INDUSTRY MEMBER CAT FEES [78]—Continued

CBBs & CBSs	Executed equivalent share volume of transactions in eligible securities for 2021	Annual CAT fee	Monthly CAT fee
183	3	0.00	0.00

[FR Doc. 2022–11675 Filed 5–31–22; 8:45 am]

BILLING CODE 8011–01–P

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–94982; File No. SR–CboeBZX–2022–031]

Self-Regulatory Organizations; Cboe BZX Exchange, Inc.; Notice of Filing of a Proposed Rule Change To List and Trade Shares of the ARK 21Shares Bitcoin ETF Under BZX Rule 14.11(e)(4), Commodity-Based Trust Shares

May 25, 2022.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (the ''Act''),[1] and Rule 19b–4 thereunder,[2] notice is hereby given that on May 13, 2022, Cboe BZX Exchange, Inc. (the ''Exchange'' or ''BZX'') filed with the Securities and Exchange Commission (the ''Commission'') the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

Cboe BZX Exchange, Inc. (the ''Exchange'' or ''BZX'') is filing with the Securities and Exchange Commission (''Commission'') a proposed rule change to list and trade shares of the ARK 21Shares Bitcoin ETF (the ''Trust''),[3] under BZX Rule 14.11(e)(4), Commodity-Based Trust Shares.

The text of the proposed rule change is also available on the Exchange's website (*http://markets.cboe.com/us/equities/regulation/rule_filings/bzx/*), at the Exchange's Office of the Secretary, and at the Commission's Public Reference Room.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the Exchange included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

The Exchange proposes to list and trade the Shares under BZX Rule 14.11(e)(4),[4] which governs the listing and trading of Commodity-Based Trust Shares on the Exchange.[5] [6] 21Shares US LLC is the sponsor of the Trust (the ''Sponsor''). The Shares will be registered with the Commission by means of the Trust's registration statement on Form S–1 (the ''Registration Statement'').[7] As further discussed below, the Commission has historically approved or disapproved exchange filings to list and trade series of Trust Issued Receipts, including spot-based Commodity-Based Trust Shares, on the basis of whether the listing exchange has in place a comprehensive surveillance sharing agreement with a regulated market of significant size related to the underlying commodity to be held.[8] Prior orders from the Commission have pointed out that in every prior approval order for Commodity-Based Trust Shares, there has been a derivatives market that represents the regulated market of significant size, generally a Commodity Futures Trading Commission (the ''CFTC'') regulated futures market.[9]

[78] The Operating Committee recognizes that an Industry Member's knowledge of its own fees in the illustrative example would be helpful in analyzing the Executed Share Model. Accordingly, if a CBB or CBS is interested in learning which anonymized CBB or CBS in the illustrative example represents its volume and fees, the CBB or CBS may contact the FINRA CAT Helpdesk by email at *help@finracat.com*. Industry Members other than CBBs and CBSs will not be charged a fee under the Executed Share Model; however, CBBs and CBSs may choose to pass-through CAT fees to such Industry Members. Therefore, if an Industry Member other than a CBB or CBS is interested in learning its associated volume in the illustrative example and potential fee (assuming the CBB or CBS passes the fee through), the Industry Member may also contact the FINRA Helpdesk by email at *help@finracat.com*. Accordingly, subject to verification of the identity of the requesting party as an authorized representative of the relevant Industry Member, the Helpdesk will provide the authorized representative of the CBB or CBS with the number of the applicable anonymized CBB or CBS in *Exhibit B*. or the authorized representative of the Industry Member other than the CBB or CBS with its associated volume and potential pass-through fee from the illustrative example.

[1] 15 U.S.C. 78s(b)(1).

[2] 17 CFR 240.19b–4.

[3] The Trust was formed as a Delaware statutory trust on June 22, 2021 and is operated as a grantor trust for U.S. federal tax purposes. The Trust has no fixed termination date.

[4] The Commission approved BZX Rule 14.11(e)(4) in Securities Exchange Act Release No. 65225 (August 30, 2011), 76 FR 55148 (September 6, 2011) (SR–BATS–2011–018).

[5] All statements and representations made in this filing regarding (a) the description of the portfolio, (b) limitations on portfolio holdings or reference assets, or (c) the applicability of Exchange rules and surveillance procedures shall constitute continued listing requirements for listing the Shares on the Exchange.

[6] The Exchange notes that a different proposal to list and trade shares of the Trust was disapproved by the Commission on March 31, 2022. *See* Exchange Act Release No. 94571 (March 31, 2022), 87 FR 20014 (April 6, 2022).

[7] *See* draft Registration Statement on Form S–1, dated June 28, 2021 submitted to the Commission by the Sponsor on behalf of the Trust. The descriptions of the Trust, the Shares, and the Index (as defined below) contained herein are based, in part, on information in the Registration Statement. The Registration Statement is not yet effective and the Shares will not trade on the Exchange until such time that the Registration Statement is effective.

[8] *See* Securities Exchange Act Release No. 83723 (July 26, 2018), 83 FR 37579 (August 1, 2018). This proposal was subsequently disapproved by the Commission. *See* Securities Exchange Act Release No. 83723 (July 26, 2018), 83 FR 37579 (August 1, 2018) (the ''Winklevoss Order'').

[9] *See* streetTRACKS Gold Shares, Exchange Act Release No. 50603 (Oct. 28, 2004), 69 FR 64614, 64618–19 (Nov. 5, 2004) (SR–NYSE–2004–22) (the ''First Gold Approval Order''); 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,

Further to this point, the Commission's prior orders have noted that the spot commodities and currency markets for which it has previously approved spot ETPs are generally unregulated and that the Commission relied on the underlying futures market as the regulated market of significant size that formed the basis for approving the series of Currency and Commodity-Based Trust Shares, including gold, silver, platinum, palladium, copper, and other commodities and currencies. The Commission specifically noted in the Winklevoss Order that the First Gold Approval Order ''was based on an assumption that the currency market and the spot gold market were largely unregulated.'' [10]

As such, the regulated market of significant size test does not require that the spot bitcoin market be regulated in order for the Commission to approve this proposal, and precedent makes clear that an underlying market for a spot commodity or currency being a regulated market would actually be an exception to the norm. These largely unregulated currency and commodity markets do not provide the same protections as the markets that are subject to the Commission's oversight, but the Commission has consistently looked to surveillance sharing agreements with the underlying futures market in order to determine whether such products were consistent with the Act. With this in mind, the CME Bitcoin Futures market is the proper market to consider in determining whether there is a related regulated market of significant size.

Further to this point, the Exchange notes that the Commission has recently approved proposals related to the listing and trading of funds that would primarily hold CME Bitcoin Futures that are registered under the Securities Act of 1933 instead of the Investment Company Act of 1940, as amended (the ''1940 Act'').[11] In the Teucrium Approval, the Commission found the CME Bitcoin Futures market to be a regulated market of significant size as it relates to CME Bitcoin Futures, an odd tautological truth that is also inconsistent with prior disapproval orders for ETPs that would hold actual bitcoin instead of derivatives contracts (''Spot Bitcoin ETPs'') that use the exact same pricing methodology as the CME Bitcoin Futures. As further discussed below, both the Exchange and the Sponsor believe that this proposal and the included analysis are sufficient to establish that the CME Bitcoin Futures market represents a regulated market of significant size as it relates both to the CME Bitcoin Futures market and to the spot bitcoin market and that this proposal should be approved.

Background

Bitcoin is a digital asset based on the decentralized, open source protocol of the peer-to-peer computer network launched in 2009 that governs the creation, movement, and ownership of bitcoin and hosts the public ledger, or ''blockchain,'' on which all bitcoin

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 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).

[10] *See* Winklevoss Order at 37592.

[11] *See* Exchange Act Release No. 94620 (April 6, 2022), 87 FR 21676 (April 12, 2022) (the ''Teucrium Approval'') and 94853 (May 5, 2022) (collectively, with the Teucrium Approval, the ''Bitcoin Futures Approvals'').

