II, *supra* note 13, at 27.

¹⁹¹ See *id.* at 27–28.

¹⁹² See *id.* at 27.

Bitwise Has No Commentary On The Information On This Page

BZX further asserts that, while the potential avenues for manipulation noted in the March Disapproval Order are a risk, these potential avenues of manipulation of the bitcoin market also exist in the context of other commodity-trust ETPs.¹⁹³ BZX asserts that, in the Commission order approving the listing and trading of shares of iShares Copper Trust (“Copper Order”),¹⁹⁴ the Commission found that demand from new investors would broaden the investor base in copper and thereby reduce the risk of collusion among copper market participants. BZX also argues that the Commission “took comfort” in approving the iShares Copper Trust because trading of the shares would be subject to the oversight of the listing exchange and the Commission, and because the manipulation of physical copper would be subject to CFTC jurisdiction. BZX asserts that the Trust is nearly identically situated to the iShares Copper Trust.¹⁹⁵ Similarly, the Lewis Letter asserts that many features of a similar bitcoin commodity-trust ETP proposal—features that purportedly ameliorate the risk of price manipulation through a dominant market share—are also factors that were used as a basis for the Commission’s approval of another copper commodity-trust ETP.¹⁹⁶

BZX contends that previous ETP approvals demonstrate that the factors used to determine whether currency-derivative products are consistent with the Exchange Act should also apply to commodity-trust ETPs. BZX argues that the Commission order approving the

¹⁹³ See Petition for Review, *supra* note 4, at 12. The Overdahl Letter agrees with this assertion by BZX. See Overdahl Letter, *supra* note 36, at 10.

¹⁹⁴ See Exchange Act Release No. 68973 (Feb. 22, 2013), 78 FR 13726 (Feb. 28, 2013) (SR-NYSEArca-2012-66) (approving iShares Copper Trust).

¹⁹⁵ See BZX Letter II, *supra* note 13, at 13–14; see also *id.* at 25.

¹⁹⁶ See Lewis Letter I, *supra* note 65, at 6 & n.8 (referring to the SolidX Bitcoin Trust, see SolidX Order, *supra* note 65, and to the JPM XF Physical Copper Trust, Exchange Act Release No. 68440 (Dec. 14, 2012), 77 FR 75468 (Dec. 20, 2012) (SR-NYSEArca-2012-28)).

Bitwise Has No Commentary On The Information On This Page

listing and trading of the streetTRACKS Gold Shares (“Gold Order”)¹⁹⁷—the first commodity-trust ETP—was based on an assumption that the currency market and the spot gold market were largely unregulated, but found that certain factors mitigated the concerns arising from the unregulated underlying markets.¹⁹⁸ BZX claims that, in determining whether a commodity-trust ETP is consistent with the Exchange Act, the Commission’s approval orders have included an analysis of previously approved derivative products for which the underlying reference assets (1) are traded OTC; (2) are largely unregulated; and (3) are traded on markets with which the ETP listing exchange could not enter into a surveillance sharing agreement.¹⁹⁹ While BZX concedes that the Commission has not approved a commodity-trust ETP when there were no derivatives markets related to the underlying commodity, BZX points out that the Commission has approved a number of currency-trust ETPs and asserts that the Commission approved the listing and trading of the CurrencyShares Hong Kong Dollar Trust and the CurrencyShares Singapore Dollar Trust based largely on the same factors that the Commission has considered in approving commodity-trust ETPs, despite a statement in the approval order for the CurrencyShares Hong Kong Dollar Trust and the CurrencyShares Singapore Dollar Trust that futures or options are not traded on the Hong Kong Dollar or Singapore Dollar.²⁰⁰ Similarly, one commenter argues that there are several commodity-based and other ETPs where the underlying

¹⁹⁷ See Exchange Act Release No. 50603 (Oct. 28, 2004), 69 FR 64614 (Nov. 5, 2004) (SR-NYSE-2004-22) (approving streetTRACKS Gold Shares).

¹⁹⁸ See BZX Letter II, *supra* note 13, at 28–29.

¹⁹⁹ See *id.* at 29.

²⁰⁰ See *id.* at 28 n.59. See also Exchange Act Release No. 58365 (Aug. 14, 2008), 73 FR 49522 (Aug. 21, 2008) (SR-NYSEArca-2008-81) (approving CurrencyShares Hong Kong Dollar Trust, CurrencyShares Singapore Dollar Trust, and two other issues of CurrencyShares based on non-US currencies).

32

We agree with the Commission and recognize the importance of comprehensive surveillance-sharing agreements to detect and deter fraudulent and manipulative activity.

While we believe that both the bitcoin market and the Trust's specific NAV methodology, as well as the decision to process all creations and redemptions in-kind, and to accrue fees in-kind, add unique and robust protections against the potential negative impacts of market manipulation, we also note that the proposed listing exchange for the Bitwise Trust has entered into a comprehensive surveillance sharing agreement with a regulated derivatives market of significant size (the CME bitcoin futures market).

The understanding that the CME bitcoin futures market is significant is based on Bitwise's understanding of the true size of the bitcoin spot market, which is significantly smaller than commonly understood, as well as the recent and significant growth in trading volume on the CME bitcoin futures exchanges. These findings were outlined in the Bitwise Study, the Bitwise White Paper, and the amended S-1 and related Rule 19b-4 filings associated with the Trust, and explored earlier in this document.

market is either unregulated or lightly regulated, such as foreign-exchange linked or related ETPs, or commodity-based ETPs that hold the underlying and not the derivative product.²⁰¹

2. Discussion

(a) The History and Importance of Surveillance-Sharing Agreements Relating to Derivative Securities Products

Although BZX claims to have described “traditional means” of identifying and deterring fraud and manipulation, it overlooks the fact that the Commission has long recognized the importance of comprehensive surveillance-sharing agreements to detect and deter fraudulent and manipulative activity.²⁰² The hallmarks of such an agreement are that the agreement provides for

²⁰¹ See Convergen Letter, *supra* note 36, at 2.

²⁰² See *streetTRACKS Gold Shares*, Exchange Act Release No. 50603 (Oct. 28, 2004), 69 FR 64614, 64618–19 (Nov. 5, 2004) (SR-NYSE-2004-22); *iShares COMEX Gold Trust*, Exchange Act Release No. 51058 (Jan. 19, 2005), 70 FR 3749, 3751, 3754–55 (Jan. 26, 2005) (SR-Amex-2004-38); *iShares Silver Trust*, Exchange Act Release No. 53521 (Mar. 20, 2006), 71 FR 14967, 14968, 14973–74 (Mar. 24, 2006) (SR-Amex-2005-072); *ETFS Gold Trust*, Exchange Act Release No. 59895 (May 8, 2009), 74 FR 22993, 22994–95, 22998, 23000 (May 15, 2009) (SR-NYSEArca-2009-40); *ETFS Silver Trust*, Exchange Act Release No. 59781 (Apr. 17, 2009), 74 FR 18771, 18772, 18775–77 (Apr. 24, 2009) (SR-NYSEArca-2009-28); *ETFS Palladium Trust*, Exchange Act Release No. 61220 (Dec. 22, 2009), 74 FR 68895, 68896 (Dec. 29, 2009) (SR-NYSEArca-2009-94) (notice of proposed rule change included NYSE Arca’s representation that “[t]he most significant palladium futures exchanges are the NYMEX and the Tokyo Commodity Exchange,” that “NYMEX is the largest exchange in the world for trading precious metals futures and options,” and that NYSE Arca “may obtain trading information via the Intermarket Surveillance Group,” of which NYMEX is a member, Exchange Act Release No. 60971 (Nov. 9, 2009), 74 FR 59283, 59285–86, 59291 (Nov. 17, 2009)); *ETFS Platinum Trust*, Exchange Act Release No. 61219 (Dec. 22, 2009), 74 FR 68886, 68887–88 (Dec. 29, 2009) (SR-NYSEArca-2009-95) (notice of proposed rule change included NYSE Arca’s representation that “[t]he most significant platinum futures exchanges are the NYMEX and the Tokyo Commodity Exchange,” that “NYMEX is the largest exchange in the world for trading precious metals futures and options,” and that NYSE Arca “may obtain trading information via the Intermarket Surveillance Group,” of which NYMEX is a member, Exchange Act Release No. 60970 (Nov. 9, 2009), 74 FR 59319, 59321, 59327 (Nov. 17, 2009)); *Sprott Physical Gold Trust*, Exchange Act Release No. 61496 (Feb. 4, 2010), 75 FR 6758, 6760 (Feb. 10, 2010) (SR-NYSEArca-2009-113) (notice of proposed rule change included NYSE Arca’s representation that the COMEX is one of the “major world gold markets,” that NYSE Arca “may obtain trading information via the Intermarket Surveillance Group,” and that NYMEX, of which COMEX is a division, is a member of the Intermarket Surveillance Group, Exchange Act Release No. 61236 (Dec. 23, 2009), 75 FR 170, 171, 174 (Jan. 4, 2010)); *Sprott Physical Silver Trust*, Exchange Act Release No. 63043 (Oct. 5, 2010), 75 FR 62615, 62616, 62619, 62621 (Oct. 12, 2010) (SR-NYSEArca-2010-84); *ETFS Precious Metals Basket Trust*, Exchange Act Release No. 62692 (Aug. 11, 2010), 75 FR 50789, 50790 (Aug. 17, 2010) (SR-NYSEArca-2010-56) (notice of proposed rule change included NYSE Arca’s representation that “the most significant gold, silver, platinum and palladium futures exchanges are the COMEX and the TOCOM” and that NYSE Arca “may obtain trading information via the Intermarket Surveillance Group,” of which COMEX is a member, Exchange Act Release No. 62402 (Jun. 29, 2010), 75 FR 39292, 39295, 39298 (July 8, 2010)); *ETFS White Metals Basket Trust*, Exchange Act Release No. 62875 (Sept. 9, 2010), 75 FR 56156, 56158 (Sept. 15, 2010) (SR-NYSEArca-2010-71) (notice of proposed rule change (footnote continued...))

Bitwise Has No Commentary On The Information On This Page

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

(...footnote continued)

included NYSE Arca's representation that "the most significant silver, platinum and palladium futures exchanges are the COMEX and the TOCOM" and that NYSE Arca "may obtain trading information via the Intermarket Surveillance Group," of which COMEX is a member, Exchange Act Release No. 62620 (July 30, 2010), 75 FR 47655, 47657, 47660 (Aug. 6, 2010)); ETFS Asian Gold Trust, Exchange Act Release No. 63464 (Dec. 8, 2010), 75 FR 77926, 77928 (Dec. 14, 2010) (SR-NYSEArca-2010-95) (notice of proposed rule change included NYSE Arca's representation that "the most significant gold futures exchanges are the COMEX and the Tokyo Commodity Exchange," that "COMEX is the largest exchange in the world for trading precious metals futures and options," and that NYSE Arca "may obtain trading information via the Intermarket Surveillance Group," of which COMEX is a member, Exchange Act Release No. 63267 (Nov. 8, 2010), 75 FR 69494, 69496, 69500-01 (Nov. 12, 2010)); Sprott Physical Platinum and Palladium Trust, Exchange Act Release No. 68430 (Dec. 13, 2012), 77 FR 75239, 75240-41 (Dec. 19, 2012) (SR-NYSEArca-2012-111) (notice of proposed rule change included NYSE Arca's representation that "[f]utures on platinum and palladium are traded on two major exchanges: The New York Mercantile Exchange ... and Tokyo Commodities Exchange" and that NYSE Arca "may obtain trading information via the Intermarket Surveillance Group," of which COMEX is a member, Exchange Act Release No. 68101 (Oct. 24, 2012), 77 FR 65732, 65733, 65739 (Oct. 30, 2012)); APMEX Physical—1 oz. Gold Redeemable Trust, Exchange Act Release No. 66930 (May 7, 2012), 77 FR 27817, 27818 (May 11, 2012) (SR-NYSEArca-2012-18) (notice of proposed rule change included NYSE Arca's representation that NYSE Arca "may obtain trading information via the Intermarket Surveillance Group," of which COMEX is a member, and that gold futures are traded on COMEX and the Tokyo Commodity Exchange, with a cross-reference to the proposed rule change to list and trade shares of the ETFS Gold Trust, in which NYSE Arca represented that COMEX is one of the "major world gold markets," Exchange Act Release No. 66627 (Mar. 20, 2012), 77 FR 17539, 17542-43, 17547 (Mar. 26, 2012)); JPM XF Physical Copper Trust, Exchange Act Release No. 68440 (Dec. 14, 2012), 77 FR 75468, 75469-70, 75472, 75485-86 (Dec. 20, 2012) (SR-NYSEArca-2012-28); iShares Copper Trust, Exchange Act Release No. 68973 (Feb. 22, 2013), 78 FR 13726, 13727, 13729-30, 13739-40 (Feb. 28, 2013) (SR-NYSEArca-2012-66); First Trust Gold Trust, Exchange Act Release No. 70195 (Aug. 14, 2013), 78 FR 51239, 51240 (Aug. 20, 2013) (SR-NYSEArca-2013-61) (notice of proposed rule change included NYSE Arca's representation that FINRA, on behalf of the exchange, may obtain trading information regarding gold futures and options on gold futures from members of the Intermarket Surveillance Group, including COMEX, or from markets "with which [NYSE Arca] has in place a comprehensive surveillance sharing agreement," and that gold futures are traded on COMEX and the Tokyo Commodity Exchange, with a cross-reference to the proposed rule change to list and trade shares of the ETFS Gold Trust, in which NYSE Arca represented that COMEX is one of the "major world gold markets," Exchange Act Release No. 69847 (June 25, 2013), 78 FR 39399, 39400, 39405 (July 1, 2013)); Merk Gold Trust, Exchange Act Release No. 71378 (Jan. 23, 2014), 79 FR 4786, 4786-87 (Jan. 29, 2014) (SR-NYSEArca-2013-137) (notice of proposed rule change included NYSE Arca's representation that "COMEX is the largest gold futures and options exchange" and that NYSE Arca "may obtain trading information via the Intermarket Surveillance Group," including with respect to transactions occurring on COMEX pursuant to CME and NYMEX's membership, or from exchanges "with which [NYSE Arca] has in place a comprehensive surveillance sharing agreement," Exchange Act Release No. 71038 (Dec. 11, 2013), 78 FR 76367, 76369, 76374 (Dec. 17, 2013)); Long Dollar Gold Trust, Exchange Act Release No. 79518 (Dec. 9, 2016), 81 FR 90876, 90881, 90886, 90888 (Dec. 15, 2016) (SR-NYSEArca-2016-84).