transactions are recorded (the ''Bitcoin Network'' or ''Bitcoin''). The decentralized nature of the Bitcoin Network allows parties to transact directly with one another based on cryptographic proof instead of relying on a trusted third party. The protocol also lays out the rate of issuance of new bitcoin within the Bitcoin Network, a rate that is reduced by half approximately every four years with an eventual hard cap of 21 million. It's generally understood that the combination of these two features—a systemic hard cap of 21 million bitcoin and the ability to transact trustlessly with anyone connected to the Bitcoin Network—gives bitcoin its value.[12] The first rule filing proposing to list an exchange-traded product to provide exposure to bitcoin in the U.S. was submitted by the Exchange on June 30, 2016.[13] At that time, blockchain technology, and digital assets that utilized it, were relatively new to the broader public. The market cap of all bitcoin in existence at that time was approximately $10 billion. No registered offering of digital asset securities or shares in an investment vehicle with exposure to bitcoin or any other cryptocurrency had yet been conducted, and the regulated infrastructure for conducting a digital asset securities offering had not begun to develop.[14] Similarly, regulated U.S. bitcoin futures contracts did not exist. The CFTC had determined that bitcoin is a commodity,[15] but had not engaged in significant enforcement actions in the space. The New York Department of Financial Services (''NYDFS'') adopted its final BitLicense regulatory framework in 2015, but had only approved four entities to engage in activities relating to virtual currencies (whether through granting a BitLicense or a limited-purpose trust charter) as of June 30, 2016.[16] While the first over-the-counter bitcoin fund launched in 2013, public trading was limited and the fund had only $60 million in assets.[17] There were very few, if any, traditional financial institutions engaged in the space, whether through investment or providing services to digital asset companies. In January 2018, the Staff of the Commission noted in a letter to the Investment Company Institute and SIFMA that it was not aware, at that time, of a single custodian providing fund custodial services for digital assets.[18] Fast forward to today and the digital assets financial ecosystem, including bitcoin, has progressed significantly. The development of a regulated market for digital asset securities has significantly evolved, with market participants having conducted registered public offerings of both digital asset securities [19] and shares in investment vehicles holding bitcoin futures.[20] Additionally, licensed and regulated service providers have emerged to provide fund custodial services for digital assets, among other services. For example, in May 2021, the Staff of the Commission released a statement permitting open-end mutual funds to invest in cash-settled bitcoin futures; in December 2020, the Commission adopted a conditional no-action position permitting certain special purpose broker-dealers to custody digital asset securities under Rule 15c3–3 under the Exchange Act (the ''Custody Statement''); [21] in September 2020, the Staff of the Commission released a no-action letter permitting certain broker-dealers to operate a non-custodial Alternative Trading System (''ATS'') for digital asset securities, subject to specified conditions; [22] in October 2019, the Staff of the Commission granted temporary relief from the clearing agency registration requirement to an entity seeking to establish a securities clearance and settlement system based on distributed ledger technology,[23] and multiple transfer agents who provide services for digital asset securities registered with the Commission.[24]

Outside the Commission's purview, the regulatory landscape has changed significantly since 2016, and cryptocurrency markets have grown and evolved as well. The market for bitcoin is approximately 100 times larger, having at one point reached a market cap of over $1 trillion.[25] According to the CME Bitcoin Futures Report, from March 28, 2022 through April 22, 2022, CFTC regulated bitcoin futures represented approximately $1.3 billion in notional trading volume on Chicago Mercantile Exchange (''CME'') (''Bitcoin Futures'') on a daily basis and notional volume was never below $670 million.[26] Open interest was over $2 billion for the entirety of the period and at one point was over $3 billion. The CFTC has exercised its regulatory jurisdiction in bringing a number of enforcement actions related to bitcoin and against trading platforms that offer

[12] For additional information about bitcoin and the Bitcoin Network, *see https://bitcoin.org/en/getting-started*; *https://www.fidelitydigitalassets.com/articles/addressing-bitcoin-criticisms*; and *https://www.vaneck.com/education/investment-ideas/investing-in-bitcoin-and-digital-assets/*.

[13] *See* Winklevoss Order.

[14] Digital assets that are securities under U.S. law are referred to throughout this proposal as ''digital asset securities.'' All other digital assets, including bitcoin, are referred to interchangeably as ''cryptocurrencies'' or ''virtual currencies.'' The term ''digital assets'' refers to all digital assets, including both digital asset securities and cryptocurrencies, together.

[15] *See* ''In the Matter of Coinflip, Inc.'' (''Coinflip'') (CFTC Docket 15–29 (September 17, 2015)) (order instituting proceedings pursuant to Sections 6(c) and 6(d) of the CEA, making findings and imposing remedial sanctions), in which the CFTC stated: ''Section 1a(9) of the CEA defines 'commodity' to include, among other things, 'all services, rights, and interests in which contracts for future delivery are presently or in the future dealt in.' 7 U.S.C. 1a(9). The definition of a 'commodity' is broad. *See, e.g., Board of Trade of City of Chicago* v. *SEC,* 677 F. 2d 1137, 1142 (7th Cir. 1982). Bitcoin and other virtual currencies are encompassed in the definition and properly defined as commodities.''

[16] A list of virtual currency businesses that are entities regulated by the NYDFS is available on the NYDFS website. *See https://www.dfs.ny.gov/apps_and_licensing/virtual_currency_businesses/regulated_entities*.

[17] Data as of March 31, 2016 according to publicly available filings. *See* Bitcoin Investment Trust Form S–1, dated May 27, 2016, available: *https://www.sec.gov/Archives/edgar/data/1588489/000095012316017801/filename1.htm*.

[18] *See* letter from Dalia Blass, Director, Division of Investment Management, U.S. Securities and Exchange Commission to Paul Schott Stevens, President & CEO, Investment Company Institute and Timothy W. Cameron, Asset Management Group—Head, Securities Industry and Financial Markets Association (January 18, 2018), *available at https://www.sec.gov/divisions/investment/noaction/2018/cryptocurrency-011818.htm*.

[19] *See* Prospectus supplement filed pursuant to Rule 424(b)(1) for INX Tokens (Registration No. 333–233363), *available at: https://www.sec.gov/Archives/edgar/data/1725882/000121390020023202/ea125858-424b1_inxlimited.htm*.

[20] *See* Prospectus filed by Stone Ridge Trust VI on behalf of NYDIG Bitcoin Strategy Fund Registration, *available at: https://www.sec.gov/Archives/edgar/data/1764894/000119312519309942/d693146d497.htm*.

[21] *See* Securities Exchange Act Release No. 90788, 86 FR 11627 (February 26, 2021) (File Number S7–25–20) (Custody of Digital Asset Securities by Special Purpose Broker-Dealers).

[22] *See* letter from Elizabeth Baird, Deputy Director, Division of Trading and Markets, U.S. Securities and Exchange Commission to Kris Dailey, Vice President, Risk Oversight & Operational Regulation, Financial Industry Regulatory Authority (September 25, 2020), *available at: https://www.sec.gov/divisions/marketreg/mr-noaction/2020/finra-ats-role-in-settlement-of-digital-asset-security-trades-09252020.pdf*.

[23] *See* letter from Jeffrey S. Mooney, Associate Director, Division of Trading and Markets, U.S. Securities and Exchange Commission to Charles G. Cascarilla & Daniel M. Burstein, Paxos Trust Company, LLC (October 28, 2019), *available at: https://www.sec.gov/divisions/marketreg/mr-noaction/2019/paxos-trust-company-102819-17a.pdf*.

[24] *See, e.g.,* Form TA–1/A filed by Tokensoft Transfer Agent LLC (CIK: 0001794142) on January 8, 2021, *available at: https://www.sec.gov/Archives/edgar/data/1794142/000179414219000001/xslFTA1X01/primary_doc.xml*.

[25] As of December 1, 2021, the total market cap of all bitcoin in circulation was approximately $1.08 trillion.

[26] Data sourced from the CME Bitcoin Futures Report: 19 Nov, 2021, *available at: https://www.cmegroup.com/ftp/bitcoinfutures/Bitcoin_Futures_Liquidity_Report.pdf*.

cryptocurrency trading.[27] The U.S. Office of the Comptroller of the Currency (the ''OCC'') has made clear that federally-chartered banks are able to provide custody services for cryptocurrencies and other digital assets.[28] The OCC recently granted conditional approval of two charter conversions by state-chartered trust companies to national banks, both of which provide cryptocurrency custody services.[29] NYDFS has granted no fewer than twenty-five BitLicenses, including to established public payment companies like PayPal Holdings, Inc. and Square, Inc., and limited purpose trust charters to entities providing cryptocurrency custody services, including the Trust's Custodian. The U.S. Treasury Financial Crimes Enforcement Network (''FinCEN'') has released extensive guidance regarding the applicability of the Bank Secrecy Act (''BSA'') and implementing regulations to virtual currency businesses,[30] and has proposed rules imposing requirements on entities subject to the BSA that are specific to the technological context of virtual currencies.[31] In addition, the Treasury's Office of Foreign Assets Control (''OFAC'') has brought enforcement actions over apparent violations of the sanctions laws in connection with the provision of wallet management services for digital assets.[32]

In addition to the regulatory developments laid out above, more traditional financial market participants have embraced and continue to embrace cryptocurrency: Large insurance companies,[33] asset managers,[34] university endowments,[35] pension funds,[36] and even historically bitcoin skeptical fund managers [37] are allocating to bitcoin. The largest over-the-counter bitcoin fund previously filed a Form 10 registration statement, which the Staff of the Commission reviewed and which took effect automatically, and is now a reporting company.[38] Established companies like Tesla, Inc.,[39] MicroStrategy Incorporated,[40] and Square, Inc.,[41] among others, have recently announced substantial investments in bitcoin in amounts as large as $1.5 billion (Tesla) and $425 million (MicroStrategy). The foregoing examples demonstrate that bitcoin has gained mainstream usage and recognition.

Despite these developments, access for U.S. retail investors to gain exposure to bitcoin via a transparent and U.S. regulated, U.S. exchange-traded vehicle remains limited. Instead current options include: (i) Over-the-counter bitcoin funds (''OTC Bitcoin Funds'') with high management fees and potentially volatile premiums and discounts; [42] (ii) facing the technical risk, complexity and generally high fees associated with buying spot bitcoin; (iii) purchasing shares of operating companies that they believe will provide proxy exposure to bitcoin with limited disclosure about the associated risks; [43] or (iv) purchasing

[27] The CFTC's annual report for Fiscal Year 2020 (which ended on September 30, 2020) noted that the CFTC ''continued to aggressively prosecute misconduct involving digital assets that fit within the CEA's definition of commodity'' and ''brought a record setting seven cases involving digital assets.'' *See* CFTC FY2020 Division of Enforcement Annual Report, *available at: https://www.cftc.gov/media/5321/DOE_FY2020_AnnualReport_120120/download.* Additionally, the CFTC filed on October 1, 2020, a civil enforcement action against the owner/operators of the BitMEX trading platform, which was one of the largest bitcoin derivative exchanges. *See* CFTC Release No. 8270–20 (October 1, 2020) *available at: https://www.cftc.gov/PressRoom/PressReleases/8270-20.*

[28] *See* OCC News Release 2021–2 (January 4, 2021) *available at: https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-2.html.*

[29] *See* OCC News Release 2021–6 (January 13, 2021) *available at: https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-6.html* and OCC News Release 2021–19 (February 5, 2021) *available at: https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-19.html.*

[30] *See* FinCEN Guidance FIN–2019–G001 (May 9, 2019) (Application of FinCEN's Regulations to Certain Business Models Involving Convertible Virtual Currencies) *available at: https://www.fincen.gov/sites/default/files/2019-05/FinCEN%20Guidance%20CVC%20FINAL%20508.pdf.*

[31] *See* U.S. Department of the Treasury Press Release: ''The Financial Crimes Enforcement Network Proposes Rule Aimed at Closing Anti-Money Laundering Regulatory Gaps for Certain Convertible Virtual Currency and Digital Asset Transactions'' (December 18, 2020), *available at: https://home.treasury.gov/news/press-releases/sm1216.*

[32] *See* U.S. Department of the Treasury Enforcement Release: ''OFAC Enters Into $98,830 Settlement with BitGo, Inc. for Apparent Violations of Multiple Sanctions Programs Related to Digital Currency Transactions'' (December 30, 2020) *available at: https://home.treasury.gov/system/files/126/20201230_bitgo.pdf.*

[33] On December 10, 2020, Massachusetts Mutual Life Insurance Company (MassMutual) announced that it had purchased $100 million in bitcoin for its general investment account. *See* MassMutual Press Release ''Institutional Bitcoin provider NYDIG announces minority stake purchase by MassMutual'' (December 10, 2020) *available at: https://www.massmutual.com/about-us/news-and-press-releases/press-releases/2020/12/institutional-bitcoin-provider-nydig-announces-minority-stake-purchase-by-massmutual.*

[34] *See e.g.,* ''BlackRock's Rick Rieder says the world's largest asset manager has 'started to dabble' in bitcoin'' (February 17, 2021) *available at: https://www.cnbc.com/2021/02/17/blackrock-has-started-to-dabble-in-bitcoin-says-rick-rieder.html* and ''Guggenheim's Scott Minerd Says Bitcoin Should Be Worth $400,000'' (December 16, 2020) *available at: https://www.bloomberg.com/news/articles/2020-12-16/guggenheim-s-scott-minerd-says-bitcoin-should-be-worth-400-000.*

[35] *See e.g.,* ''Harvard and Yale Endowments Among Those Reportedly Buying Crypto'' (January 25, 2021) *available at: https://www.bloomberg.com/news/articles/2021-01-26/harvard-and-yale-endowments-among-those-reportedly-buying-crypto.*

[36] *See e.g.,* ''Virginia Police Department Reveals Why its Pension Fund is Betting on Bitcoin'' (February 14, 2019) *available at: https://finance.yahoo.com/news/virginia-police-department-reveals-why-194558505.html.*

[37] *See e.g.,* ''Bridgewater: Our Thoughts on Bitcoin'' (January 28, 2021) *available at: https://www.bridgewater.com/research-and-insights/our-thoughts-on-bitcoin* and ''Paul Tudor Jones says he likes bitcoin even more now, rally still in the 'first inning' '' (October 22, 2020) *available at: https://www.cnbc.com/2020/10/22/-paul-tudor-jones-says-he-likes-bitcoin-even-more-now-rally-still-in-the-first-inning.html.*

[38] *See* Letter from Division of Corporation Finance, Office of Real Estate & Construction to Barry E. Silbert, Chief Executive Officer, Grayscale Bitcoin Trust (January 31, 2020) *https://www.sec.gov/Archives/edgar/data/1588489/000000000020000953/filename1.pdf.*

[39] *See* Form 10–K submitted by Tesla, Inc. for the fiscal year ended December 31, 2020 at 23: *https://www.sec.gov/ix?doc=/Archives/edgar/data/1318605/000156459021004599/tsla-10k_20201231.htm.*

[40] *See* Form 10–Q submitted by MicroStrategy Incorporated for the quarterly period ended September 30, 2020 at 8: *https://www.sec.gov/ix?doc=/Archives/edgar/data/1050446/000156459020047995/mstr-10q_20200930.htm.*

[41] *See* Form 10–Q submitted by Square, Inc. for the quarterly period ended September 30, 2020 at 51: *https://www.sec.gov/ix?doc=/Archives/edgar/data/1512673/000151267320000012/sq-20200930.htm.*

[42] The largest OTC Bitcoin Fund has an AUM of $23 billion. The premium and discount for OTC Bitcoin Funds is known to move rapidly. For example, over the period of 12/21/20 to 1/21/20, the premium for the largest OTC Bitcoin Fund went from 40.18% to 2.79%. While the price of bitcoin appreciated significantly during this period and NAV per share increased by 41.25%, the price per share increased by only 3.58%. This means that investors are buying shares of a fund that experiences significant volatility in its premium and discount outside of the fluctuations in price of the underlying asset. Even operating within the normal premium and discount range, it's possible for an investor to buy shares of an OTC Bitcoin Fund only to have those shares quickly lose 10% or more in dollar value excluding any movement of the price of bitcoin. That is to say—the price of bitcoin could have stayed exactly the same from market close on one day to market open the next, yet the value of the shares held by the investor decreased only because of the fluctuation of the premium. As more investment vehicles, including mutual funds and ETFs, seek to gain exposure to bitcoin, the easiest option for a buy and hold strategy for such vehicles is often an OTC Bitcoin Fund, meaning that even investors that do not directly buy OTC Bitcoin Funds can be disadvantaged by extreme premiums (or discounts) and premium volatility.

[43] Recently a number of operating companies engaged in unrelated businesses—such as Tesla (a car manufacturer) and MicroStrategy (an enterprise software company)—have announced investments as large as $5.3 billion in bitcoin. Without access to bitcoin exchange-traded products, retail investors seeking investment exposure to bitcoin may end up purchasing shares in these companies in order to gain the exposure to bitcoin that they seek. In fact, mainstream financial news networks have written a number of articles providing investors with guidance for obtaining bitcoin exposure through publicly traded companies (such as MicroStrategy, Tesla, and bitcoin mining companies, among others) instead of dealing with the complications

Continued

Bitcoin Futures ETFs, as defined below, which represent a sub-optimal structure for long-term investors that will cost them significant amounts of money every year compared to Spot Bitcoin ETPs, as further discussed below. Meanwhile, investors in many other countries, including Canada and Brazil, are able to use more traditional exchange listed and traded products (including exchange-traded funds holding physical bitcoin) to gain exposure to bitcoin, disadvantaging U.S. investors and leaving them with more risky means of getting bitcoin exposure.[44] Additionally, investors in other countries, specifically Canada, generally pay lower fees than U.S. retail investors that invest in OTC Bitcoin Funds due to the fee pressure that results from increased competition among available bitcoin investment options. Without an approved and regulated Spot Bitcoin ETP in the U.S. as a viable alternative, U.S. investors could seek to purchase shares of non-U.S. bitcoin vehicles in order to get access to bitcoin exposure. Given the separate regulatory regime and the potential difficulties associated with any international litigation, such an arrangement would create more risk exposure for U.S. investors than they would otherwise have with a U.S. exchange listed ETP. Further to this point, the lack of a U.S.-listed Spot Bitcoin ETP is not preventing U.S. funds from gaining exposure to bitcoin—several U.S. exchange-traded funds are using Canadian bitcoin ETPs to gain exposure to spot bitcoin. In addition to the benefits to U.S. investors articulated throughout this proposal, approving this proposal (and others like it) would provide U.S. exchange-traded funds and mutual funds with a U.S.-listed and regulated product to provide such access rather than relying on either flawed products or products listed and primarily regulated in other countries.

Bitcoin Futures ETFs

The Exchange and Sponsor applaud the Commission for allowing the launch of ETFs registered under the 1940 Act and the recent Bitcoin Futures Approvals that provide exposure to bitcoin primarily through CME Bitcoin Futures (''Bitcoin Futures ETFs''). Allowing such products to list and trade is a productive first step in providing U.S. investors and traders with transparent, exchange-listed tools for expressing a view on bitcoin. The Bitcoin Futures Approvals, however, have created a logical inconsistency in the application of the standard the Commission applies when considering bitcoin ETP proposals.