Bitwise Has No Commentary On The Information On This Page

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.²⁰³

Since at least 1990, the Commission has explained that the ability of a national securities exchange to enter into surveillance-sharing agreements “furthers the protection of investors and the public interest because it will enable the [e]xchange to conduct prompt investigations into possible trading violations and other regulatory improprieties.”²⁰⁴ The Commission has also long taken the position that surveillance-sharing agreements are important in the context of exchange listing of derivative security products, such as equity options. In 1994, the Commission stated:

As a general matter, the Commission believes that the existence of a surveillance sharing agreement that effectively permits the sharing of information between an exchange proposing to list an equity option and the exchange trading the stock underlying the equity option is necessary to detect and deter market manipulation and other trading abuses. In particular, the Commission notes that surveillance sharing agreements provide an important deterrent to manipulation because they facilitate the availability of information needed to fully investigate a potential manipulation if it were to occur. These agreements are especially important in the context of derivative products based on foreign securities because they facilitate the collection of necessary regulatory, surveillance and other information from foreign jurisdictions.²⁰⁵

With respect to ETPs, when approving in 1995 the listing and trading of one of the first commodity-linked ETPs—a commodity-linked exchange-traded note—on a national securities exchange, the Commission continued to emphasize the importance of surveillance-sharing

²⁰³ See, e.g., 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>.

²⁰⁴ See Exchange Act Release No. 27877 (Apr. 4, 1990), 55 FR 13344, 13345 (Apr. 10, 1990) (SR-NYSE-90-14).

²⁰⁵ 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). The Commission further stated that it “generally believes that having a comprehensive surveillance sharing agreement in place, between the exchange where the ADR option trades and the exchange where the foreign security underlying the ADR primarily trades, will ensure the integrity of the marketplace. The Commission further believes that the ability to obtain relevant surveillance information, including, among other things, the identity of the ultimate purchasers and sellers of securities, is an essential and necessary component of a comprehensive surveillance sharing agreement.” *Id.*

Bitwise Has No Commentary On The Information On This Page

agreements, noting that the listing exchange had entered into surveillance-sharing agreements with each of the futures markets on which pricing of the ETP would be based and stating that “[t]hese agreements should help to ensure the availability of information necessary to detect and deter potential manipulations and other trading abuses, thereby making [the commodity-linked notes] less readily susceptible to manipulation.”²⁰⁶

In 1998, in adopting Exchange Act Rule 19b-4(e)²⁰⁷ to permit the generic listing and trading of certain new derivatives securities products—including ETPs—the Commission again emphasized the importance of the listing exchange’s ability to obtain from underlying markets, through surveillance-sharing agreements (called information-sharing agreements or “ISAs” in the release), the information necessary to detect and deter manipulative activity. Specifically, in adopting rules governing the generic listing of new derivatives securities products, the

²⁰⁶ See Exchange Act Release No. 35518 (Mar. 21, 1995), 60 FR 15804, 15807 (Mar. 27, 1995) (SR-Amex-94-30). In that matter, the Commission noted that the listing exchange had comprehensive surveillance-sharing agreements with all of the exchanges upon which the futures contracts underlying the notes traded and was able to obtain market surveillance information, including customer identity information, for transactions occurring on NYMEX and other futures exchanges. See *id.* at 15807 n.21; see also Exchange Act Release No. 36885 (Feb. 26, 1996), 61 FR 8315, 8319 n.17 (Mar. 4, 1996) (SR-Amex-95-50) (approving the exchange listing and trading of Commodity Indexed Securities, and noting: (a) that through the comprehensive surveillance-sharing agreements, the listing exchange was able to obtain market surveillance information, including customer identity information, for transactions occurring on NYMEX and COMEX and that, through the Intermarket Surveillance Group information-sharing agreement, the listing exchange was able to obtain, upon request, surveillance information with respect to trades effected on the London Metal Exchange, including client identity information and (b) that, if a different market were utilized for purposes of calculating the value of a designated futures contract, the listing exchange had represented that it would ensure that it entered into a surveillance-sharing agreement with respect to the new relevant market). The Commission has made similar statements about surveillance-sharing agreements with respect to the listing and trading of stock-index, currency, and currency-index warrants. See, e.g., Exchange Act Release No. 36166 (Aug. 29, 1995), 60 FR 46660 (Sept. 7, 1995) (SR-PSE-94-28) (approving a proposal to adopt uniform listing and trading guidelines for stock-index, currency, and currency-index warrants). Specifically, the Commission noted that “a surveillance sharing agreement should provide the parties with the ability to obtain information necessary to detect and deter market manipulation and other trading abuses” and stated that the Commission “generally requires that a surveillance sharing agreement require that the parties to the agreement provide each other, upon request, information about market trading activity, clearing activity, and the identity of the ultimate purchasers for securities.” *Id.* at 46665 n.35. In addition, the Commission stated that “[t]he ability to obtain relevant surveillance information, including, among other things, the identity of the ultimate purchasers and sellers of securities, is an essential and necessary component of a comprehensive surveillance sharing agreement.” *Id.* at 46665 n.36.

²⁰⁷ 17 CFR 240.19b-4(e).

33

The Bitwise White Paper definitively shows that arbitrage exists and prices are tightly aligned between the CME futures market and the globally integrated price of bitcoin. Prices track closely and temporary price dislocations are typically arbitrated away in less than 2 seconds.

The Bitwise White Paper further showed that, in April, the CME was larger than each of the ten bitcoin spot exchanges.

Given the extremely tight arbitrage that exists between the price on the global spot market for bitcoin (which contributes to the NAV) and the price of bitcoin futures on a regulated derivatives exchange, and given the relative size of the CME bitcoin futures market versus the size of the spot bitcoin exchanges, the data and circumstances suggest that there is a reasonable likelihood that a person attempting to manipulate the ETP would also have to trade on the bitcoin derivatives market to successfully manipulate the ETP. As such, a surveillance-sharing agreement would assist the ETP listing market in detecting and deterring misconduct.

34

Because the Bitwise Daily Bitcoin Reference Price, and therefore the Trust's NAV, captures substantially all of the global spot volume for bitcoin, it is unlikely that trading in the ETP would be the predominant influence on prices in the bitcoin market.

In order to study this question more closely, the Bitwise Study examined historical first-year inflows into all analogous ETFs, including first-to-market commodity ETPs, blockchain equity ETPs, and bitcoin ETPs listed on other national markets. This study showed that the range of potential year-one inflows was \$2 million to \$3 billion. Given the size of the spot bitcoin market (roughly \$554 million in average daily trading volume in April), it appears unlikely that flows into the new ETP will overwhelm the underlying market.

Commission stated that the Rule 19b-4(e) procedures would “enable the Commission to continue to effectively protect investors and promote the public interest” and stated 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 because they facilitate the availability of information needed to fully investigate a manipulation if it were to occur.²⁰⁸

Consistent with this principle, for the commodity-trust ETPs approved to date for listing and trading, there has been in every case at least one significant, regulated market for trading futures on the underlying commodity—whether gold, silver, platinum, palladium, or copper—and the ETP listing exchange has entered into surveillance-sharing agreements with, or held Intermarket Surveillance Group membership in common with, that market.²⁰⁹

In light of the history and purpose of looking to surveillance-sharing agreements, with respect to markets for assets underlying an ETP or for derivatives on those assets, the Commission interprets the terms “significant market” and “market of significant size” to include a market (or group of markets) as to which (a) 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 the ETP listing market in detecting and deterring misconduct, and (b) it is unlikely that trading in the ETP would be the predominant influence on prices in that market. This definition is illustrative and not exclusive.

²⁰⁸ NDSP Adopting Release, *supra* note 21.

²⁰⁹ See *supra* note 202.

35

There are strong analogs between the gold market and the bitcoin market as it pertains to considering Rule 19b-4 Filings for ETPs.

In the case of the gold market, the underlying spot market (as the Gold Order noted) is "extremely large" and "diverse." While the bitcoin market is smaller on an absolute basis, the Bitwise Study showed that turnover as a fraction of market cap for bitcoin was similar to gold. In addition, the Bitwise Study showed that the bitcoin market was extremely efficient, with effective arbitrage between different exchanges and spreads that are among the tightest for any quoted financial instrument in the world. The Bitwise Study also demonstrated several unique ways that the bitcoin market is resistant to market manipulation, including the fact that price discovery takes place in the open market as opposed to in a coordinated, private fix pricing.

At the same time, as with the gold market, the efficiency of the bitcoin market and the protection it provides against certain forms of market manipulation is abetted by the availability of a surveillance-sharing agreement with a derivatives market of significant size (in the case of the Trust, the CME bitcoin futures market). The two factors work in concert to help support the Bitwise Trust's application.

²⁹ "Notice of Filing and Order Granting Accelerated Approval of Proposed Rule Change and Amendment Nos. 1, 2, and 3 Thereto by the Boston Stock Exchange, Inc. to Trade the streetTRACKS Gold Shares Pursuant to Unlisted Trading Privileges," U.S. Securities and Exchange Commission, March 24, 2005. <https://www.sec.gov/rules/sro/bse/34-51433.pdf>

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.

(b) Response to Comments Regarding Surveillance-Sharing Agreements and Prior Commodity-Trust ETP Approvals

Prior ETP approval orders are consistent with the standards the Commission is applying to the BZX proposal. However, more recent approval orders for the well-established model of a precious-metal trust—for example, the Platinum Order and the Palladium Order—found it unnecessary to perform the exhaustive analysis of underlying markets and surveillance sharing provided by the first approval order for a precious metal commodity-trust ETP, the Gold Order, especially since the proposed rule change for platinum and palladium ETPs discussed surveillance-sharing agreements with significant, regulated platinum and palladium markets.²¹⁰

BZX argues that even the Gold Order relied on alternative factors—primarily the depth and liquidity of the spot gold market—to mitigate Commission concerns about approving a commodity-trust ETP based on an asset that traded in unregulated, over-the-counter markets with which no surveillance sharing agreement could be executed.²¹¹ The Gold Order does note the depth and liquidity of the gold market, likening the spot gold market to the “extremely large, diverse market” for OTC foreign exchange trading.²¹² Significantly, however, the Gold Order demonstrates that the Commission did take into account the availability of surveillance-sharing agreements in approving the first commodity-trust ETP.

²¹⁰ See Gold Order, *supra* note 197, 69 FR at 64614–15, 64618–19; Platinum Order, *supra* note 189, 74 FR at 68887–88; Palladium Order, *supra* note 189, 74 FR at 68896.

²¹¹ See *supra* notes 197–199 and accompanying text. Another commenter also asserts that the Commission has approved several commodity-based ETPs where the underlying market is either unregulated or lightly regulated. See *supra* note 201 and accompanying text.

²¹² Gold Order, *supra* note 197, 69 FR at 64619.

Bitwise Has No Commentary On The Information On This Page

The Gold Order states that “[i]nformation sharing agreements with markets trading securities underlying a derivative are an important part of a self-regulatory organization’s ability to monitor for trading abuses in derivative products.”²¹³ And, while the Gold Order observes that that it is “not possible ... to enter into an information sharing agreement with the OTC gold market,” the order continues: “Nevertheless, the Commission believes that the unique liquidity and depth of the gold market, together with the MOU [Memorandum of Understanding] with NYMEX (of which COMEX is a Division) and NYSE Rules 1300(b) and 1301, create the basis for the [ETP listing exchange] to monitor for fraudulent and manipulative practices in the trading of the Shares.”²¹⁴ Thus, even though the Commission found that the over-the-counter market for gold was “extremely deep and liquid,”²¹⁵ the Commission’s approval of the first precious metal ETP expressly relied on an agreement to share surveillance information between the listing exchange and a significant, regulated market for gold futures.²¹⁶

In the years after the approval of the first precious-metal commodity-trust ETP, several other, virtually identical, commodity-trust ETPs have been approved.²¹⁷ Among the approval orders were the Platinum Order and the Palladium Order, which BZX cites as examples of the Commission approving a commodity-trust ETP without requiring that there be a surveillance-sharing agreement with a significant, regulated market for an underlying exchange. While neither the Platinum Order nor the Palladium Order expressly discusses such agreements, the record

²¹³ Id.

²¹⁴ Id. (emphasis added).

²¹⁵ Id.

²¹⁶ See id. In the Gold Order, the Commission also stated that the ETP listing exchange had “entered into a reciprocal Memorandum of Understanding (‘MOU’) with the NYMEX (of which COMEX is a division) for the sharing of information relating to any financial instrument based, in whole or in part, upon an interest in or performance of gold.” Id. at 64618. The Gold Order also notes volume figures for spot gold trading provided by the London Bullion Market Association and gold futures trading provided by COMEX. See id. at 64619.

²¹⁷ See supra note 202.

Bitwise Has No Commentary On The Information On This Page

before the Commission at the time it issued those orders (including the notices of the proposed rule changes) shows that the ETP listing exchange was able to share surveillance information with the “largest exchange in the world for trading precious metal futures and options,” which had been trading both platinum futures and palladium futures for approximately 35 years at the time the Commission approved commodity-trust ETPs holding those metals.²¹⁸

Consistent with the discussion of “significant market” described above,²¹⁹ the Commission has not previously, and does not now, require that an ETP listing exchange be able to enter into a surveillance-sharing agreement with each regulated spot or derivatives market relating to an underlying asset, provided that the market or markets with which there is such an agreement constitute a “significant market.”

While BZX and the Overdahl Letter assert that the potential avenues for manipulation of the bitcoin market also exist in the context of other commodity-trust ETPs, this argument merely reinforces the Commission’s view that similar market structures—namely, surveillance-sharing agreements with significant, regulated markets—should be in place for a bitcoin-trust ETP just as they are for commodity-trust ETPs.²²⁰ BZX also argues that the proposal should be approved

²¹⁸ See Exchange Act Release No. 60971 (Nov. 9, 2009), 74 FR 59283, 59285–86, 59291 (Nov. 17, 2009) (SR-NYSEArca-2009-94) (notice of proposed rule change for ETFS Palladium Trust includes NYSE Arca’s representation that “NYMEX is the largest exchange in the world for trading precious metals futures and options and has been trading palladium since 1974,” and that NYSE Arca “may obtain trading information via the Intermarket Surveillance Group,” of which NYMEX is a member); Exchange Act Release No. 60970 (Nov. 9, 2009), 74 FR 59319, 59321, 59327 (Nov. 17, 2009) (SR-NYSEArca-2009-95) (notice of proposed rule change for ETFS Platinum Trust includes NYSE Arca’s representation that “NYMEX is the largest exchange in the world for trading precious metals futures and options and has been trading platinum since 1974,” and that NYSE Arca “may obtain trading information via the Intermarket Surveillance Group,” of which NYMEX is a member). See also *supra* note 189 and accompanying text.

²¹⁹ See Section III.D.2(a), *supra*.