As discussed further below, the standard applicable to bitcoin ETPs is whether the listing exchange has in place a comprehensive surveillance sharing agreement with a regulated market of significant size in the underlying asset. Previous disapproval orders have made clear that a market that constitutes a regulated market of significant size is generally a futures and/or options market based on the underlying reference asset rather than the spot commodity markets, which are often unregulated.[45] Leaving aside the analysis of that standard until later in this proposal,[46] the Exchange believes that the following rationale the Commission applied to a Bitcoin Futures ETF should result in the Commission approving this and other Spot Bitcoin ETP proposals:

> The CME ''comprehensively surveils futures market conditions and price movements on a real-time and ongoing basis in order to detect and prevent price distortions, including price distortions caused by manipulative efforts.'' Thus the CME's surveillance can reasonably be relied upon to capture the effects on the CME bitcoin futures market caused by a person attempting to manipulate the proposed futures ETP by manipulating the price of CME bitcoin futures contracts, whether that attempt is made by directly trading on the CME bitcoin futures market or indirectly by trading outside of the CME bitcoin futures market. As such, when the CME shares its surveillance information with Arca, the information would assist in detecting and deterring fraudulent or manipulative misconduct related to the non-cash assets held by the proposed ETP.[47]

CME Bitcoin Futures pricing is based on pricing from spot bitcoin markets. The statement from the Teucrium Approval that ''CME's surveillance can reasonably be relied upon to capture the effects on the CME bitcoin futures market caused by a person attempting to manipulate the proposed futures ETP by manipulating the price of CME bitcoin futures contracts . . . indirectly by trading outside of the CME bitcoin futures market,'' makes clear that the Commission believes that CME's surveillance can capture the effects of trading on the relevant spot markets on the pricing of CME Bitcoin Futures. The Exchange agrees with the Commission on this point and notes that the pricing mechanism applicable to the Shares is similar to that of the CME Bitcoin Futures. As further discussed below, this view is also consistent with the Advisor's research.

Further to this point, a Bitcoin Futures ETF is potentially more susceptible to potential manipulation than a Spot Bitcoin ETP that offers only in-kind creation and redemption because settlement of CME Bitcoin Futures (and thus the value of the underlying holdings of a Bitcoin Futures ETF) occurs at a single price derived from spot bitcoin pricing, while shares of a Spot Bitcoin ETP would represent interest in bitcoin directly and authorized participants for a Spot Bitcoin ETP (as proposed herein) would be able to source bitcoin from any exchange and create or redeem with the applicable trust regardless of the price of the underlying index. It is not logically possible to conclude that the CME Bitcoin Futures market represents

associated with buying spot bitcoin in the absence of a bitcoin ETP. *See e.g.,* ''7 public companies with exposure to bitcoin'' (February 8, 2021) available at: *https://finance.yahoo.com/news/7-public-companies-with-exposure-to-bitcoin-154201525.html;* and ''Want to get in the crypto trade without holding bitcoin yourself? Here are some investing ideas'' (February 19, 2021) available at: *https://www.cnbc.com/2021/02/19/ways-to-invest-in-bitcoin-without-holding-the-cryptocurrency-yourself-.html.* Such operating companies, however, are imperfect bitcoin proxies and provide investors with partial bitcoin exposure paired with a host of additional risks associated with whichever operating company they decide to purchase. Additionally, the disclosures provided by such operating companies with respect to risks relating to their bitcoin holdings are generally substantially smaller than the registration statement of a bitcoin ETP, including the Registration Statement, typically amounting to a few sentences of narrative description and a handful of risk factors. In other words, investors seeking bitcoin exposure through publicly traded companies are gaining only partial exposure to bitcoin and are not fully benefitting from the risk disclosures and associated investor protections that come from the securities registration process.

[44] The Exchange notes that securities regulators in a number of other countries have either approved or otherwise allowed the listing and trading of bitcoin ETPs.

[45] *See* Winklevoss Order at 37593, specifically footnote 202, which includes the language from numerous approval orders for which the underlying futures markets formed the basis for approving series of ETPs that hold physical metals, including gold, silver, palladium, platinum, and precious metals more broadly; and 37600, specifically where the Commission provides 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.'' As noted above, the Exchange believes that these citations are particularly helpful in making clear that the spot market for a spot commodity ETP need not be ''regulated'' in order for a spot commodity ETP to be approved by the Commission, and in fact that it's been the common historical practice of the Commission to rely on such derivatives markets as the regulated market of significant size because such spot commodities markets are largely unregulated.

[46] As further outlined below, both the Exchange and the Sponsor believe that the CME Bitcoin Futures market represents a regulated market of significant size and that this proposal and others like it should be approved on this basis.

[47] *See* Teucrium Approval at 21679.

a significant market for a futures-based product, but also conclude that the CME Bitcoin Futures market does not represent a significant market for a spot-based product.

In addition to potentially being more susceptible to manipulation than a Spot Bitcoin ETP, the structure of Bitcoin Futures ETFs provides negative outcomes for buy and hold investors as compared to a Spot Bitcoin ETP.[48] Specifically, the cost of rolling CME Bitcoin Futures contracts (which has reached as high as 17% annually[49] excluding a fund's management fees and borrowing costs, if any) will cause the Bitcoin Futures ETFs to lag the performance of bitcoin itself and, at over a billion dollars in assets under management, would cost U.S. investors significant amounts of money on an annual basis compared to Spot Bitcoin ETPs. Such rolling costs would not be required for Spot Bitcoin ETPs that hold bitcoin. Further, Bitcoin Futures ETFs could potentially hit CME position limits, which would force a Bitcoin Futures ETF to invest in non-futures assets for bitcoin exposure and cause potential investor confusion and lack of certainty about what such Bitcoin Futures ETFs are actually holding to try to get exposure to bitcoin, not to mention completely changing the risk profile associated with such an ETF. While Bitcoin Futures ETFs represent a useful trading tool, they are clearly a sub-optimal structure for U.S. investors that are looking for long-term exposure to bitcoin that will, based on the calculations above, unnecessarily cost U.S. investors significant amounts of money every year compared to Spot Bitcoin ETPs and the Exchange believes that any proposal to list and trade a Spot Bitcoin ETP should be reviewed by the Commission with this important investor protection context in mind.

To the extent the Commission may view differential treatment of Bitcoin Futures ETFs and Spot Bitcoin ETPs as warranted based on the Commission's concerns about the custody of physical Bitcoin that a Spot Bitcoin ETP would hold (compared to cash-settled futures contracts),[50] the Sponsor believes this concern is mitigated to a significant degree by the custodial arrangements that the Trust has contracted with Coinbase Trust Company, LLC (the ''Custodian'') to provide. In the Custody Statement, the Commission stated that the fourth step that a broker-dealer could take to shield traditional securities customers and others from the risks and consequences of digital asset security fraud, theft, or loss is to establish, maintain, and enforce reasonably designed written policies, procedures, and controls for safekeeping and demonstrating the broker-dealer has exclusive possession or control over digital asset securities that are consistent with industry best practices to protect against the theft, loss, and unauthorized and accidental use of the private keys necessary to access and transfer the digital asset securities the broker-dealer holds in custody. While bitcoin is not a security and the Custodian is not a broker-dealer, the Sponsor believes that similar considerations apply to the Custodian's holding of the Trust's bitcoin. After diligent investigation, the Sponsor believes that the Custodian's policies, procedures, and controls for safekeeping, exclusively possessing, and controlling the Trust's bitcoin holdings are consistent with industry best practices to protect against the theft, loss, and unauthorized and accidental use of the private keys. As a trust company chartered by the New York Department of Financial Services, the Sponsor notes that the Custodian is subject to extensive regulation and has among longest track records in the industry of providing custodial services for digital asset private keys. The Custodian has represented to the Trust that it has never suffered a loss of bitcoin belonging to customers. Under the circumstances, therefore, to the extent the Commission believes that its concerns about the risks of spot bitcoin custody justifies differential treatment of a Bitcoin Futures ETF versus a Spot Bitcoin ETP, the Sponsor believes that the fact that the Custodian employs the same types of policies, procedures, and safeguards in handling spot bitcoin that the Commission has stated that broker-dealers should implement with respect to digital asset securities would appear to weaken the justification for treating a Bitcoin Futures ETF compared to a Spot Bitcoin ETP differently due to spot bitcoin custody concerns.

Based on the foregoing, the Exchange and Sponsor believe that any objective review of the proposals to list Spot Bitcoin ETPs compared to the Bitcoin Futures ETFs and the Bitcoin Futures Approvals would lead to the conclusion that Spot Bitcoin ETPs should be available to U.S. investors and, as such, this proposal and other comparable proposals to list and trade Spot Bitcoin ETPs should be approved by the Commission. Stated simply, U.S. investors will continue to lose significant amounts of money from holding Bitcoin Futures ETFs as compared to Spot Bitcoin ETPs, losses which could be prevented by the Commission approving Spot Bitcoin ETPs. Additionally, any concerns related to preventing fraudulent and manipulative acts and practices related to Spot Bitcoin ETPs would apply equally to the spot markets underlying the futures contracts held by a Bitcoin Futures ETF. While the 1940 Act does offer certain investor protections, those protections do not relate to mitigating potential manipulation of the holdings of an ETF in a way that warrants distinction between Bitcoin Futures ETFs and Spot Bitcoin ETPs. To be clear, both the Exchange and Sponsor believe that the CME Bitcoin Futures market is a regulated market of significant size and that such manipulation concerns are mitigated, as described extensively below. After allowing the listing and trading of Bitcoin Futures ETFs that hold primarily CME Bitcoin Futures, however, the only consistent outcome would be approving Spot Bitcoin ETPs on the basis that the CME Bitcoin Futures market is a regulated market of significant size. Including in the analysis the significant and preventable losses to U.S. investors that comes with Bitcoin Futures ETFs, disapproving Spot Bitcoin ETPs seems even more arbitrary and capricious. Given the current landscape, approving this proposal (and others like it) and allowing Spot Bitcoin ETPs to be listed and traded alongside Bitcoin Futures ETFs would establish a consistent regulatory approach, provide U.S. investors with choice in product structures for bitcoin exposure, and offer flexibility in the means of gaining exposure to bitcoin through transparent, regulated, U.S. exchange-listed vehicles.