²²⁰ The proposal does not involve an ETP that is based on an index of commodities where the component commodities are subject to surveillance-sharing agreements with significant, regulated markets. See, e.g., Exchange Act Release No. 53105 (Jan. 11, 2006), 71 FR 3129, 3136 (Jan. 19, 2006) (SR-Amex-2005-059) (approving DB Commodity Index Tracking Fund based on an index that tracks the performance of futures contracts on crude oil, heating oil, aluminum, gold, corn, and wheat).

36

We do not believe that any attempt to narrowly define similarities between our application and any single other ETP application, be that for copper, gold, or currency-based ETPs, is particularly useful.

We believe that the Commission has been clear on the intent of its application of the Exchange Act to bitcoin ETP proposals and that, regardless of past approvals, it wants to be sure that the proposed 19b-4 Rule Filing for a bitcoin ETP demonstrates either that the bitcoin market and the Trust's NAV is uniquely resistant to market manipulation or that there is a surveillance sharing agreement in place between the proposed listing exchange and a regulated derivatives market of significant size.

We have tried in this response, in the Bitwise Study, in the Bitwise White Paper, in the Amended S-1 application and the Amended Rule 19b-4 application supporting the Trust, to demonstrate that our application is consistent with both the rule and the spirit of those standards, notwithstanding any historical narrow application for any specific other ETP. As such, we are not supplying any analysis of how our application compares to the copper, Baltic freight futures or other applications, outside of the aforementioned generalized comparisons to gold.

because it is “nearly identically situated” to the iShares Copper Trust. In particular, BZX asserts that the Commission approved the iShares Copper Trust because the Commission believed that approval of the ETP could reduce the risk of manipulation in the underlying spot market and that the Commission could rely on surveillance by the listing exchange and CFTC jurisdiction to address concerns about manipulation—factors it argues support approval here.²²¹ The Copper Order, however, specifically noted the existence of surveillance-sharing agreements not only between the ETP listing market and copper futures markets, but also between the ETP listing market and a significant copper spot market, the London Metal Exchange.²²² And the Copper Order’s analysis of the underlying physical market for copper does not reflect a determination that these factors could serve as an adequate alternative to a surveillance-sharing agreement, but was instead a response to certain commenters’ arguments that approving the iShares Copper Trust would affirmatively disrupt the physical copper market.²²³

BZX argues that the Commission should approve the proposal because it has previously approved currency-trust ETPs—the CurrencyShares Hong Kong Dollar Trust and the CurrencyShares Singapore Dollar Trust—without requiring the existence of a surveillance-sharing agreement with underlying markets.²²⁴ However, BZX has proposed to list and trade the Shares as a commodity-based ETP, not a currency-based ETP,²²⁵ and the Commission as well as

²²¹ See *supra* notes 194–195 and accompanying text. The Lewis Letter makes a similar argument. See *supra* note 196 and accompanying text.

²²² See Copper Order, *supra* note 194, 78 FR at 13727 n.7, and 13730.

²²³ See *id.* at 13731–33.

²²⁴ See *supra* note 200 and accompanying text. Another commenter also asserts that the Commission has approved several foreign exchange-linked ETPs where the underlying market is either unregulated or lightly regulated. See Convergen Letter, *supra* note 36, at 2.

²²⁵ See Amendment No. 1, *supra* note 1, 81 FR at 76651.

Bitwise Has No Commentary On The Information On This Page

other agencies have distinguished bitcoin from currency.²²⁶ Even if the Commission were to apply the approach it took in approving currency-trust ETPs, the Commission would still conclude that the proposal is not consistent with the Exchange Act, because the deep, liquid, and longstanding markets for currencies, which are dominated by regulated entities, bear little resemblance to the current state of bitcoin markets. Foreign currency derivatives traded on national securities exchanges for decades before the Commission approved currency-trust ETPs. And when it approved the first foreign currency derivatives in 1982—options on the British pound, the German mark, the Swiss franc, the Canadian dollar, and the Japanese yen, each the sovereign currency of a developed nation—the Commission explained that “[t]he magnitude of the related foreign currency markets would appear to militate against a successful manipulation through inter-market trading activity.”²²⁷ Similarly, when approving the listing and trading of additional foreign currency derivatives in 1992, the Commission recognized the “developed markets for the component foreign currencies” and observed that “the interbank foreign currency

²²⁶ See *In re Bitcoin Inv. Tr.*, Exchange Act Release No. 78282, 2016 WL 4363462, at *1 n.1 (July 11, 2016); *In re Btc Trading, Corp.*, Securities Act Release No. 9685, Exchange Act Release No. 73783, 2014 WL 6872955, at *1 n.1 (Dec. 8, 2014); *In re Voorhees*, Securities Act Release No. 9592, 2014 WL 2465620, at *1 n.1 (June 3, 2014). The CFTC has concluded that Bitcoin is a virtual currency that is a commodity, “distinct from ‘real’ currencies, which are the coin and paper money of the United States or another country that are designated as legal tender, circulate, and are customarily used and accepted as a medium of exchange in the country of issuance.” *In re Coinflip, Inc.*, CFTC No. 15-29, 2015 WL 5535736, at *1 n.2 (Sept. 17, 2015). The Treasury Department’s Financial Crimes Enforcement Network has noted: “In contrast to real currency, ‘virtual’ currency is a medium of exchange that operates like a currency in some environments, but does not have all the attributes of real currency. In particular, virtual currency does not have legal tender status in any jurisdiction.” Guidance: Application of FinCEN’s Regulations to Persons Administering, Exchanging, or Using Virtual Currencies (Mar. 18, 2013) (discussing 31 C.F.R. § 1010.100(m)), available at <https://www.fincen.gov/resources/statutes-regulations/guidance/application-fincens-regulations-persons-administering>. The IRS has concluded that “virtual currency is not treated as currency” for purposes of federal tax laws. *IRS Virtual Currency Guidance*, I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 2014 WL 1224474 (Apr. 14, 2014).

²²⁷ Exchange Act Release No. 19133 (Oct. 14, 1982), 47 FR 46946, 1982 WL 521987, at *5 (Oct. 21, 1982) (SR-Phlx-81-4).

Bitwise Has No Commentary On The Information On This Page

spot market is an extremely large, diverse market comprised of banks and other financial institutions worldwide.”²²⁸

The Gold Order echoed this view of the currency markets.²²⁹ And the approval order for the CurrencyShares products that BZX cites includes the following representations by the listing exchange regarding the foreign currency markets:

Most trading in the global over-the-counter (“OTC”) foreign currency markets is conducted by regulated financial institutions such as banks and broker-dealers. In addition, in the United States, the Foreign Exchange Committee of the New York Federal Reserve Bank has issued Guidelines for Foreign Exchange Trading, and central-bank sponsored committees in Japan and Singapore have published similar best practice guidelines. In the United Kingdom, the Bank of England has published the Non-Investment Products Code, which covers foreign currency trading. The Financial Markets Association, whose members include major international banking organizations, has also established best practices guidelines called the Model Code. Participants in the U.S. OTC market for foreign currencies are generally regulated by their oversight regulators.²³⁰

Neither BZX nor any of the commenters has provided data that would justify treating the markets for bitcoin similarly to the deep and liquid markets for fiat currencies. Moreover, the description of the worldwide market for bitcoin, in which both the trading venues and the participants are unregulated, bears little resemblance to the OTC markets for foreign currency, on which most trading is conducted by regulated financial institutions. Accordingly, the Commission’s previous approvals of derivatives securities products based on foreign currencies are not a basis for the Commission to approve the proposal despite the absence of a surveillance-sharing agreement with a regulated market of significant size related to bitcoin.

²²⁸ Exchange Act Release No. 31627 (Dec. 21, 1992), 57 FR 62399, 1992 WL 394554, at *4–5 (Dec. 30, 1992) (SR-Amex-92-36).

²²⁹ See Gold Order, *supra* note 197, 69 FR at 64619.

²³⁰ Exchange Act Release No. 58365, *supra* note 200, 73 FR at 49523.

Bitwise Has No Commentary On The Information On This Page

E. Whether BZX Has Entered into Surveillance-Sharing Agreements with Regulated Markets of Significant Size Related to Bitcoin

Although BZX asserts that it has entered into a comprehensive surveillance-sharing agreement with the Gemini Exchange with respect to bitcoin trading and that the Gemini Exchange is supervised by the NYSDFS, the record does not establish that the Gemini Exchange is a “regulated market” comparable to a national securities exchange or to the futures exchanges that are associated with the underlying assets of the commodity-trust ETPs approved to date. Even if the Gemini Exchange were “regulated,” the record does not support a finding that the Gemini Exchange represents a “significant” bitcoin-related market. Accordingly, the Commission finds that the surveillance-sharing agreement between BZX and the Gemini Exchange, even in combination with alternative means of detecting and deterring fraud and manipulation, is insufficient to demonstrate that the proposed rule change is consistent with Exchange Act Section 6(b)(5). Nor has BZX demonstrated that any of the current trading venues in the worldwide bitcoin spot market is a regulated market such that a comprehensive surveillance-sharing agreement with those venues would satisfy the requirements of Section 6(b)(5). And BZX has likewise failed to carry its burden to demonstrate that there is a regulated market of significant size in derivatives related to bitcoin with which the ETP listing market has entered into a comprehensive surveillance-sharing agreement.

1. The Gemini Exchange

(a) Summary of Comments Received

BZX asserts that it has entered into a comprehensive surveillance-sharing agreement with the Gemini Exchange through which it can obtain customer identity information about bitcoin

Bitwise Has No Commentary On The Information On This Page

transactions and market data.²³¹ Similarly, the Overdahl Letter claims that the surveillance-sharing agreement between the Gemini Exchange and BZX aims to detect and deter such conduct and that the agreement allows for continuous monitoring of trading activity to effectively conduct surveillance of the Gemini Auction price.²³²

BZX represents that the Gemini Exchange operates under the direct supervision and regulatory authority of the NYSDFS.²³³ This is because, BZX argues, the Gemini Exchange is a facility of the Custodian, which is a New York State-chartered limited liability trust company.²³⁴ BZX also represents that the Custodian is a fiduciary and that it must meet the capitalization, compliance, anti-money-laundering, consumer protection, and cyber security requirements set forth by the NYSDFS.²³⁵

BZX asserts that the Gemini Auction typically already transacts a volume greater than the proposed creation basket size for the Trust and that the Gemini Auction would likely support the needs of Authorized Participants to engage in basket creation or redemption.²³⁶ BZX claims that the global bitcoin marketplace has the potential to provide even more liquidity and to be a source of bitcoin for basket creation and hedging. BZX also asserts that all intraday order-book and trade information on the Gemini Exchange is publicly available through various electronic formats and is also redistributed by various online aggregators, and that, with the launch of the proposed Trust, the Sponsor must make important pricing data available in real time.²³⁷ As noted

²³¹ See Amendment No. 1, *supra* note 1, 81 FR at 76663, 76668; BZX Letter II, *supra* note 13, at 29–30.

²³² See Overdahl Letter, *supra* note 36, at 11.

²³³ See Amendment No. 1, *supra* note 1, 81 FR at 76651–52.

²³⁴ See *id.* at 76652.

²³⁵ See *id.*

²³⁶ See BZX Letter II, *supra* note 13, at 20; *but see* Section III.B.2(b), *supra*.

²³⁷ See BZX Letter I, *supra* note 35, at 9; *see also* Petition for Review, *supra* note 4, at 15–16.

Bitwise Has No Commentary On The Information On This Page

above, BZX also claims that the volume transacted in the Gemini Auction is generally more than 50% larger than the second-largest trade in the world, drawing an average daily volume of 1,200 bitcoins compared to approximately 800 bitcoins.²³⁸

One commenter claims that among USD bitcoin exchanges, Gemini has a 3% share and its liquidity measured by order book depth is significantly lower than that of several other exchanges. The commenter states that it is possible that, after the launch of an ETP, Gemini's liquidity and volume will increase, but claims that the nature of bitcoin trading that leads to the concentration of volume and liquidity outside of U.S. borders makes any significant future increase unlikely.²³⁹ This commenter also observes that while Gemini is locally regulated by the NYSDFS, the global landscape of many unregulated bitcoin exchanges exerts huge influence on the Gemini Exchange and consequently on the proposed ETP.²⁴⁰ Another commenter claims that the Gemini Exchange has the lowest liquidity of the three exchanges in the United States and is one of the least-liquid of all exchanges that trade bitcoin for USD.²⁴¹

One commenter asserts that the size and importance of the Gemini Exchange and the itBit Exchange have grown substantially and claims that, from January 23, 2017, to May 10, 2017, the combined market share of these exchanges jumped from just 0.33% to 7.14% of total worldwide bitcoin volume, equivalent to more than 10,000 bitcoins per day on average.²⁴² This commenter

²³⁸ See BZX Letter II, *supra* note 13, at 19–20.

²³⁹ See Maher Letter, *supra* note 35 (noting that the market is very concentrated and is controlled by a small group of exchanges operating in China, three of which represented 96% of all bitcoin trade volume over a six-month period, and noting that the Gemini Exchange had a 0.07% share of bitcoin volume worldwide during that period, with a 3% share of USD-exchange volume).

²⁴⁰ See *id.*

²⁴¹ See Anonymous Letter III, *supra* note 35.

²⁴² See SIG Letter, *supra* note 36, at 7. The itBit Exchange is a commercial bitcoin trading venue based in New York, NY. The NYSDFS has granted a charter under New York Banking Law to itBit Trust Company, LLC. See Press Release, NYSDFS, NY[S]DFS Grants First Charter to a New York Virtual Currency Company (May 7, 2015), available at <http://www.dfs.ny.gov/about/press/pr1505071.htm>.

37

The trends identified in this comment letter have accelerated since its posting. As mentioned, six of the ten exchanges that represent substantially all of the global bitcoin trade volume are now regulated by the NYDFS under the BitLicense program, and 31% of all spot bitcoin volume takes place on these exchanges.

Today, U.S. spot exchanges include Kraken, Coinbase Pro (formerly called GDAX), Gemini, itBit, Bittrex and Poloniex. Together, they coincidentally represent approximately 31% of global spot bitcoin trading volume, according to the Bitwise Study.

also asserts that the geographic distribution of bitcoin spot trading has shifted in focus from Chinese-based platforms towards U.S.-based venues, which indicates increased transparency and safer regulation in the near future. The commenter asserts that—although the Gemini Exchange and the itBit Exchange remain the only two NYSDFS-regulated bitcoin exchanges, and while a market share of 7.14% leaves much room for growth—the migration of global bitcoin trading volumes since mid-January 2017 is a positive trend.²⁴³

This commenter further asserts that, alongside Gemini Exchange and itBit Exchange, two other U.S.-based exchanges, GDAX and Kraken, have become significant spot bitcoin trading venues. According to this commenter, these four exchanges—the largest U.S. bitcoin exchanges—together now represent over 29% of worldwide bitcoin volume, up from just 1.47% on January 23, 2017. The commenter claims that, with almost a third of global spot bitcoin volume now occurring on these four U.S.-based trading venues, regulatory agencies and SROs have the opportunity to develop a robust framework of regulatory oversight and transparency that would support fair and orderly markets for both spot bitcoin and listed bitcoin-based ETPs.²⁴⁴ This commenter predicts that the launch of a regulated, U.S.-listed bitcoin ETP will help drive more bitcoin trading volume onto U.S.-based exchanges, and this commenter asserts that this supplemental liquidity is likely to manifest itself mainly on U.S.-based bitcoin exchanges such as Gemini, itBit, GDAX, and Kraken, which will be the most liquid venues during U.S. trading hours.²⁴⁵

The Overdahl Letter asserts that, between September 21, 2016, and March 1, 2017, the Gemini Exchange accounted for 24.03% of bitcoin trading volume on U.S. exchanges and 7.35%

²⁴³ See SIG Letter, *supra* note 36, at 7.

²⁴⁴ See *id.* at 7–8.

²⁴⁵ See *id.* at 8.

38

The Bitwise Study and Bitwise White Paper supports this analysis suggesting that pricing deviations between spot exchanges are rapidly arbitrated away.

The Bitwise Study showed that the average deviation between the price on any spot exchange and the globally integrated price of bitcoin was less than 0.25% during the March 4-9, 2019, study period, and that there were vanishingly few instances where the price on any one exchange deviated from the globally integrated price by more than 1% for more than 100 seconds. Moreover, the Bitwise White Paper shows that most deviations were arbitrated away in 2 seconds or less, and nearly all deviations were arbitrated away in 35 seconds or less.

Notwithstanding this, we believe that it's better to use more exchanges rather than fewer when calculating the NAV, both to clearly support liquidity in the Trust and because of idiosyncratic risks that can exist for any one individual exchange over short periods of time. Bitwise's pricing methodology, out of an abundance of caution, is designed to systematically exclude aberrant prices as an extra protection against this potential idiosyncratic risk.

of the global USD market for bitcoin.²⁴⁶ The Overdahl Letter contends that the Gemini Auction price is reliable in that it generally reflects both prices for bitcoin traded at other U.S.-based bitcoin exchanges and prices for bitcoin traded at USD-based exchanges globally. The Overdahl Letter claims that significant deviations between the Gemini price and other prices are quickly reduced to normal (small) levels and that the Gemini price does not primarily cause these deviations. In addition, the Overdahl Letter concludes that, when price deviations are observed, pricing across exchanges tends to converge.²⁴⁷ The Overdahl Letter also notes the concern expressed by some commenters that the Gemini Exchange had relatively low trading volume and that, as a result, the exchange price was less reliable than if the volumes were larger. In response to this concern, the Overdahl Letter provides a list of ETPs approved by the Commission that, the Overdahl Letter claims, have underlying assets with lower average daily volume than the average daily volume of the Gemini Exchange.²⁴⁸

(b) Discussion

BZX represents that it has entered into a comprehensive surveillance-sharing agreement with the Gemini Exchange with respect to bitcoin trading and that the Gemini Exchange is supervised by the NYSDFS and is thereby subject to capitalization, anti-money-laundering, compliance, consumer protection, and cybersecurity requirements.²⁴⁹ The record, however, does not support a conclusion that the Gemini Exchange is a “regulated market” comparable to a national securities exchange or to the futures exchanges that are associated with the underlying assets of the commodity-trust ETPs approved to date.

²⁴⁶ See Overdahl Letter, *supra* note 36, at 8.

²⁴⁷ See *id.* at 1, 7.

²⁴⁸ See *id.* at 13–14.

²⁴⁹ See Amendment No. 1, *supra* note 1, 81 FR at 76652, 76663, 76668; BZX Letter II, *supra* note 13, at 29–30.

Bitwise Has No Commentary On The Information On This Page

The record does not establish that the Gemini Exchange's rules, including its trading rules, are subject to regulatory review or approval or that its trading operations are subject to regulatory examination. Commission regulation of the securities markets includes the elements of NYSDFS supervision described above,²⁵⁰ but national securities exchanges are also, among other things, required to have rules that 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."²⁵¹ Moreover, national securities exchanges must file proposed rules with the Commission regarding certain material aspects of their operations,²⁵² and the Commission has the authority to disapprove any such rule that is not consistent with the requirements of the Exchange Act.²⁵³ Thus, national securities exchanges are subject to Commission oversight of, among other things, their governance, membership qualifications, trading rules, disciplinary procedures, recordkeeping, and fees.²⁵⁴

²⁵⁰ See *supra* notes 233–235 and accompanying text.

²⁵¹ 15 U.S.C. 78f(b)(5).

²⁵² 17 CFR 240.19b-4(a)(6)(i).

²⁵³ Section 6 of the Exchange Act, 15 U.S.C. 78f, requires national securities exchanges to register with the Commission and requires an exchange's registration to be approved by the Commission, and Section 19(b) of the Exchange Act, 15 U.S.C. 78s(b), requires national securities exchanges to file proposed rule changes with the Commission and provides the Commission with the authority to disapprove proposed rule changes that are not consistent with the Exchange Act. Designated Contract Markets (commonly called "futures markets") registered with and regulated by the CFTC must comply with, among other things, a similarly comprehensive range of regulatory principles and must file rule changes with the CFTC. See, e.g., Designated Contract Markets (DCMs), CFTC, available at <http://www.cftc.gov/IndustryOversight/TradingOrganizations/DCMs/index.htm>.

²⁵⁴ The Commission notes that the NYSDFS recently issued "guidance" to supervised virtual currency business entities, including the Gemini Exchange, stating that these entities must "implement measures designed to effectively detect, prevent, and respond to fraud, attempted fraud, and similar wrongdoing." See Maria T. Vulio, Superintendent of Financial Services, NYSDFS, *Guidance on Prevention of Market Manipulation and Other Wrongful Activity* (Feb. 7, 2018), available at <http://www.dfs.ny.gov/legal/industry/il180207.pdf>. This
(footnote continued...)

39

We attempted to address the lack of a comprehensive data source reflecting bitcoin trading in the Bitwise Study and the Bitwise White Paper. To further support this, we created and today maintain a stand-alone web site—www.bitcointradevolume.com—that captures on an ongoing basis the real spot bitcoin trading volume.

Of note, since the publication of the Bitwise Study, multiple online data providers have either fully embraced the findings of the Bitwise Study or have started moving in the direction of dramatically narrowing their understanding of which exchanges report real volume in the bitcoin market.

For instance, both Messari³⁰ and OpenMarketCap.com³¹ have fully embraced the ten exchanges that Bitwise identified as having real spot bitcoin trading volume, Nomics³² publicly supported the data as well. Even CoinMarketCap.com, the data sourced called out in the Bitwise Study, has engaged in significant efforts to improve and enhance its data transparency, and admitted that the core points made by the Bitwise Study were accurate.³³

³⁰ "Messari Rolls Out "Real 10" Volume Metrics After Study Reveals 95% Of Bitcoin Trading Volumes Are Fake," The Block, March 26, 2019. <https://www.theblockcrypto.com/tiny/messari-rolls-out-real-10-volume-metrics-after-study-reveals-95-of-bitcoin-trading-volumes-are-fake/>

³¹ OpenMarketCap.com, FAQ Question 2. <https://openmarketcap.com/exchanges/faq>

³² "Fake Volume, The Bitwise Report & What Nomics Is Doing about It," Flippening Podcast, April 19, 2019. <https://blog.nomics.com/flippening/fake-volume-bitwise-report-nathaniel-whitemore/>

³³ "Crypto Data Aggregator Says Concerns Over Inaccurate Data Are Accurate," Olga Kharif, Bloomberg, March 25, 2019. <https://www.bloomberg.com/news/articles/2019-03-25/crypto-aggregator-says-concerns-over-inaccurate-data-are-valid>

Even if the Gemini Exchange were “regulated,” the record would not support a conclusion that the Gemini Exchange conducts a significant volume of trading in bitcoin because there is no evidence in the record that there is a reasonable likelihood that a person attempting to manipulate the ETP would also have to trade on the Gemini Exchange (or any record evidence addressing how trading in the proposed ETP would or would not influence prices on the Gemini Exchange). Furthermore, there is insufficient evidence in the record to determine whether it is unlikely that trading in the ETP would be the predominant influence on prices on the Gemini Exchange. Indeed, if anything, the Gemini Auction size is currently so small that the proposed ETP could fundamentally affect supply and demand (and thus pricing) on the Gemini Exchange, not the other way around.²⁵⁵

The record thus includes at best uncertain information regarding the volume or liquidity of the Gemini Exchange, how the Gemini Exchange may influence the price of any ETP based on bitcoin, or how the existence of ETPs based on bitcoin may affect the Gemini Exchange. Commenters have provided varying estimates of the current and future volume of trading on the Gemini Exchange.²⁵⁶ Moreover, because bitcoin markets are still evolving in significant ways, and because there is no comprehensive data source reflecting bitcoin trading, it is not currently possible to state with confidence what share of volume any particular spot trading venue has captured or will capture.²⁵⁷ Bitcoin trading activity is dispersed across markets and OTC transactions worldwide, and there is no centralized, regulatory data source for bitcoin trading

(...footnote continued)

guidance was issued after the comment period for this proposed rule change ended, and there is nothing in the record regarding how this guidance has been implemented by the NYSDFS or by the affected entities.

²⁵⁵ See Section III.B.2(b), *supra*.

²⁵⁶ See *supra* notes 237–248 and accompanying text.

²⁵⁷ See also *supra* note 239 and accompanying text.

40

Conversations with leading market makers suggest that very little OTC volume is internally crossed and that most volume is settled "on exchange." Therefore, we believe that although some incremental volume may exist in the OTC or dark pool market, it is not a significant fraction of the global spot market for bitcoin, and counting it separately would amount mostly to "double counting."

statistics. Accordingly, any analysis of worldwide trading activity must use unofficial sources that gather and disseminate trading data, and even these sources cannot capture OTC transactions, or transactions that take place in what the Registration Statement characterizes as “dark pools.”²⁵⁸ Further, as discussed above,²⁵⁹ recent volume in the Gemini Auction is a fraction of the size of a creation unit of the Trust, and therefore the Commission does not agree with the assertion by BZX that the Gemini Auction would support the needs of Authorized Participants to engage in basket creation or redemption.

Finally, the comparison offered by the Overdahl Letter between the average trading volume on the Gemini Exchange and the average trading volume of the underlying assets of other ETPs is inapt.²⁶⁰ The issue here is not that the Gemini Exchange has low trading volume in an absolute sense but, rather, that the Trust would value its holdings using the Gemini Auction price, even though there is no basis in the record to find that the Gemini Auction represents a significant portion of worldwide bitcoin trading.²⁶¹

Therefore, the Commission cannot conclude that the surveillance-sharing agreement between BZX and the Gemini Exchange, even in combination with the other means of detecting and deterring fraud and manipulation discussed above,²⁶² is sufficient to find that the proposal is consistent with Exchange Act Section 6(b)(5).

²⁵⁸ Registration Statement, *supra* note 22, at 62. Additionally, while the Overdahl Letter asserts that, between September 21, 2016, and March 1, 2017, the Gemini Exchange accounted for 7.35% of the global USD-denominated bitcoin market, which does not include trading in bitcoin against other fiat currencies, *see supra* note 246 and accompanying text, the Overdahl Letter does not explain why the bitcoin-USD market—a subset of the global bitcoin market—is the appropriate measure when Authorized Participants in the Trust would be able to source their bitcoins through any market or OTC transaction.

²⁵⁹ *See supra* note 165 and accompanying text.

²⁶⁰ *See supra* note 248 and accompanying text.

²⁶¹ *See also infra* notes 263–268, 270 and accompanying text (summarizing commenters’ views that most bitcoin trading volume occurs outside the U.S. on unregulated exchanges).

²⁶² *See* Section III.C.2, *supra*.

Bitwise Has No Commentary On The Information On This Page

2. Other Bitcoin Spot Markets

(a) Summary of Comments Received

Several comment letters state that the majority of bitcoin trading occurs on exchanges outside the United States. One commenter claims that most daily trading volume is conducted on poorly capitalized, unregulated exchanges located outside the United States and that these non-U.S. exchanges and their practices significantly influence the price discovery process.²⁶³ Another commenter states that the biggest and most influential bitcoin exchange is located outside U.S. jurisdiction.²⁶⁴

One commenter states that, since 2013, the price of bitcoin has been defined mostly by the major Chinese exchanges, whose volumes dwarf those of exchanges outside China. According to the commenter, the Chinese exchanges are not regulated or audited and are suspected of engaging in unethical practices such as front-running, wash trades, and trading with insufficient funds. The commenter interprets pricing data from these Chinese exchanges to mean that the price of bitcoin is defined entirely by speculation, without any ties to fundamentals.²⁶⁵

One commenter claims that a sizeable number of traders and owners of bitcoin do not desire to trade in a well-regulated environment for reasons including tax evasion, evading capital controls, and money laundering. This commenter also states that U.S. bitcoin exchanges do not offer products such as fee-free trading, margin trading, or options, which drive traffic to the top non-U.S. exchanges. This commenter also claims that several Chinese exchanges actively engage

²⁶³ See Williams Letter, *supra* note 35, at 2.

²⁶⁴ See Anonymous Letter V, *supra* note 35.

²⁶⁵ See Stolfi Letter II, *supra* note 35.

41

Without commenting on the relevance of other ETF markets, the fact that price discovery in the bitcoin market takes place in the open in a market-based setting as opposed to an off-market, coordinated fix-price setting is a powerful way in which the bitcoin market is uniquely resistant to market manipulation. As noted in the Bitwise Study, many of the largest pricing scandals in the history of the commodity or currency markets stem from the use of coordinated fix pricing, including the LIBOR scandal of 2012, among others.

Certain risks come with the fact that bitcoin trades on exchange, but those risks must be weighed against the benefits that accrue to the exchange-traded nature of bitcoin as well.

in bitcoin mining operations, creating a conflict of interest, and notes that these exchanges are unaudited and unaccountable.²⁶⁶

One commenter observes that Chinese markets drive much of the volume in the bitcoin markets.²⁶⁷ Another commenter also claims that the Chinese exchanges that account for the bulk of trading are subject to little regulatory oversight and that existing know-your-customer or identity-verification measures are lax and can be easily bypassed.²⁶⁸

One commenter asserts that bitcoin is more transparent than the illiquid or opaque underlying assets of some other exchange-traded funds, because a large percentage of bitcoin transactions take place on electronic exchanges with actionable quotes and relatively tight bid/ask spreads and because transferring actual bitcoin between accounts at exchanges and other storage systems is also a transparent process, as transactions are printed using blockchain technology.²⁶⁹

BZX concedes in a comment letter that only a minority of the global spot bitcoin exchanges are subject to any regulatory regime.²⁷⁰ BZX also argues that, as the bitcoin exchange market has matured, a number of new entrants, including two New York limited-purpose trust companies, have emerged and that these new entrants have markedly changed the once-concentrated and non-regulated landscape of the bitcoin exchange market.²⁷¹

²⁶⁶ See Maher Letter, *supra* note 35; see also Johnson Letter, *supra* note 35; Anonymous Letter V, *supra* note 35.