[48] *See e.g.,* ''Bitcoin ETF's Success Could Come at Fundholders' Expense,'' Wall Street Journal (October 24, 2021), available at: *https://www.wsj.com/articles/bitcoin-etfs-success-could-come-at-fundholders-expense-11635080580;* ''Physical Bitcoin ETF Prospects Accelerate,'' ETF.com (October 25, 2021), available at: *https://www.etf.com/sections/blog/physical-bitcoin-etf-prospects-shine?nopaging=1&__cf_chl_jschl_tk__=pmd_JsK.fjXz9eAQW9zol0qpzhXDrrlpIVdoCloLXbLjl44-1635476946-0-gqNtZGzNApCjcnBszQql.*

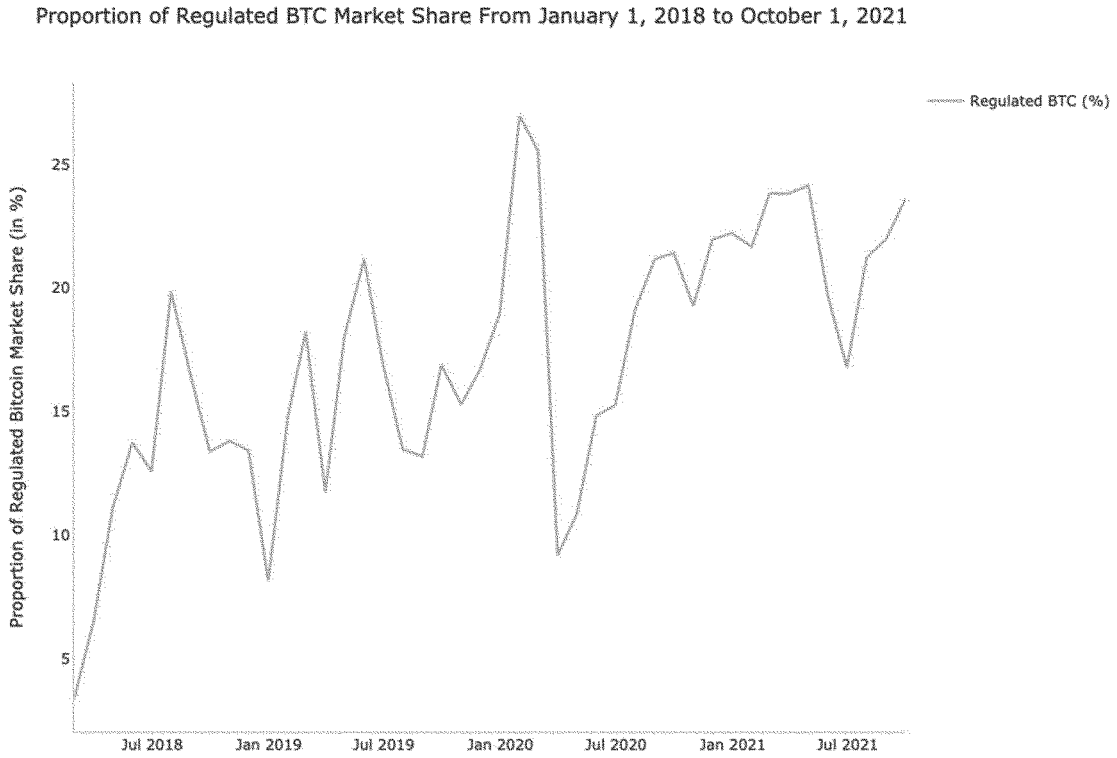
[49] *Id.*

[50] See, *e.g.,* Division of Investment Management Staff, Staff Statement on Funds Registered Under the Investment Company Act Investing in the Bitcoin Futures Market, May 11, 2021 (''The Bitcoin futures market also has not presented the custody challenges associated with some cryptocurrency-based investing because the futures are cash-settled'').

Bitcoin Futures [51]

CME began offering trading in Bitcoin Futures in 2017. Each contract represents five bitcoin and is based on the CME CF Bitcoin Reference Rate.[52] The contracts trade and settle like other cash-settled commodity futures contracts. Nearly every measurable metric related to Bitcoin Futures has trended consistently up since launch.

According to the Sponsor, the increase in the volume on CME is reflected in a higher proportion of the bitcoin market share. This is illustrated by plotting the proportion of monthly volume traded in bitcoin on the CME [53] (categorized as regulated in the chart and used as the numerator) in relation to the total bitcoin market, which comprises of the sum of the volume of bitcoin futures on the CME and the spot volume on cryptocurrency exchanges [54] (categorized as unregulated and used as the denominator) from January 1, 2018 to October 1, 2021 illustrates this point.



The proportion of volume traded on CME has increased from less than 5% at inception, to more than 20% over three and a half years. Furthermore, the CME market, as well as other crypto-linked markets, and the spot market are highly correlated. In markets that are globally and efficiently integrated, one would expect that changes in prices of an asset across all markets to be highly correlated. The rationale behind this is that quick and efficient arbitrageurs would capture potentially profitable opportunities, consequently converging prices to the average intrinsic value very rapidly.

Bitcoin markets exhibit a high degree of correlation. Using daily Bitcoin prices from centralized exchanges, ETP providers, and the CME from January 20, 2021 to October 1, 2021,[55] the Sponsor calculates the Pearson correlation of returns [56] across these markets and find a high degree of correlation.

Correlations are between 57% and 99%, with the latter found mainly across centralized exchanges due to their higher level of interconnectedness. The lower correlations pertain mainly to the ETPs, which are relatively newer products and are mainly offered by a few competing market makers who are required to trade in large blocks, thus making it economically infeasible to capture small mispricings. As additional investors and arbitrageurs enter the market and capture the mispricing opportunities between these markets, it is likely that there will be much higher levels of correlations across all markets.

[51] Unless otherwise noted, all data and analysis presented in this section and referenced elsewhere in the filing has been provided by the Sponsor.

[52] According to CME, the CME CF Bitcoin Reference Rate aggregates the trade flow of major bitcoin spot exchanges during a specific calculation window into a once-a-day reference rate of the U.S. dollar price of bitcoin. Calculation rules are geared toward maximum transparency and real-time replicability in underlying spot markets, including Bitstamp, Coinbase, Gemini, itBit, and Kraken. For additional information, refer to *https://www.cmegroup.com/trading/cryptocurrency-indices/cf-bitcoin-reference-rate.html?redirect=/trading/cf-bitcoin-reference-rate.html.*

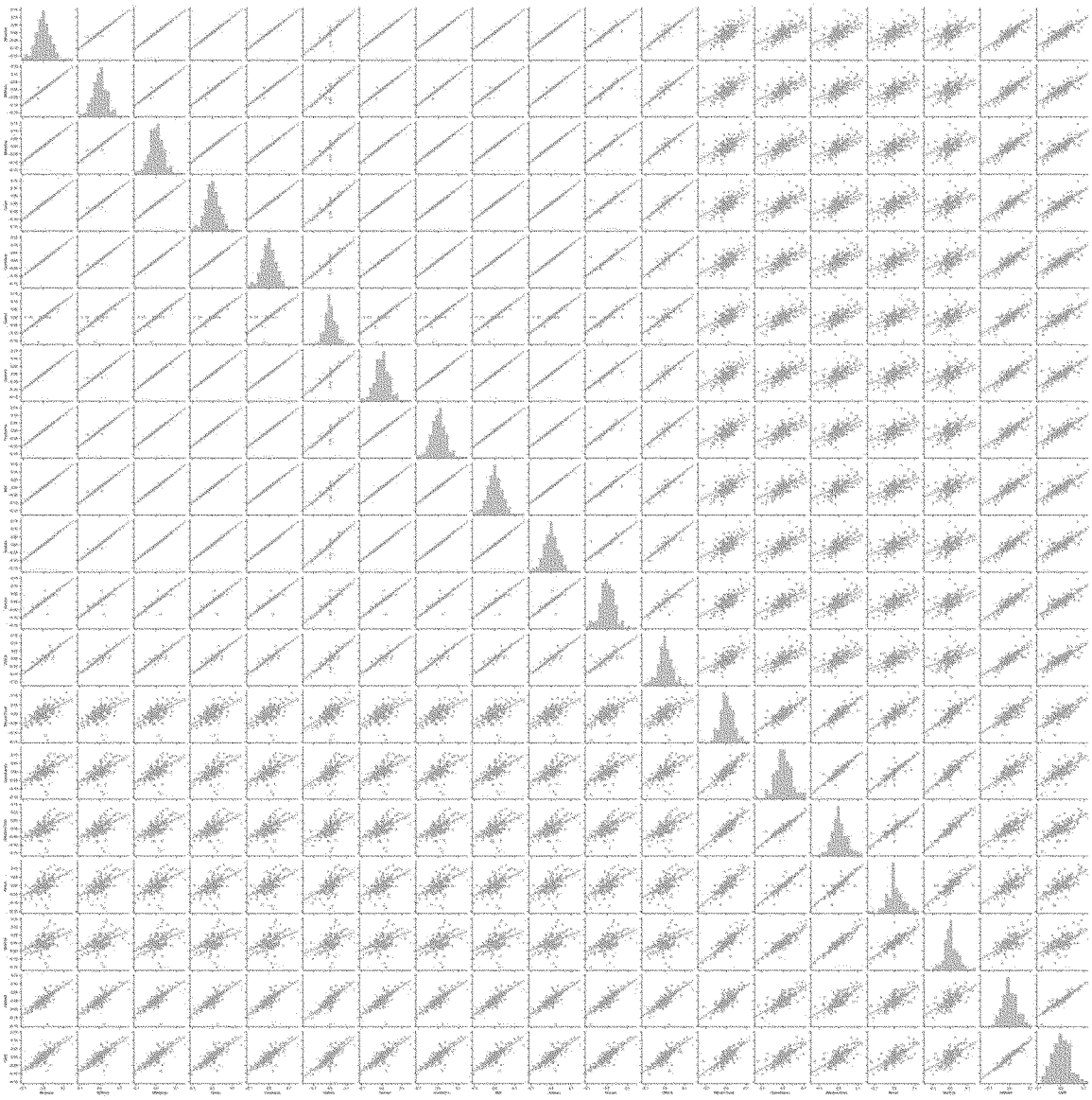
[53] Data on Bitcoin futures is obtained from *https://www.cmegroup.com/markets/cryptocurrencies/bitcoin/bitcoin.volume.html.*

[54] Data on Bitcoin volume traded on cryptocurrency exchanges is obtained from *https://www.cryptocompare.com.*

[55] The calculation of correlations used the period January 20, 2021 to October 1, 2021 as this is the common period across all the exchanges and data sources being analyzed.

[56] The Pearson correlation is a measure of linear association between two variables, and indicates the magnitude as well as direction of this relationship. The value can range between −1 (suggesting a strong negative association) and 1 (suggesting a strong positive association).

Pairwise Correlation of Bitcoin Daily Returns across Centralized Exchanges, ETPs, and the CME



Pair-wise correlations of Bitcoin returns are also calculated on hourly and minute-by-minute sampling frequencies in order to estimate the intra-day associations across the different Bitcoin markets. The results remain largely the same as shown in the charts below, with correlations ranging between 70% and 97% among centralized exchanges, and between 55% and 72% between ETPs and centralized exchanges. This suggests that Bitcoin prices across all considered markets move very similarly and in a very efficient manner to quickly reflect changes in market conditions, not only on a daily basis, but also at much higher intra-day frequencies.

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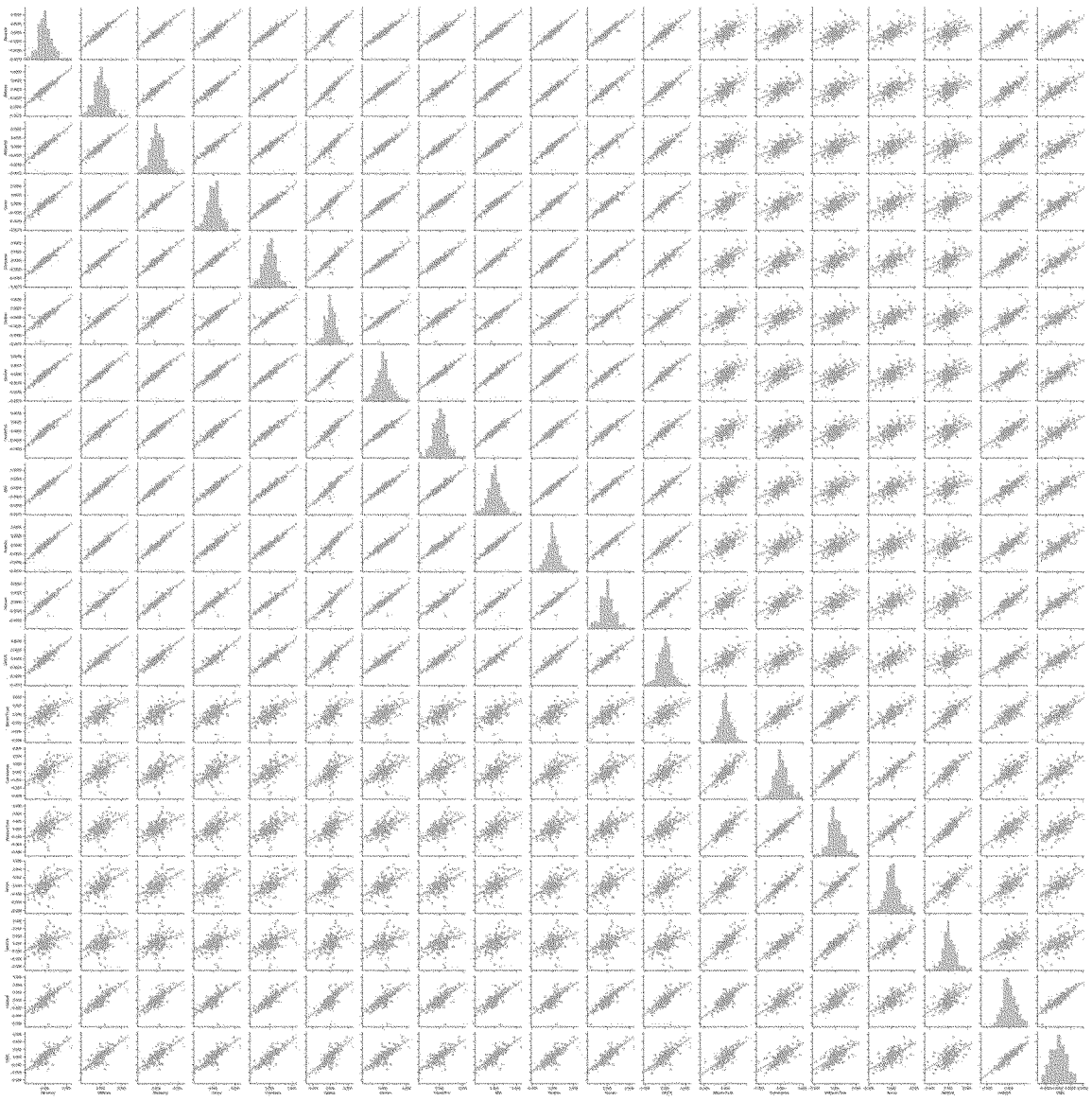
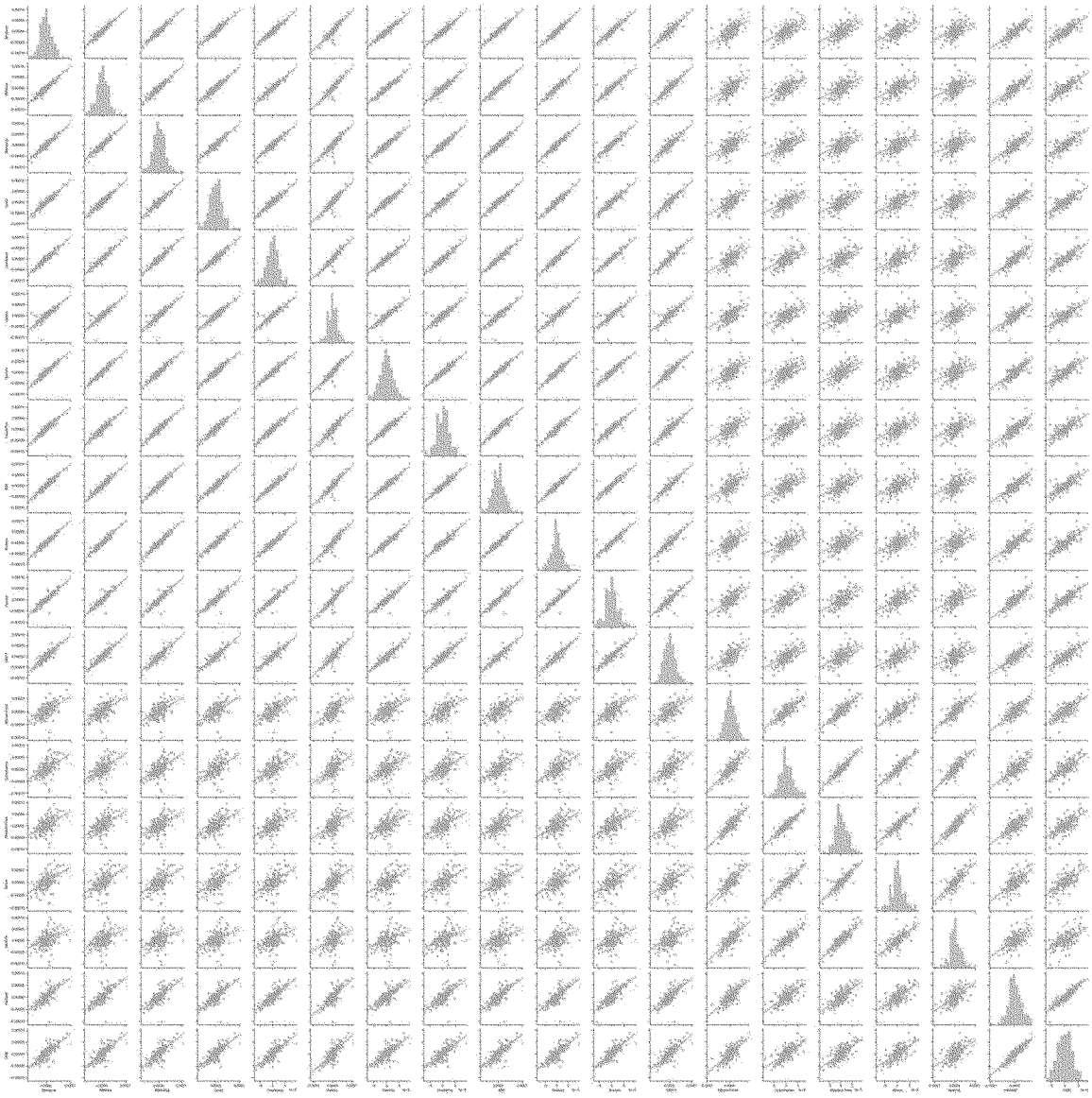
Pairwise Correlation of Bitcoin Hourly Returns across Centralized Exchanges, ETPs, and the CME