²⁶⁷ See ARK Letter, *supra* note 35, at 5.

²⁶⁸ See Maher Letter, *supra* note 35.

²⁶⁹ See C&C Letter, *supra* note 36, at 2.

²⁷⁰ See BZX Letter I, *supra* note 35, at 2–3 (noting that only a minority of global bitcoin exchanges are fully regulated for their fiduciary and custodial activities, and naming Gemini Trust Company LLC and itBit Trust Company LLC as the only two exchange operators that are subject to substantive regulation, each overseen by the NYDFS).

²⁷¹ See BZX Letter II, *supra* note 13, at 15; see also Petition for Review, *supra* note 4, at 15.

Bitwise Has No Commentary On The Information On This Page

BZX and the Overdahl Letter note that the CFTC has designated bitcoin as a commodity and assert that the CFTC is “broadly responsible for the integrity” of bitcoin spot markets.²⁷² BZX acknowledges that the CFTC had not yet (as of the date of BZX’s submissions) brought any enforcement actions based on the anti-manipulation provisions of the Commodity Exchange Act,²⁷³ but notes that the CFTC has issued orders against U.S. and non-U.S. bitcoin exchanges for engaging in other activity prohibited by the Commodity Exchange Act and argues that, therefore, a regulatory framework for providing oversight and deterring market manipulation currently exists in the U.S.²⁷⁴

The Overdahl Letter asserts that any market can potentially be manipulated and states that this manipulation risk is why the CFTC and the Commission have anti-manipulation authority.²⁷⁵ The Overdahl Letter also asserts that a host of other jurisdictions, including the U.K., Australia, Hong Kong, Singapore, Indonesia, and Thailand, have established some form of “regulatory sandbox” for blockchain, the technology that underlies bitcoin. The Overdahl Letter further asserts that, in March 2016, the Japanese cabinet approved bills treating bitcoin and other digital currencies as forms of money and that, in April 2017, Japan’s parliament recognized bitcoin as an authorized method of payment. The Overdahl Letter claims that Japan regulates bitcoin as a form of prepaid payment and is approving regulated virtual-currency exchanges on which the Japanese regulator imposes capital, audit, and anti-money-laundering, and know-your-customer requirements. The Overdahl Letter concludes that, therefore, aside from the CFTC,

²⁷² See BZX Letter I, *supra* note 35, at 3; BZX Letter II, *supra* note 13, at 17; Overdahl Letter, *supra* note 36, at 2.

²⁷³ See BZX Letter I, *supra* note 35, at 3. The Commission notes that the CFTC has since obtained a federal court injunction against fraudulent activity related to “virtual currency.” See *CFTC v. McDonnell*, 287 F. Supp. 3d 213 (E.D.N.Y. 2018).

²⁷⁴ See BZX Letter I, *supra* note 35, at 3; BZX Letter II, *supra* note 13, at 18.

²⁷⁵ See Overdahl Letter, *supra* note 36, at 2, 9–10.

Bitwise Has No Commentary On The Information On This Page

another competent regulator with whom the Commission has a memorandum of understanding maintains a regulated bitcoin market.²⁷⁶

(b) Discussion

Based on the record before it, the Commission concludes that BZX has not shown that any of the current trading venues in the worldwide bitcoin spot market is a regulated market.

With respect to spot bitcoin trading outside the United States, BZX and commenters agree that the bulk of bitcoin trading has occurred in non-U.S. markets where there is little to no regulation governing trading,²⁷⁷ and thus no sufficient and verifiable governmental market oversight designed to detect and deter fraudulent and manipulative activity.²⁷⁸ And because no bitcoin spot market is currently a member of the Intermarket Surveillance Group, BZX is unable to use its membership in the Intermarket Surveillance Group to share surveillance information with those markets.²⁷⁹ Further, as noted above,²⁸⁰ the Bitcoin blockchain, while freely available to the public, identifies parties to a transaction only by a pseudonymous public-key address, and it does not distinguish bitcoin trading activity from other transfers of bitcoin, limiting its usefulness as a substitute for a surveillance-sharing agreement.

One commenter asserts that substantial trading volume has recently migrated away from Chinese exchanges in response to regulatory efforts by the Chinese government. But, according

²⁷⁶ See *id.* at 12–13.

²⁷⁷ See *supra* notes 263–268, 270 and accompanying text. The Commission also notes more recent reporting that a large portion of bitcoin trading volume continues to take place overseas, see, e.g., Russo, et al., *This Is Where People Are Buying Bitcoin All Over the World* (Jan. 11, 2018), <https://www.bloomberg.com/graphics/2017-bitcoin-volume/>, although such reports are unnecessary to the Commission’s finding, based on the record before it, that BZX has not shown that any of the current trading venues in the worldwide bitcoin spot market is a regulated market.

²⁷⁸ See *supra* notes 263–268 and accompanying text.

²⁷⁹ See <https://www.isgportal.org/isgPortal/public/members.htm> (listing the current members and affiliate members of the Intermarket Surveillance Group).

²⁸⁰ See Section III.C.2, *supra*.

Bitwise Has No Commentary On The Information On This Page

to statistics provided by other commenters,²⁸¹ a substantial majority of bitcoin trading continues to occur overseas,²⁸² and BZX concedes in a comment letter that only a minority of the global spot bitcoin exchanges are subject to any regulatory regime.²⁸³ Moreover, the Registration Statement for the Winklevoss Bitcoin Trust states:

The Bitcoin Exchanges on which bitcoin trades are new and, in most cases, largely unregulated. Furthermore, many Bitcoin Exchanges (including several of the most prominent U.S. Dollar-denominated Bitcoin Exchanges) do not provide the public with significant information regarding their ownership structure, management teams, corporate practices or regulatory compliance.²⁸⁴

Nor does the CFTC's oversight of bitcoin-derivative trading venues indicate that the CFTC is, as BZX and the Overdahl Letter argue, "broadly responsible for the integrity of the bitcoin spot market" or that the CFTC's enforcement powers with respect to spot trading mean that a "regulatory framework for providing oversight and deterring market manipulation currently exists in the United States."²⁸⁵ Spot bitcoin markets are not required to register with the CFTC, unless they offer leveraged, margined, or financed trading to retail customers.²⁸⁶ In all other cases, including the Gemini Exchange, the CFTC does not set standards for, approve the rules of, examine, or otherwise regulate bitcoin spot markets.²⁸⁷ As the CFTC itself has stated,

²⁸¹ See supra notes 243–244 and accompanying text.

²⁸² See, supra notes 244, 264–265, 267 and accompanying text.

²⁸³ See supra note 270 and accompanying text. While BZX asserts that the Gemini Exchange is a regulated market, as discussed above, the Commission does not agree with that assessment. See Section III.E.1(b), supra.

²⁸⁴ Registration Statement, supra note 22, at 22.

²⁸⁵ See supra notes 272–274 and accompanying text.

²⁸⁶ Commodity Exchange Act Section 2(c)(2)(D), 7 U.S.C. 2(c)(2)(D). See also Commodity Exchange Act Section 2(c)(2)(A)(i), 7 U.S.C. 2(c)(2)(A)(i) (defining CFTC jurisdiction to specifically cover contracts of sale of a commodity for future delivery (or options on such contracts), or an option on a commodity (other than foreign currency or a security or a group or index of securities), that is executed or traded on an organized exchange).

²⁸⁷ The Gemini Exchange is not registered with the CFTC.

42

The Federal Reserve Bank of San Francisco put out a useful Economic Letter in May 2018 that discussed the impact that the introduction of bitcoin futures had on the bitcoin spot market.

The paper's conclusion is worth noting:

*"We suggest that the rapid rise of the price of bitcoin and its decline following issuance of futures on the CME is consistent with pricing dynamics suggested elsewhere in financial theory and with previously observed trading behavior. Namely, optimists bid up the price before financial instruments are available to short the market (Fostel and Geanakoplos 2012). Once derivatives markets become sufficiently deep, short-selling pressure from pessimists leads to a sharp decline in value. While we understand some of the factors that play a role in determining the long-run price of bitcoin, our understanding of the transactional benefits of bitcoin is too imprecise to quantify this long-run price. But as speculative dynamics disappear from the bitcoin market, the transactional benefits are likely to be the factor that will drive valuation."*³⁴

³⁴ "How Futures Trading Changed Bitcoin Prices," Galina Hale, Arvind Krishnamurthy, Marianna Kudlyak, and Patrick Shultz, Federal Reserve Bank Of San Francisco, May 7, 2018.
<https://www.frbsf.org/economic-research/publications/economic-letter/2018/may/how-futures-trading-changed-bitcoin-prices/>

while the CFTC “has an important role to play,” U.S. law “does not provide for direct, comprehensive Federal oversight of underlying Bitcoin or virtual currency spot markets.”²⁸⁸

Additionally, establishment by foreign regulators of what one commenter called “regulatory sandboxes” for blockchain technology,²⁸⁹ or the regulation of bitcoin as a method of prepaid payment by others,²⁹⁰ is not a sufficient basis for concluding that bitcoin trades worldwide on regulated markets with which the listing exchange can enter into a surveillance-sharing agreement. There is no evidence in the record before the Commission that any “regulatory sandbox,” however defined, has created a comprehensive regulatory regime for bitcoin trading venues, and, as explained in greater detail above in the context of the Gemini Exchange,²⁹¹ a “regulated” market means a market that can detect and prevent fraud and manipulation under Exchange Act Section 6(b)(5).

3. The Derivatives Markets

(a) Summary of Comments Received

One commenter claims that the bitcoin markets are not yet efficient and attributes this inefficiency, in part, to the nascent state of the bitcoin derivatives market. This commenter states that derivatives provide investors more ways to hedge against bitcoin’s potential price movements, introduce more volume and liquidity, and generally give the markets more points of

²⁸⁸ CFTC Backgrounder, supra note 118, at 1. The Commission also notes the testimony of CFTC Chairman Giancarlo before the Senate Banking Committee that “the CFTC does not have authority to conduct regulatory oversight over spot virtual currency platforms or other cash commodities, including imposing registration requirements, surveillance and monitoring, transaction reporting, compliance with personnel conduct standards, customer education, capital adequacy, trading system safeguards, cyber security examinations or other requirements.” Giancarlo Testimony, supra note 117, Section I (CFTC Authority and Oversight Over Virtual Currencies). See also Section III.B.1(b)(iii), supra (discussing CFTC statutory authority over bitcoin derivatives products).

²⁸⁹ See supra note 276 and accompanying text.

²⁹⁰ Id.

²⁹¹ See Section III.E.1(b), supra.

43

The current size of both the bitcoin spot market and the bitcoin futures market, as well as historical data from past ETF launches, suggests that there is sufficient liquidity to support and facilitate new demand generated by the ETP. Moreover, Bitwise's use of pricing data representing substantially all of the global spot bitcoin volume means that Authorized Participants will feel comfortable drawing on all available liquidity sources. Additionally, the Bitwise White Paper showed that CME futures prices align closely with global spot prices, and that arbitrage exists between the two prices, meaning Authorized Participants can tap into the extensible liquidity of the futures market to hedge exposure as needed.

As an additional note: The Bitwise Study revealed that 95% of reported bitcoin trading volume was fake or non-economic in nature, and that for the period studied (March 4-9, 2019), real average daily spot trading volume in bitcoin was approximately \$273 million and not the \$6+ billion commonly reported. This led many to question whether bitcoin has sufficient liquidity to facilitate significant investment.

Such concerns are misplaced.

Bitcoin has been referred to by many as “digital gold,” and is widely considered a long-term store of value. Using data from the World Gold Council and the London Bullion Markets Association, the Bitwise Study showed that approximately 0.55% of all above-ground gold trades hands on the average day; by comparison, with \$273 million in real average daily volume during the March 4-9, 2019, time period studied, the Bitwise Study showed that 0.39% of bitcoin's market capitalization trades hands each day.

Once you get past the shock value of the notion that 95% of reported bitcoin volume is fake and/or non-economic in nature, the remaining market is revealed to be extremely efficient, resilient, and sufficiently robust to support significant investment.

information about bitcoin's future prospects, leading to tighter bid/ask spreads. The commenter claims that most derivatives activity within the bitcoin markets is offered by entities outside of the purview of U.S. regulators.²⁹² The commenter observes that the lack of a robust and regulated derivatives market means that market participants do not have a broad basket of tools at their disposal, making hedging difficult and keeping away many market makers that provide significant liquidity to traditional capital markets. The commenter claims that, while derivative products may be in development, a full suite of investor tools that will drive market efficiency and eliminate price disparities is likely at least a couple of years away.²⁹³ The commenter also states that, without a robust derivatives market for institutional investors to short the underlying asset or otherwise hedge their positions, there likely would be little counterbalance to the new demand generated by the ETP, and Authorized Participants could then have trouble sourcing bitcoin and hedging their positions, stalling the creation process.²⁹⁴ The commenter concludes that it would be premature to launch a bitcoin ETP because bitcoin markets are not liquid enough to support an open-end fund and because an ecosystem of institutional-grade infrastructure players is not yet available to support such a product.²⁹⁵

One commenter disagrees with assertions linking inefficient bitcoin markets to nascent derivatives markets, stating that no evidence has been provided regarding the would-be effect of derivatives on the bitcoin market. The commenter claims that these assertions assume that bitcoin pricing is inefficient, which the commenter claims is not the case. The commenter also

²⁹² See ARK Letter, *supra* note 35, at 5–6.

²⁹³ See *id.* at 6. This commenter also states that, within the United States, one market offers bitcoin forwards and no one currently offers regulated bitcoin futures or options, see *id.*, but, as discussed below, see *infra* notes 310–311 and accompanying text, futures on bitcoin have begun trading on regulated U.S. designated contract markets.

²⁹⁴ See ARK Letter, *supra* note 35, at 13–14.

²⁹⁵ See *id.* at 2.

44

The Lewis Letter was written in February 2017, ten months prior to the launch of the CME bitcoin futures. Its concerns around the ‘nascent’ derivatives market no longer apply.