Pairwise Correlation of Bitcoin Minutely Returns across Centralized Exchanges, ETPs, and the CME



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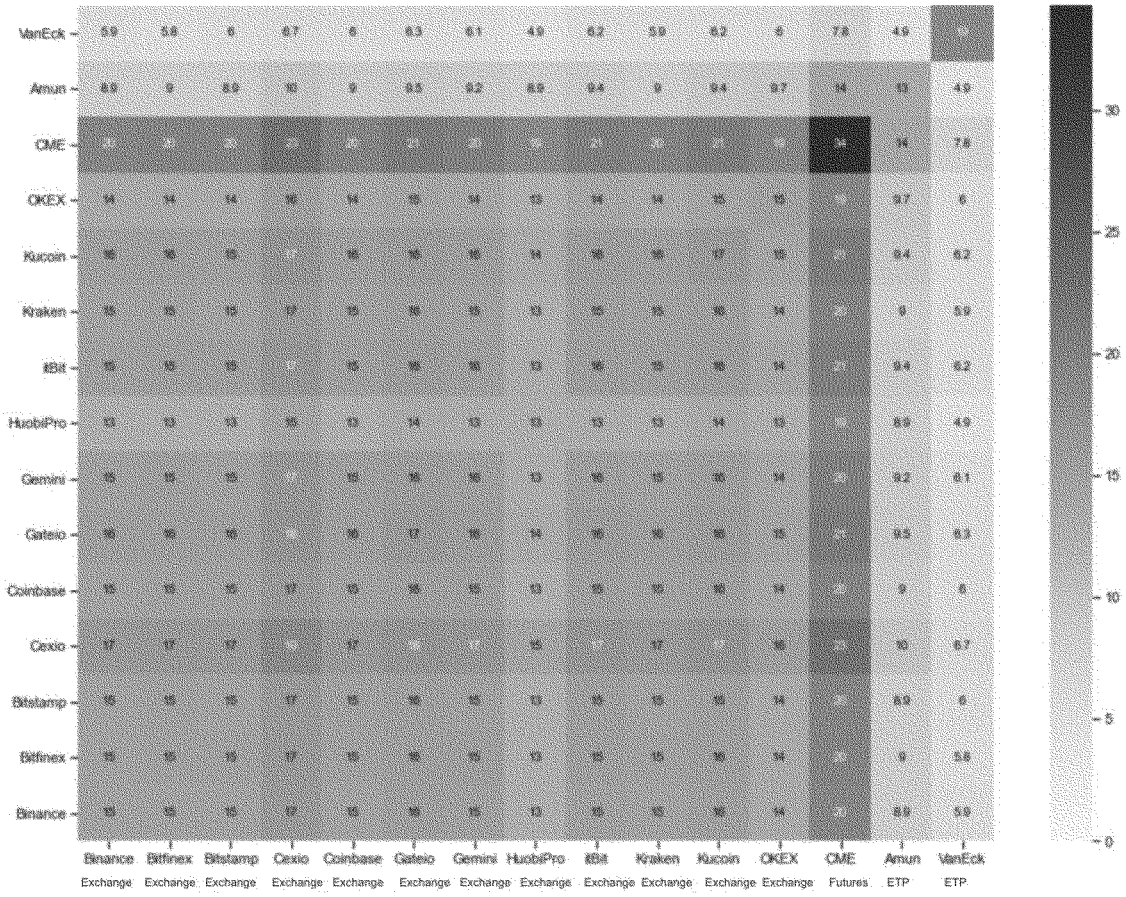
According to the Sponsor's research, this relationship holds true during periods of extreme price volatility. This implies that no single Bitcoin market can deviate significantly from the consensus, such that the market is sufficiently large and has an inherent unique resistance to manipulation.

Hence, the Sponsor introduces a statistical comoment called cokurtosis, which measures to what extent two random variables change together.[57] If two returns series exhibit a high degree of cokurtosis, this means that they tend to undergo extreme positive and negative changes simultaneously. A cokurtosis value larger than +3 or less than −3 is considered statistically significant. The following table shows that the level of cokurtosis is positive and very high between all market combinations of hourly returns,[58] which suggests that Bitcoin markets tend to move very similarly especially for extreme price deviations.

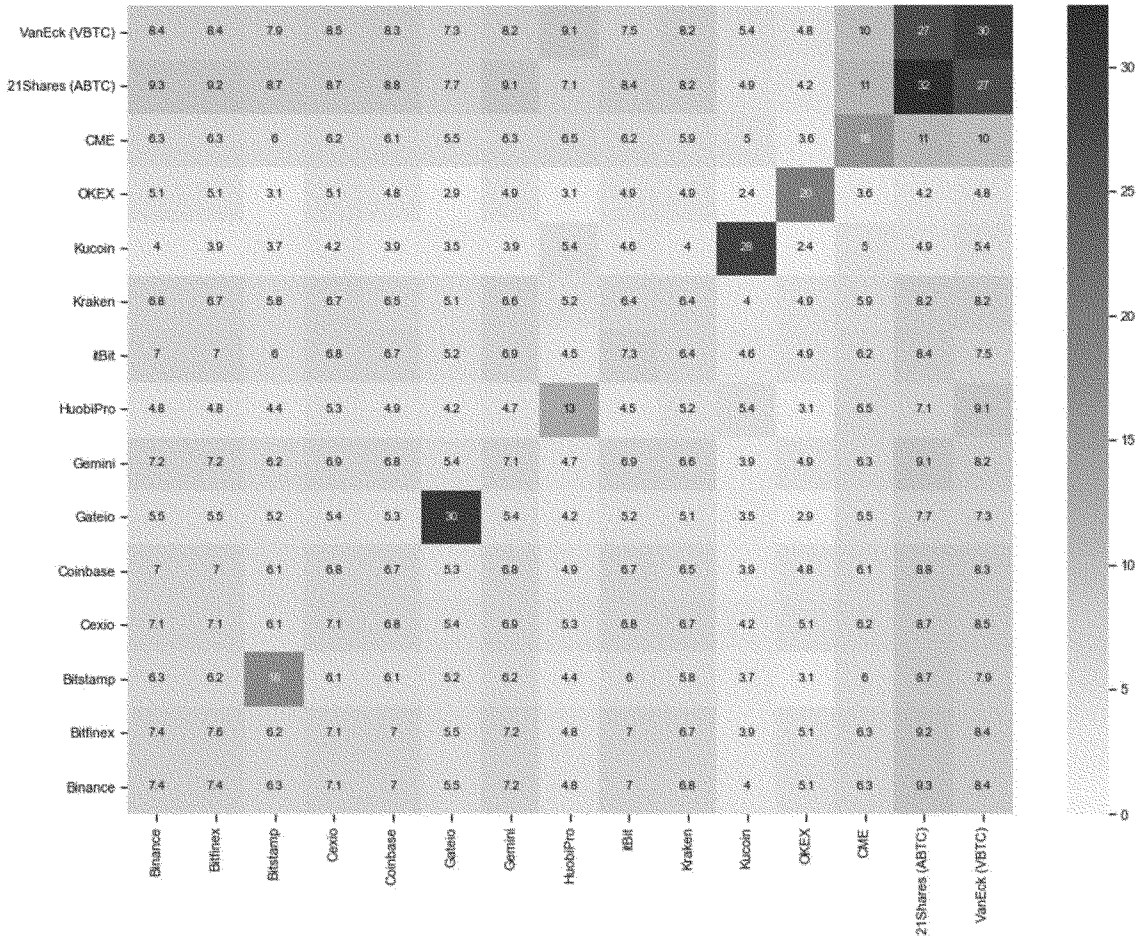
[57] Coskewness and Cokurtosis are higher order cross-moments used in finance to examine how assets move together. Coskewness measures the extent to which two variables undergo extreme deviations at the same time, whereby a positive (negative) value means that both values exhibit positive (negative) values simultaneously. While this measure is useful for estimating comovements in one direction or the other, it does not allow us to test whether two variables comove similarly in either direction. For that, we apply the cokurtosis, which measures the extent to which two variables undergo both extreme positive and negative deviations at the same time.