The CME bitcoin futures market is now larger on a notional basis than all but one spot bitcoin exchange on most days, and at times, is in fact larger than all spot bitcoin exchanges. We believe that this futures market will be useful to Authorized Participants and market makers who would like to use derivatives to hedge exposure.

claims that these assertions assume that the lack of a derivatives market causes pricing to be inefficient, stating instead that there is direct evidence that many securities trade successfully and efficiently on U.S. and non-U.S. exchanges despite not having a direct derivatives market.²⁹⁶ The commenter also disagrees with the claim that, absent a robust derivatives market, there would be little counterbalance to the new demand generated by the ETP, stating that it is impossible to predict the success or failure of the ETP. The commenter states that Authorized Participants may be able to source bitcoin from China.²⁹⁷

Another commenter claims that there are several bitcoin futures markets that have a significant impact on the spot price along with several OTC markets—such as the one that this commenter claims was recently launched by the Gemini Exchange—that also offer liquidity.²⁹⁸

The Lewis Letter states that one of the key differences between bitcoin and other commodities is the lack of a liquid and transparent derivatives market and that, although there have been nascent attempts to establish derivatives trading in bitcoin, bitcoin derivatives markets are not at this time sufficiently liquid to be useful to Authorized Participants and market makers who would like to use derivatives to hedge exposures.²⁹⁹ The Lewis Letter claims that, for physical commodities that are not traded on exchanges, the presence of a liquid derivatives market is a necessary condition, but claims that for digital assets like bitcoin, derivatives markets are not necessary because price discovery occurs on the OTC market and exchanges instead.³⁰⁰

²⁹⁶ See Anonymous Letter IV, *supra* note 35. Several commenters also assert that regulation by BZX of activity in the ETP could substitute for a lack of regulation in underlying or derivatives markets. See, e.g., Baird Letter, *supra* note 35; Keeler Letter, *supra* note 35; Marchionne Letter, *supra* note 35; Bang Letter, *supra* note 35.

²⁹⁷ See Anonymous Letter IV, *supra* note 35.

²⁹⁸ See Dylan Letter, *supra* note 35, at 1.

²⁹⁹ See Lewis Letter I, *supra* note 65, at 8.

³⁰⁰ See *id.* at 8.

45

The Bitwise White Paper demonstrates that there is an intimate arbitrage relationship between prices of bitcoin futures trading on the CME and the global spot market for bitcoin. Significant discrepancies ($>1\%$) between the two prices are rare, and where they appear, are typically arbitrated away in less than 2 seconds.

We believe that the Commission has correctly identified the need for, value of, and definition of a surveilled derivatives market of significant size. The data suggest that, because the markets are so closely arbitrated, and because the CME futures market is so significant in size compared to the spot market, that there is a reasonable likelihood that a person attempting to manipulate the underlying bitcoin market would also have to trade in the CME futures market to succeed.

(b) Discussion

One commenter and the Lewis Letter assert that the existence of bitcoin derivative markets is not a necessary condition for a bitcoin ETP.³⁰¹ The key standard the Commission is applying here, however, is not that a futures or derivatives market is required for every commodity-trust ETP, but that—when the spot market is unregulated—the requirement of preventing fraudulent and manipulative acts may possibly be satisfied by showing that the ETP listing market has entered into a surveillance-sharing agreement with a regulated market of significant size in derivatives related to the underlying asset. That is because, where a market of significant size exists with respect to derivatives on the asset underlying a commodity-trust ETP, the Commission believes that there is a reasonable likelihood that a person attempting to manipulate the ETP by manipulating the underlying spot market would also have to trade in the derivatives market in order to succeed, since arbitrage between the derivative and spot markets would tend to counter an attempt to manipulate the spot market alone.³⁰² Thus, the Commission believes that there is a reasonable likelihood that a surveillance-sharing agreement with that derivatives market would assist the ETP listing market in detecting and deterring an attempt to manipulate the commodity-trust ETP.

As noted above, the commodity-trust ETPs previously approved by the Commission have had—in lieu of regulated spot markets of significant size—a regulated futures market of significant size associated with the underlying commodity, and the listing exchange had entered into a surveillance-sharing agreement with that futures market or was able to obtain surveillance

³⁰¹ See supra note 296 and accompanying text; Lewis Letter I, supra note 65, at 8.

³⁰² See also Section III.D.2(a), supra (discussion of Commission interpretation of the terms “significant market” and “market of significant size”).

Bitwise Has No Commentary On The Information On This Page

information through membership in the Intermarket Surveillance Group.³⁰³ Based on the record before it, the Commission cannot conclude that a regulated bitcoin futures market of significant size currently exists because, similar to the Gemini Exchange, there is no evidence in the record that there is a reasonable likelihood that a person attempting to manipulate the ETP would also have to trade on the bitcoin futures market, or any record evidence addressing how trading in the proposed ETP would or would not influence prices in the futures bitcoin market.

Consistent with the view of commenters summarized above, BZX's proposal describes the current derivative markets for bitcoin as "[n]ascent."³⁰⁴ BZX notes that certain types of options, futures, contracts for differences, and other derivative instruments are available in certain jurisdictions, but that many of them are not available in the United States and that these derivatives instruments are generally not regulated "to the degree that U.S. investors expect derivatives instruments to be regulated."³⁰⁵ BZX notes that the CFTC has approved the registration of TeraExchange LLC as a swap execution facility ("SEF") and that, on October 9, 2014, TeraExchange announced that it had hosted the first executed bitcoin swap traded on a CFTC-regulated platform.³⁰⁶ Further, BZX's proposal notes that, in 2015, CFTC temporarily registered another SEF that would trade swaps on bitcoin.³⁰⁷

The Commission acknowledges that TeraExchange, a market for swaps on bitcoin, has registered with the CFTC, but BZX's description of trading activity on that market fails to note that the very activity it cites was the subject of an enforcement action by the CFTC. The CFTC

³⁰³ See supra note 209 and accompanying text.

³⁰⁴ See Amendment No. 1, supra note 1, 81 FR at 76661.

³⁰⁵ See id.

³⁰⁶ See id.; see also ARK Letter, supra note 35, at 6 (noting that TeraExchange offers bitcoin forwards).

³⁰⁷ See Amendment No. 1, supra note 1, 81 FR at 76661 (referring to Ledger X LLC).

46

The bitcoin futures market has grown significantly since this time. In April 2019, the CME futures contract traded an average daily volume of more than 67,000 bitcoin (on a notional basis). This represents a roughly 630% increase over the median daily notional trading volume on CME from inception through April 24, 2018, the period quoted in the Winklevoss Order.

More critically, however, the Bitwise Study revealed that the size of this market must be weighed against the real size of the spot bitcoin market and not the artificially inflated reported size. For instance, during April 2019, popular crypto aggregators like CoinMarketCap.com reported an average daily volume of more than 2.2 million bitcoin, but the real average daily spot volume was roughly 108,000 bitcoin. This situation, where more than 95% of all reported volume is fake, is normal in the bitcoin market, as the Bitwise Study showed.

The use of the correct denominator is critical in evaluating the significance (or not) of the futures market.

found that TeraExchange had improperly arranged for participants to make prearranged, offsetting “wash” transactions of the same price, notional amount, and time period and had then issued a press release “to create the impression of actual trading in the Bitcoin swap.”³⁰⁸ Neither BZX nor any commenter provides evidence of meaningful trading volume in bitcoin derivatives on any regulated marketplace.

The CFTC has also registered LedgerX, a venue for trading bitcoin derivatives, as a SEF and a Derivatives Clearing Organization.³⁰⁹ Additionally, on December 1, 2017, the CFE and the CME self-certified new contracts with the CFTC for bitcoin futures contracts.³¹⁰ CFE launched trading in its bitcoin futures contracts on December 10, 2017, and CME launched trading in its bitcoin futures contracts on December 17, 2017 (for a trade date of December 18, 2017).³¹¹

The record before the Commission, however, does not establish that the bitcoin derivatives markets are regulated markets of significant size. The record also does not establish how these markets may influence the price of any ETP based on bitcoin or how the existence of ETPs based on bitcoin may affect these markets. Publicly available data show that the median daily notional trading volume, from inception through April 24, 2018, has been 9,180 bitcoins on CME and 5,440 bitcoins on CFE, and that the median daily notional value of open interest on

³⁰⁸ See TeraExchange Settlement Order, *supra* note 93.

³⁰⁹ See Order of Registration in the Matter of the Application of LedgerX LLC for Registration as a Swap Execution Facility (CFTC July 6, 2017), available at <http://www.cftc.gov/idx/groups/public/@otherif/documents/ifdocs/orgledgerxord170706.pdf>; Order of Registration in the Matter of the Application of LedgerX, LLC for Registration as a Derivatives Clearing Organization (CFTC July 24, 2017), available at <http://www.cftc.gov/idx/groups/public/@otherif/documents/ifdocs/ledgerxdcoregorder72417.pdf>.

³¹⁰ See Letter from Andrew Lowenthal, Senior Managing Director, CFE to Christopher J. Kirkpatrick, Secretary, CFTC (Dec. 1, 2017), available at <http://www.cftc.gov/filings/ptc/ptc120117cfedcm001.pdf>; Letter from Christopher Bowen, Managing Director and Chief Regulatory Counsel, CME Group to Christopher J. Kirkpatrick, Office of the Secretariat, CFTC (Dec. 1, 2017), available at <http://www.cftc.gov/filings/ptc/ptc120117cmedcm001.pdf>.

³¹¹ The Commission notes that the Cantor Exchange has also self-certified bitcoin binary options, see CFTC Backgrounder, *supra* note 118, at 2, but this product has not yet begun to trade.

47

At the time these comments were prepared, bitcoin futures volume was consistently less than 10% (and often much less than 10%) the size of the global spot volume of bitcoin. Since February 2019, that figure has consistently averaged more than 25%, as highlighted in the Bitwise Study, and more than 50% in May 2019, as highlighted in the Bitwise White Paper.³⁵

Also, and importantly, Concannon's comment is directed at the idea of a bitcoin futures ETP. The Bitwise Trust proposes holding actual bitcoin with the futures market playing a supportive role in helping market makers facilitate liquidity in the Trust by using those futures as a hedging vehicle.

³⁵ The Commission can compare bitcoin futures volume to total global spot volume on the web site www.bitcointradevolume.com.

CME and CFE during the same period has been 7,875 bitcoins and 5,787 bitcoins, respectively.³¹² For all bitcoin contracts traded on LedgerX from inception through April 24, 2018, publicly available data show that the median daily notional volume has been 55 bitcoins and that the median daily notional value of open interest has been 663 bitcoins.³¹³ But while these futures and derivative contract figures are readily available, meaningful analysis of the size of the CME, CFE, and LedgerX markets relative to the underlying bitcoin spot market is challenging, because reliable data about the spot market, including its overall size, are unavailable.³¹⁴ The Commission notes that in recent testimony CFTC Chairman Giancarlo characterized the volume of the bitcoin futures markets as “quite small.”³¹⁵ The Commission also notes that the President and COO of Cboe recently acknowledged in a letter to the Commission staff that “the current bitcoin futures trading volumes on Cboe Futures Exchange and CME may not currently be sufficient to support ETPs seeking 100% long or short exposure to bitcoin.”³¹⁶ These statements reinforce the Commission’s conclusion that there is insufficient evidence to determine that the bitcoin derivatives markets are significant.

³¹² These futures volume figures were calculated by Commission staff using data published by CME and CFE on their websites.

³¹³ These derivative contract volume figures were calculated by Commission staff using data published by LedgerX on its website.

³¹⁴ See Section III.B.1(b)(i), *supra*.

³¹⁵ CFTC Chairman Giancarlo testified: “It is important to put the new Bitcoin futures market in perspective. It is quite small with open interest at the CME of 6,695 bitcoin and at Cboe Futures Exchange (Cboe) of 5,569 bitcoin (as of Feb. 2, 2018). At a price of approximately \$7,700 per Bitcoin, this represents a notional amount of about \$94 million. In comparison, the notional amount of the open interest in CME’s WTI crude oil futures was more than one thousand times greater, about \$170 billion (2,600,000 contracts) as of Feb[.] 2, 2018 and the notional amount represented by the open interest of Comex gold futures was about \$74 billion (549,000 contracts).” Giancarlo Testimony, *supra* note 117, text accompanying nn.14–15.

³¹⁶ Letter from Chris Concannon, President and COO, Cboe Global Markets, to Dalia Blass, Director, Division of Investment Management, Commission, at 5 (Mar. 23, 2018), available at <https://www.sec.gov/divisions/investment/cboe-global-markets-innovation-cryptocurrency.pdf>.

48

The Bitwise Study and the Bitwise White Paper provided data showing that bitcoin futures volume expressed as a percentage of the global spot bitcoin market has grown significantly and has showcased strong staying power and steady volumes. The bitcoin futures market has captured 10% of the value of the global spot bitcoin market in every month since April 2018, and as discussed, has recently been approximately 50% the size of the spot bitcoin market .

The Commission was correct to want more evidence of the growth and staying power of the bitcoin futures market at the time the Winklevoss Order was written, and that evidence now exists.

Thus, while LedgerX, CME, and CFE are regulated markets for bitcoin derivatives, there is no basis in the record for the Commission to conclude that these markets are of significant size. Additionally, because bitcoin futures have been trading on CME and CFE only since December 2017, the Commission has no basis on which to predict how these markets may grow or develop over time, or whether or when they may reach significant size.

Although BZX has not demonstrated that a regulated bitcoin futures market of significant size currently exists, the Commission is not suggesting that the development of such a market would automatically require approval of a proposed rule change seeking to list and trade shares of an ETP holding bitcoins as an asset. The Commission would need to analyze the facts and circumstances of any particular proposal and examine whether any unique features of a bitcoin futures market would warrant further analysis before approval.

F. The Protection of Investors and the Public Interest

BZX contends that, if approved, its ETP would protect investors and promote the public interest, but the Commission finds that BZX has not made such a showing on the current record. The Commission must consider any potential benefits in the broader context of whether the proposal meets each of the applicable requirements of the Exchange Act. And because BZX has not demonstrated that its proposed rule change is designed to prevent fraudulent and manipulative acts and practices, the Commission must disapprove the proposal.

1. Summary of Comments Received

Several commenters asserted that access to bitcoin through an ETP would extend regulatory protections to investors. One commenter asserts that, if the U.S. were to approve an ETP and bring regulatory standards and oversight to cryptocurrencies, investors would not see major problems as they did with the Bitfinex and Mt. Gox hacks and that, if the ETP were not

Bitwise Has No Commentary On The Information On This Page

approved, investors would be forced to use those less-than-ideal exchanges.³¹⁷ One commenter asserts that the alternative to a regulated ETP is investors having to purchase bitcoin at unregulated exchanges lacking SEC oversight.³¹⁸ One commenter asserts that disapproval of the ETP would create a more risky environment for investors, who will not have the option of investing through regulated exchanges.³¹⁹ One commenter argues that, because of the use of an auction process to determine NAV, the use of well-known and respected Authorized Participants, and the environment that allows market participants to use arbitrage techniques to hold pricing where it should be, the risk to investors who invest in the ETP may be lower than the risk borne by those who buy or sell bitcoin directly.³²⁰ And another commenter asserts that, with innovative use cases emerging for bitcoin and for the associated technology of blockchain each passing day, investors seeking exposure to bitcoin should have options similar to those currently available for physical bullion.³²¹

BZX argues that the Shares would significantly reduce or eliminate costs and inefficiencies and would expand opportunities for investors by providing an inexpensive vehicle to gain exposure to bitcoin in a secure and easily accessible product that is familiar, transparent, and meaningfully regulated.³²² BZX asserts that, for prospective investors in bitcoin, direct investment brings with it significant inconvenience, complexity, expense, and risk. As investor

³¹⁷ See Baird Letter, *supra* note 35. Bitfinex and Mt. Gox are bitcoin trading venues that have reportedly suffered significant losses from hacking. See Nathaniel Popper and Rachel Abrams, *Apparent Theft at Mt. Gox Shakes Bitcoin World*, The New York Times (Feb. 25, 2014), available at <https://www.nytimes.com/2014/02/25/business/apparent-theft-at-mt-gox-shakes-bitcoin-world.html>; Amie Tsang, *Bitcoin Plunges After Hacking of Exchange in Hong Kong*, The New York Times (Aug. 3, 2016), available at <https://www.nytimes.com/2016/08/04/business/dealbook/bitcoin-bitfinex-hacked.html>.

³¹⁸ See Keeler Letter, *supra* note 35.

³¹⁹ See Bang Letter, *supra* note 35.

³²⁰ See Convergen Letter, *supra* note 36, at 2.

³²¹ See Virtu Letter, *supra* note 36, at 2.

³²² See BZX Letter II, *supra* note 13, at 8.

Bitwise Has No Commentary On The Information On This Page

demand for exposure to bitcoin continues to increase, BZX asserts, these problems grow larger. BZX argues that the Shares would significantly reduce or completely remove each of these hurdles.³²³ BZX also argues that Commission should approve the proposal because Commission oversight of the trading of the ETP shares on a national securities exchange would enhance the transparency of the underlying bitcoin markets.³²⁴ BZX also asserts that the Gemini Exchange is uniquely positioned, because of its regulatory status and licensing, to be a venue on which traditional financial institutions will be comfortable transacting in bitcoin, and BZX posits that these financial institutions provide a bridge to the equities markets and other capital markets, improving price discovery, liquidity, and transparency.³²⁵

The Overdahl Letter asserts that the approval of the proposed bitcoin ETP would facilitate a cost-effective and convenient means for investors to gain exposure to bitcoin similar to a direct investment in bitcoin, improving portfolio diversification opportunities for investors, and would help make bitcoin markets more transparent.³²⁶ The Overdahl Letter also argues that a bitcoin ETP will protect current investors in bitcoin by providing regulatory certainty.³²⁷ The Overdahl Letter predicts that the availability of a bitcoin ETP would help attract professional market makers to the spot market, as well as the market for bitcoin ETPs, and that the presence of these professional market makers would add to the resilience of the spot price on the

³²³ See id. at 3, 8.

³²⁴ See id. at 17; Petition for Review, supra note 4, at 16; Overdahl Letter, supra note 36, at 13; Virtu Letter, supra note 36, at 2.

³²⁵ See BZX Letter II, supra note 13, at 20–21.

³²⁶ See Overdahl Letter, supra note 36, at 13.

³²⁷ See Overdahl Letter, supra note 36, at 13.

Bitwise Has No Commentary On The Information On This Page

exchange, improve liquidity and other measures of market quality, and promote trading volume at the exchange.³²⁸

The Lewis Letter asserts that bitcoin is relatively uncorrelated with other assets, enabling investors to construct more efficient portfolios.³²⁹ BZX and the Lewis Letter also assert that listing the shares on a national securities exchange and a shift from OTC trading to trading on exchanges would make the overall bitcoin market more transparent.³³⁰ Similarly, one commenter asserts that trading in the Shares and the adoption of best practices, such as IIV and NAV dissemination, will enhance the resiliency and efficiency of the market for bitcoin.³³¹

One commenter believes that lack of regulation and consumer protection also increases the chance and incentives for market price manipulation and states that approving the ETP before structural protections and controls are firmly in place would put investors at undue risk.³³² This commenter asserts that several fundamental flaws make bitcoin a dangerous asset class to force into an exchange-traded structure, including shallow trade volume, extreme hoarding, low liquidity, hyper price volatility, a global web of unregulated bucket-shop exchanges, high bankruptcy risk, and oversized exposure to trading in countries where there is no regulatory oversight.³³³

³²⁸ See Overdahl Letter, *supra* note 36, at 3, 8.

³²⁹ See Lewis Letter I, *supra* note 65, at 11–16.

³³⁰ See *id.* at 7. See also Petition for Review, *supra* note 4, at 16.

³³¹ See Virtu Letter, *supra* note 36, at 2.

³³² See Williams Letter, *supra* note 35, at 2–3.

³³³ See *id.* at 1.

49

We agree fully with this analysis. It is true that the launch of a bitcoin ETP would provide many benefits to the bitcoin market and potential benefits to investors. We also believe that the launch of a bitcoin ETP would be supportive of the U.S. cryptoasset ecosystem, which may have important long-term economic advantages for the U.S. from a competitiveness standpoint, and note that bitcoin ETPs have already been approved on both the Nasdaq Nordic exchange in Sweden and the Six Swiss Exchange in Switzerland. Notwithstanding all that, it is critical and primary that any bitcoin ETP proposal meet each of the applicable requirements of the Exchange Act prior to approval, and we appreciate the Commission's focus on this priority.

2. Discussion

BZX, the Overdahl Letter, and other commenters assert that investment in bitcoin through a ETP would reduce the expense, complexity, and risk of bitcoin exposure.³³⁴ BZX, the Overdahl Letter, and the Lewis Letter further assert that approval of the Winklevoss Bitcoin Trust would make bitcoin markets more transparent,³³⁵ and the Overdahl Letter argues that approval of the proposal would protect investors by providing regulatory certainty.³³⁶ Additionally, the Overdahl Letter and Lewis Letter argue that approval of the proposal would improve the availability of investment and portfolio diversification opportunities for investors.³³⁷

The Commission acknowledges that each of these is a potential benefit of a bitcoin ETP. The Commission, however, must consider these potential benefits in the broader context of whether the proposal meets each of the applicable requirements of the Exchange Act. Pursuant to Section 19(b)(2) of the Exchange Act, the Commission must disapprove a proposed rule change filed by a national securities exchange if it does not find that the proposed rule change is consistent with the applicable requirements of the Exchange Act—including the requirement under Section 6(b)(5) that the rules of a national securities exchange be designed to prevent fraudulent and manipulative acts and practices.³³⁸ Thus, even if a proposed rule change would provide certain benefits to investors and the markets, the proposed rule change may still fail to meet other requirements under the Exchange Act.³³⁹ For the reasons discussed above, BZX has

³³⁴ See Section III.F.1, *supra*.

³³⁵ See *supra* notes 324–326, 330 and accompanying text.

³³⁶ See *supra* note 327 and accompanying text.

³³⁷ See *supra* notes 326, 329 and accompanying text.

³³⁸ See Exchange Act Section 19(b)(2)(C), 15 U.S.C. 78s(b)(2)(C).

³³⁹ The Commission also notes that, according to the Trust's Registration Statement, investors in the Trust would still be subject to some of the risks of holding bitcoin directly. See Registration Statement, *supra* note 22, at 29 ("Security breaches, 'cyber attacks,' computer malware and computer hacking attacks have been a prevalent (footnote continued...)")

Bitwise Has No Commentary On The Information On This Page

not met its burden of demonstrating an adequate basis in the record for the Commission to find that the proposal is consistent with Exchange Act Section 6(b)(5),³⁴⁰ and, accordingly, the Commission must disapprove the proposal.

G. Additional Factors Supporting Disapproval

As addressed in detail above, the Commission is disapproving the proposed rule change because BZX has not met its burden to demonstrate that its proposal is consistent with Exchange Act Section 6(b)(5). BZX has neither entered into surveillance-sharing agreements with regulated, bitcoin-related markets of significant size nor demonstrated that alternative means of compliance with Exchange Act Section 6(b)(5) would be sufficient. Because BZX has failed to carry its burden, the proposed rule change must be disapproved.

The Commission also notes several inconsistencies between the BZX's proposed rule change and the Trust's Registration Statement that reinforce the need to disapprove BZX's proposal. For example, in its proposal, BZX points to the following factors that, in its view, weigh in favor of approval. Those factors include "the liquidity of the market in the underlying commodity," "the trading volume in derivatives based on the underlying commodity," "listing exchange rules and procedures prohibiting use of material nonpublic information," and "listing exchange rules regarding trading halts."³⁴¹ But those factors cannot be reconciled with BZX's current proposal and thus provide independent confirmation that the proposed rule change must be disapproved.

(...footnote continued)

concern in the Bitcoin Exchange Market since the launch of the Bitcoin Network. Any cyber security breach caused by hacking ... could harm the Trust's business operations or result in loss of the Trust's assets.").

³⁴⁰ 15 U.S.C. 78f(b)(5).

³⁴¹ Petition for Review, *supra* note 4, at 6–7 & n.17; see also BZX Letter II, *supra* note 13, at 22–25.

50

The Bitwise Trust's Amended S-1 discloses certain risks regarding the underlying exchanges as well, including that: 1) "[d]isruptions at bitcoin trading platforms (including in the OTC market and on exchanges) could adversely affect the availability of bitcoin and the ability of Authorized Participants to purchase or sell bitcoin and therefore their ability to create and redeem shares of the Trust" and that 2) "[b]itcoin exchanges on which bitcoin trades are relatively new and, in some cases, largely unregulated, and, therefore, may be more exposed to fraud and security breaches than established, regulated exchanges for other financial assets or instruments, which could have a negative impact on the performance of the Trust."

These risks are best considered independently.

Regarding risk 1, the Bitwise Trust's NAV methodology, as well as the Trust's overall design, is specifically designed to mitigate against this risk having a disruptive influence. For example, the fact that the Trust's NAV incorporates prices from a large number of spot bitcoin exchanges—and at the same time, has a provision that allows the overseeing Bitwise Crypto Index Committee to remove an exchange from contributing prices in scenarios where it faces a disruption—ensures that the Trust's NAV always draws prices from exchanges trading at a globally integrated price, and that APs are able to draw liquidity from those exchanges. While the history of bitcoin has many instances where trading has been disrupted at individual exchanges, there is no history of systemic disruptions across all exchanges at the same time in the modern evolution of the bitcoin market. As a result, the Trust's NAV process is optimized to facilitate liquidity from APs.

(Note: Were there a case where all exchanges suffered a simultaneous outage, the Trust would likely halt creations and redemptions temporarily, in much the same way that the VanEck Vectors Egypt ETF (EGPT) halted creations during the Arab Spring uprising, when the underlying Egyptian Stock Exchange was closed.)

Regarding Risk 2, it is true that bitcoin exchanges are relatively new compared to traditional national securities exchanges or futures exchanges. Further, as indicated in the Bitwise Study, we agree that the regulation of bitcoin exchanges varies and is not *pari passu* with the regulation of national securities exchanges. However, this is not to say that existing bitcoin spot exchanges are entirely unregulated or that they are immature; as explored in the Bitwise Study, the Bitwise White Paper and this document, many bitcoin spot exchanges face significant regulation and are well-capitalized. While the failure or any individual exchange could have a negative impact on the

bitcoin market in general, the Trust is designed in such a way as to mitigate the idiosyncratic impact that such failure would have on the Trust, its NAV, or the Trust's holdings.

Importantly, the Trust handles all creations and redemptions in-kind, and custodies all assets at a regulated, third-party custodian. As such, the Trust never has assets held "on exchange" that could be subject to loss through a security breach at that exchange.

The concern identified by this risk is that issues at a large bitcoin exchange could "slow the adoption of bitcoin" or weaken confidence and therefore have a negative impact on the price of bitcoin. We believe that this is a compensated risk, and that there is a countervailing potential benefit, namely that the maturation of the bitcoin trading ecosystem could lead to increasing confidence in and more rapid adoption of bitcoin. As such, while this is a risk worth being aware of, it is likely a risk that many bitcoin investors may want exposure to. Further, it has no idiosyncratic risk that is specific to the Trust, and is fully disclosed.

Liquidity of bitcoin markets. The Trust's Registration Statement concedes that underlying bitcoin markets are insufficiently liquid to protect against credible threats to those markets' integrity. The Trust's Registration Statement, for example, acknowledges that "operational interruption" in large bitcoin exchanges "may limit the liquidity of bitcoin" and "result in volatile prices and a reduction in confidence" and that "[t]rading on a single Bitcoin Exchange may result in less favorable prices and decreased liquidity."³⁴² The Trust's characterizations of the bitcoin markets contrast with, for example, the over-the-counter gold market, which the Commission noted had "unique liquidity and depth."³⁴³ This factor accordingly weighs against approval of the proposed rule change.

Trading volume in derivatives based on the underlying commodity. The Trust's Registration Statement recognizes that bitcoin derivatives markets are nascent and insufficiently developed in regulated marketplaces to serve meaningful purposes such as, for example, providing investors with credible information regarding bitcoin's future prospects.³⁴⁴ As the Trust's Registration Statement acknowledges, "[a] limited market currently exists for bitcoin-based derivatives."³⁴⁵ As explained above, the market for bitcoin-based derivatives is not yet well developed.³⁴⁶ That differs, for example, from platinum and palladium markets, where futures products on those metals had been trading for several decades before commodity-trust ETPs were launched, and where the Commission has noted that exchanges are able to adequately

³⁴² Registration Statement, supra note 22, at 22.

³⁴³ Gold Order, supra note 197, 69 FR at 64619.

³⁴⁴ See Section III.E.3(a), supra.

³⁴⁵ Registration Statement, supra note 22, at 59.

³⁴⁶ See Section III.E.3(b), supra.

Bitwise Has No Commentary On The Information On This Page

“obtain information regarding trading” in regulated derivatives. This factor accordingly weighs against approval of the proposed rule change.

Listing exchange rules and procedures prohibiting use of material nonpublic information.

Regardless of BZX’s rules and procedures regarding insider trading, many underlying bitcoin markets are, at present, opaque.³⁴⁷ According to the Trust’s Registration Statement, for example, “[m]any Bitcoin Exchanges do not provide the public with significant information regarding their ownership structure, management teams, corporate practices or regulatory compliance.”³⁴⁸ The Trust itself thus recognizes that there is a significant risk that material nonpublic information may be used in a manner that could affect bitcoin prices and, in turn, any ETP using bitcoin as an underlying asset. This factor weighs against approval of the proposed rule change.

Listing exchange rules regarding trading halts. Regardless of BZX’s rules regarding trading halts, BZX has not explained how it will respond to disruptions in trading in underlying bitcoin markets.³⁴⁹ The Trust’s Registration Statement acknowledges the unusual and severe nature of such trading halts in bitcoin, noting that “[e]ven the largest Bitcoin Exchanges have been subject to operational interruption (e.g., the temporary shutdown of Mt. Gox due to distributed denial of service attacks (‘DDoS’) attacks by hackers and/or malware, and its permanent closure in February 2014).”³⁵⁰ Moreover, as one commenter noted, the Gemini Auction has failed on at least two occasions.³⁵¹ Such trading halts could result in volatile prices

³⁴⁷ See Section III.B.1, *supra*.

³⁴⁸ Registration Statement, *supra* note 22, at 61.

³⁴⁹ See Section II, *supra*.

³⁵⁰ Registration Statement, *supra* note 22, at 22.

³⁵¹ See *supra* note 148 and accompanying text.

Bitwise Has No Commentary On The Information On This Page

and reduced confidence in any ETP that uses bitcoin as an underlying asset. Accordingly, this factor weighs against approval of the proposed rule change.

H. Other Comments

Comment letters also addressed the following topics:³⁵²

- the nature and uses of bitcoin;³⁵³
- the state of development of bitcoin as a digital asset;³⁵⁴
- the use of bitcoin for illegal activities;³⁵⁵
- the inherent value of, and risks of investing in, bitcoin;³⁵⁶
- the cost of electricity required to maintain the Bitcoin network;³⁵⁷
- the desire of investors to gain access to bitcoin through an ETP;³⁵⁸

³⁵² The Commission also received comments expressing support for the proposal, without articulating any argument in favor of the proposal. See Barraza Letter, supra note 35; Shad Letter, supra note 35.

³⁵³ See Stolfi Letter I, supra note 35; Stolfi Letter II, supra note 35; Chronakis Letter, supra note 35; Anonymous Letter VII, supra note 35.

³⁵⁴ See Stolfi Letter II, supra note 35; Barish Letter IV, supra note 35; ARK Letter, supra note 35; Lee Letter, supra note 35; Chronakis Letter, supra note 35; Struna Letter, supra note 35; Johnson Letter, supra note 35; Anonymous Letter V, supra note 35; Whitman Letter, supra note 35; Anonymous Letter VI, supra note 35; Barish Letter II, supra note 35; Ackerman Letter, supra note 35; Medina Letter, supra note 35; Paslaqua Letter, supra note 35; BZX Letter II, supra note 13, at 7–8.

³⁵⁵ See Xin Lu Letter, supra note 35; Anonymous Letter VI, supra note 35; Harris Letter, supra note 36, at 2.

³⁵⁶ See Stolfi Letter I, supra note 35; Stolfi Letter II, supra note 35; Shatto Letter, supra note 35; Lethuillier Letter, supra note 35; Delchanty Letter, supra note 35; Xin Lu Letter, supra note 35; Neidhardt Letter, supra note 35; XBT Letter, supra note 35; Williams Letter, supra note 35; ARK Letter, supra note 35; Kim Letter, supra note 35; Dalla Val Letter, supra note 35; Paneque Letter, supra note 35; Lee Letter, supra note 35; Chronakis Letter, supra note 35; Struna Letter, supra note 35; Johnson Letter, supra note 35; Whitman Letter, supra note 35; Primm Letter, supra note 35; Anonymous Letter VI, supra note 35; Barish Letter III, supra note 35; Barish Letter V, supra note 35; Anonymous Letter VII, supra note 35; Ackerman Letter, supra note 35; Paslaqua Letter, supra note 35; Harris Letter, supra note 36, at 2.

³⁵⁷ See Harris Letter, supra note 36, at 2.

³⁵⁸ See R.D. Miller Letter, supra note 35; R. Miller Letter, supra note 35; Hall Letter, supra note 35; Keeler Letter, supra note 35; Lethuillier Letter, supra note 35, at 2; Anonymous Letter I, supra note 35; Herbert Letter, supra note 35; Fernandez Letter, supra note 35; Tomaselli Letter, supra note 35; Circle Letter, supra note 35; Baird Letter, supra note 35; Stolfi Letter I, supra note 35; Anderson Letter, supra note 35; P. Miller Letter, supra note 35; Swiderski Letter, supra note 35; Situation Letter, supra note 35; Paneque Letter, supra note 35; Nootenboom Letter, supra note 35; Chronakis Letter, supra note 35; Turley Letter, supra note 35; Kemble Letter, supra note 35; BZX Letter II, supra note 13, at 3, 8.

Bitwise Has No Commentary On The Information On This Page

- investor understanding about bitcoin;³⁵⁹
- the appropriate measures for the Trust to secure its bitcoin holdings against theft or loss;³⁶⁰
- whether the Trust should insure its bitcoin holdings against theft or loss;³⁶¹
- the adequacy of the Trust's procedures for handling potential "forks" in the bitcoin blockchain;³⁶²
- the blockchain treatment of positions in the Shares, including short positions or derivative positions;³⁶³
- the potential conflicts of interest related to the affiliations among the Sponsor, the Custodian, and the Gemini Exchange;³⁶⁴
- the legitimacy or enhanced regulatory protection that Commission approval of the proposed ETP might confer upon bitcoin as a digital asset;³⁶⁵ and
- the value to the Commission of enhanced oversight over bitcoin markets from approving the proposal.³⁶⁶

³⁵⁹ See Harris Letter, *supra* note 36, at 1.

³⁶⁰ See Barish Letter I, *supra* note 35; Barish Letter IV, *supra* note 35; Neidhardt Letter, *supra* note 35; Dylan Letter, *supra* note 35; Keeler Letter, *supra* note 35; Casey Letter I, *supra* note 35; Aronesty Letter, *supra* note 35; ARK Letter, *supra* note 35, at 10–11; Tull Letter, *supra* note 35; Stolfi Letter I, *supra* note 35; Stolfi Letter II, *supra* note 35; Anonymous Letter I, *supra* note 35; Lethuillier Letter, *supra* note 35, at 2–3; Delehanty Letter, *supra* note 35; Casey Letter II, *supra* note 35; Anonymous Letter IV, *supra* note 35; BZX Letter I, *supra* note 35, at 3, 6–7; Struna Letter, *supra* note 35.

³⁶¹ See Lethuillier Letter, *supra* note 35, at 2–3; Aronesty Letter, *supra* note 35; Delehanty Letter, *supra* note 35; XBT Letter, *supra* note 35; ARK Letter, *supra* note 35, at 10–11; Anonymous Letter IV, *supra* note 35; BZX Letter I, *supra* note 35, at 6–7.

³⁶² See Schulte Letter, *supra* note 35.

³⁶³ See Anonymous Letter II, *supra* note 35, at 3; Tull Letter, *supra* note 35.

³⁶⁴ See XBT Letter, *supra* note 35; Tull Letter, *supra* note 35; Stolfi Letter II, *supra* note 35; ARK Letter, *supra* note 35, at 9–10; Anonymous Letter III, *supra* note 35; BZX Letter I, *supra* note 35, at 5–6; Harris Letter, *supra* note 36.

³⁶⁵ See Stolfi Letter I, *supra* note 35; Circle Letter, *supra* note 35; Kim Letter, *supra* note 35; Delehanty Letter, *supra* note 35; Baird Letter, *supra* note 35; Anonymous Letter II, *supra* note 35, at 3; Keeler Letter, *supra* note 35; Dalla Val Letter, *supra* note 35; Elron Letter, *supra* note 35; P. Miller Letter, *supra* note 35; Marchionne Letter, *supra* note 35; Situation Letter, *supra* note 35; Paneque Letter, *supra* note 35; Nootenboom Letter, *supra* note 35; Chronakis Letter, *supra* note 35; Johnson Letter, *supra* note 35; Bang Letter, *supra* note 35; Primm Letter, *supra* note 35; Christensen Letter, *supra* note 35; Rigsby Letter, *supra* note 35.

³⁶⁶ See Convergenx Letter, *supra* note 36, at 2.

Bitwise Has No Commentary On The Information On This Page

Ultimately, however, additional discussion of these tangential topics is unnecessary, as they do not bear on the basis for the Commission's decision to disapprove BZX's proposal.³⁶⁷

I. Basis for Disapproval

As discussed above,³⁶⁸ the central factor for the Commission in its current consideration of the BZX proposal is whether it is consistent with Exchange Act Section 6(b)(5), which requires, among other things, that the rules of a national securities exchange be designed to prevent fraudulent and manipulative acts and practices and to protect investors and the public interest.³⁶⁹ Although BZX argues that its proposal can satisfy these requirements because bitcoin markets are inherently difficult to manipulate,³⁷⁰ and because alternative means of identifying fraud and manipulation would be sufficient,³⁷¹ the Commission concludes that, as discussed above, BZX has not established that these proffered means of compliance—alone or in combination—are sufficient to meet the requirements of Exchange Act Section 6(b)(5).³⁷²

Thus, the Commission believes that BZX must demonstrate with respect to this proposal that—like the listing exchanges for previously approved commodity-trust ETPs³⁷³—it can enter

³⁶⁷ The Commission also received a statement from SolidX Management LLC, asserting that “[t]o the extent the Commission is inclined to reverse, modify, set aside or remand for further proceedings the BatsBZX Proposed Rule Change, then in accordance with Rule 431 and the factors set forth in Rule 411(b)(2) of the Rules of Practice, the Commission should, as a matter of equity ... reverse, modify, set aside or remand for further proceedings its March 28, 2017 Order Disapproving a Proposed Rule Change, as Modified by Amendment No. 1, Relating to the Listing and Trading of Shares of the SolidX Bitcoin Trust under NYSE Arca Equities Rule 8.201 (Release No. 34-80319; File No. SR-NYSEArca-2016-101).” SolidX Letter, *supra* note 36, at 1. No timely petition to review the March 28, 2017, disapproval order has been received from any party and, under the Rule 431(c) of Commission's Rules of Practice, the period for the Commission to order review of the issuance of that disapproval order by delegated authority ended on April 7, 2017.

³⁶⁸ See Section I, *supra*.

³⁶⁹ 15 U.S.C. 78f(b)(5).

³⁷⁰ See Sections III.B.1(a) and III.B.2(a), *supra*.

³⁷¹ See Section III.C.1, *supra*.

³⁷² See Sections III.B.1(b), III.B.2(b), and III.C.2, *supra*.

³⁷³ See Section III.D.2, *supra*.

Bitwise Has No Commentary On The Information On This Page

into a surveillance-sharing agreement with a regulated, bitcoin-related market of significant size. As discussed above, however, BZX has not shown that it can enter into such an agreement, because the proposal does not support a conclusion that the markets for bitcoin or derivatives on bitcoin are regulated markets of significant size.³⁷⁴ Therefore, BZX has not met its burden to demonstrate that the proposed rule change is consistent with Exchange Act Section 6(b)(5), and, accordingly, the Commission is disapproving the proposed rule change.³⁷⁵

While the Commission concludes that BZX must demonstrate the ability to enter into a surveillance-sharing agreement with a regulated market of significant size related to bitcoin, and while this factor strongly supports disapproval of BZX's proposed rule change, the other factors BZX asks the Commission to weigh³⁷⁶ also support the disapproval of the proposed rule change. Even considering these other factors, the Commission does not find BZX's proposed rule change to be consistent with Exchange Act Section 6(b)(5)'s requirement that the rules of a national

³⁷⁴ See Sections III.E.1(b), III.E.2(b), and III.E.3(b), *supra*.

³⁷⁵ In disapproving the proposed rule change, as modified by Amendments No. 1 and 2, the Commission has considered its impact on efficiency, competition, and capital formation. See 15 U.S.C. 78c(f); see also *supra* notes 322–326, 329 and accompanying text. According to BZX, the Sponsor believes that the Shares will represent a cost-effective and convenient means of gaining investment exposure to bitcoin similar to a direct investment in bitcoin, allowing investors to more effectively implement strategic and tactical asset allocation strategies that use bitcoin, with lower cost than that associated with the direct purchase, storage, and safekeeping of bitcoin. See Amendment No. 1, *supra* note 1, 81 FR at 76662; see also Overdahl Letter, *supra* note 36, at 13 (asserting that approval of bitcoin ETP would improve the availability of investment and portfolio diversification opportunities for investors); Lewis Letter I, *supra* note 65, at 3, 11–16 (asserting that a bitcoin-based ETP would enable ordinary investors to construct more efficient portfolios). Regarding competition, BZX has asserted that approval of the proposed rule change “will enhance competition among market participants, to the benefit of investors and the marketplace.” Amendment No. 1, *supra* note 1, 81 FR at 76669. BZX also asserts that the Shares “would facilitate capital formation in the bitcoin marketplace in a manner nearly identical to other commodity-trust exchange traded products.” BZX Letter II, *supra* note 13, at 3, 30. Additionally, one commenter asserts that approval of the Proposal would allow the United States to continue its “historic technological leadership,” Baird Letter, *supra* note 35, while another commenter asserts that, with the approval of the Proposal, “bitcoin might become a much larger part of the world economy at risk.” Barish Letter III, *supra* note 35. The Commission recognizes that BZX and commenters assert the economic benefits described above, but, for the reasons discussed throughout, the Commission is disapproving the proposed rule change because it does not find that the proposed rule change is consistent with the Exchange Act.

³⁷⁶ See Section III.G, *supra*.

51

Bitwise appreciates the Commission's thorough review of SR-BatsBZX-2016-30 and the clarity with which it has defined the necessary conditions under which a proposed rule change designed to facilitate the listing of a future bitcoin ETP could be consistent with Exchange Act Section 6(b)(5).

We have attempted to demonstrate—in the Bitwise Study, the Bitwise White Paper, the Amended S-1, the Amended Rule 19b-4 Filing from NYSE Arca, and this Annotated Commentary on the Winklevoss Order—that our application meets that burden, both by demonstrating that the bitcoin market is uniquely resistant to certain forms of market manipulation and that there is a related, regulated, and surveilled bitcoin derivatives market of significant size.

securities exchange be designed “to prevent fraudulent and manipulative acts and practices” and “to protect investors and the public interest.”³⁷⁷

IV. CONCLUSION

For the reasons set forth above, the Commission does not find, pursuant to Section 19(b)(2) of the Exchange Act, that the proposed rule change, as modified by Amendments No. 1 and 2, 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.

IT IS THEREFORE ORDERED, pursuant to Rule 431 of the Commission’s Rules of Practice, that the earlier action taken by delegated authority, Exchange Act Release No. 80206 (Mar. 10, 2017), 82 FR 14076 (Mar. 16, 2017), is set aside and, pursuant to Section 19(b)(2) of the Exchange Act, SR-BatsBZX-2016-30 is disapproved.

By the Commission.

Brent J. Fields
Secretary

³⁷⁷ 15 U.S.C. 78f(b)(5).