Cokurtosis of Bitcoin Hourly Returns across Centralized Exchanges, ETPs, and the CME



As a robustness check, the cokurtosis metric is also calculated using minute-by-minute returns, and the conclusion remains the same, suggesting that all Bitcoin markets move in tandem especially during extreme market movements.

Cokurtosis of Bitcoin Minutely Returns across Centralized Exchanges, ETPs, and the CME



These results present evidence of a robust global Bitcoin market that quickly reacts in a unanimous manner to extreme price movements across both the spot markets, futures and ETP markets.

The Sponsor further believes that academic research corroborates the overall trend outlined above and supports the thesis that the Bitcoin Futures pricing leads the spot market and, thus, a person attempting to manipulate the Shares would also have to trade on that market to manipulate the ETP. Specifically, the Sponsor believes that such research indicates that bitcoin futures lead the bitcoin spot market in price formation.[59]

Section 6(b)(5) and the Applicable Standards

The Commission has approved numerous series of Trust Issued Receipts,[60] including Commodity-Based Trust Shares,[61] to be listed on U.S. national securities exchanges. In order for any proposed rule change from an exchange to be approved, the Commission must determine that, among other things, the proposal is consistent with the requirements of Section 6(b)(5) of the Act, specifically including: (i) The requirement that a national securities exchange's rules are designed to prevent fraudulent and manipulative acts and practices;[62] and

[59] *See* Hu, Y., Hou, Y. and Oxley, L. (2019). ''What role do futures markets play in Bitcoin pricing? Causality, cointegration and price discovery from a time-varying perspective'' (available at: *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7481826/*). This academic research paper concludes that ''There exist no episodes where the Bitcoin spot markets dominates the price discovery processes with regard to Bitcoin futures. This points to a conclusion that the price formation originates solely in the Bitcoin futures market. We can, therefore, conclude that the Bitcoin futures markets dominate the dynamic price discovery process based upon time-varying information share measures. Overall, price discovery seems to occur in the Bitcoin futures markets rather than the underlying spot market based upon a time-varying perspective.''

[60] See Exchange Rule 14.11(f).

[61] Commodity-Based Trust Shares, as described in Exchange Rule 14.11(e)(4), are a type of Trust Issued Receipt.

[62] As the Exchange has stated in a number of other public documents, it continues to believe that bitcoin is resistant to price manipulation and that ''other means to prevent fraudulent and manipulative acts and practices'' exist to justify dispensing with the requisite surveillance sharing agreement. The geographically diverse and continuous nature of bitcoin trading render it difficult and prohibitively costly to manipulate the price of bitcoin. The fragmentation across bitcoin platforms, the relatively slow speed of transactions, and the capital necessary to maintain a significant presence on each trading platform make manipulation of bitcoin prices through continuous trading activity challenging. To the extent that there are bitcoin exchanges engaged in or allowing wash trading or other activity intended to manipulate the price of bitcoin on other markets, such pricing does not normally impact prices on other exchange because participants will generally ignore markets with quotes that they deem non-executable. Moreover, the linkage between the bitcoin markets and the presence of arbitrageurs in those markets means that the manipulation of the price of bitcoin price on any single venue would require manipulation of the global bitcoin price in order to be effective. Arbitrageurs must have funds distributed across multiple trading platforms in order to take advantage of temporary price dislocations, thereby making it unlikely that there

Continued

(ii) the requirement that an exchange proposal be designed, in general, to protect investors and the public interest. The Exchange believes that this proposal is consistent with the requirements of Section 6(b)(5) of the Act and that this filing sufficiently demonstrates that the CME Bitcoin Futures market represents a regulated market of significant size and that, on the whole, the manipulation concerns previously articulated by the Commission are sufficiently mitigated to the point that they are outweighed by quantifiable investor protection issues that would be resolved by approving this proposal.

(i) Designed To Prevent Fraudulent and Manipulative Acts and Practices

In order to meet this standard in a proposal to list and trade a series of Commodity-Based Trust Shares, the Commission requires that an exchange demonstrate that there is a comprehensive surveillance-sharing agreement in place [63] with a regulated market of significant size. Both the Exchange and CME are members of ISG.[64] The only remaining issue to be addressed is whether the Bitcoin Futures market constitutes a market of significant size, which both the Exchange and the Sponsor believe that it does. The terms ''significant market'' and ''market of significant size'' 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 manipulate the ETP, so that a surveillance-sharing agreement would assist the listing exchange 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.[65]

The Commission has also recognized that the ''regulated market of significant size'' standard is not the only means for satisfying Section 6(b)(5) of the act, specifically providing that a listing exchange could demonstrate that ''other means to prevent fraudulent and manipulative acts and practices'' are sufficient to justify dispensing with the requisite surveillance-sharing agreement.[66]

(a) Manipulation of the ETP

According to the Sponsor's research presented above, the Bitcoin Futures market is the leading market for bitcoin price formation. Where Bitcoin Futures lead the price in the spot market such that a potential manipulator of the bitcoin spot market (beyond just the constituents of the Index [67]) would have to participate in the Bitcoin Futures market, it follows that a potential manipulator of the Shares would similarly have to transact in the Bitcoin Futures market because the Index is based on spot prices. Further, the Trust only allows for in-kind creation and redemption, which, as further described below, reduces the potential for manipulation of the Shares through manipulation of the Index or any of its individual constituents, again emphasizing that a potential manipulator of the Shares would have to manipulate the entirety of the bitcoin spot market, which is led by the Bitcoin Futures market. As such, the Exchange believes that part (a) of the significant market test outlined above is satisfied and that common membership in ISG between the Exchange and CME would assist the listing exchange in detecting and deterring misconduct in the Shares.

(b) Predominant Influence on Prices in Spot and Bitcoin Futures

The Exchange and Sponsor also believe that trading in the Shares would not be the predominant force on prices in the Bitcoin Futures market or spot market for a number of reasons, including the significant volume in the Bitcoin Futures market, the size of bitcoin's market cap, and the significant liquidity available in the spot market. In addition to the Bitcoin Futures market data points cited above, the spot market for bitcoin is also very liquid. According to data from CoinRoutes from February 2021, the cost to buy or sell $5 million worth of bitcoin averages roughly 10 basis points with a market impact of 30 basis points.[68] For a $10 million market order, the cost to buy or sell is roughly 20 basis points with a market impact of 50 basis points. Stated another way, a market participant could enter a market buy or sell order for $10 million of bitcoin and only move the market 0.5%. More strategic purchases or sales (such as using limit orders and executing through OTC bitcoin trade desks) would likely have less obvious impact on the market—which is consistent with MicroStrategy, Tesla, and Square being able to collectively purchase billions of dollars in bitcoin. As such, the combination of Bitcoin Futures leading price discovery, the overall size of the bitcoin market, and the ability for market participants, including authorized participants creating and redeeming in-kind with the Trust, to buy or sell large amounts of bitcoin without significant market impact will help prevent the Shares from becoming the predominant force on pricing in either the bitcoin spot or Bitcoin Futures markets, satisfying part (b) of the test outlined above.

(c) Other Means To Prevent Fraudulent and Manipulative Acts and Practices

As noted above, the Commission also permits a listing exchange to demonstrate that ''other means to prevent fraudulent and manipulative acts and practices'' are sufficient to justify dispensing with the requisite surveillance-sharing agreement. The Exchange and Sponsor believe that such conditions are present. According to the Sponsor, a significant portion of the considerations around crypto pricing have historically stemmed from a lack of consistent pricing across markets. However, according to the Sponsor's

will be strong concentration of funds on any particular bitcoin exchange or OTC platform. As a result, the potential for manipulation on a trading platform would require overcoming the liquidity supply of such arbitrageurs who are effectively eliminating any cross-market pricing differences.

[63] As previously articulated by the Commission, ''The standard requires such surveillance-sharing agreements since ''they provide a necessary deterrent to manipulation because they facilitate the availability of information needed to fully investigate a manipulation if it were to occur.'' The Commission has emphasized that it is essential for an exchange listing a derivative securities product to enter into a surveillance-sharing agreement with markets trading underlying securities for the listing exchange to have the ability to obtain information necessary to detect, investigate, and deter fraud and market manipulation, as well as violations of exchange rules and applicable federal securities laws and rules. The hallmarks of a surveillance-sharing agreement are that the agreement provides for the sharing of information about market trading activity, clearing activity, and customer identity; that the parties to the agreement have reasonable ability to obtain access to and produce requested information; and that no existing rules, laws, or practices would impede one party to the agreement from obtaining this information from, or producing it to, the other party.'' The Commission has historically held that joint membership in the Intermarket Surveillance Group (''ISG'') constitutes such a surveillance sharing agreement. See Wilshire Phoenix Disapproval.

[64] For a list of the current members and affiliate members of ISG, see *www.isgportal.com.*

[65] *See* Wilshire Phoenix Disapproval.

[66] *See* Winklevoss Order at 37580. The Commission has also specifically noted that it ''is not applying a 'cannot be manipulated' standard; instead, the Commission is examining whether the proposal meets the requirements of the Exchange Act and, pursuant to its Rules of Practice, places the burden on the listing exchange to demonstrate the validity of its contentions and to establish that the requirements of the Exchange Act have been met.'' Id. at 37582.

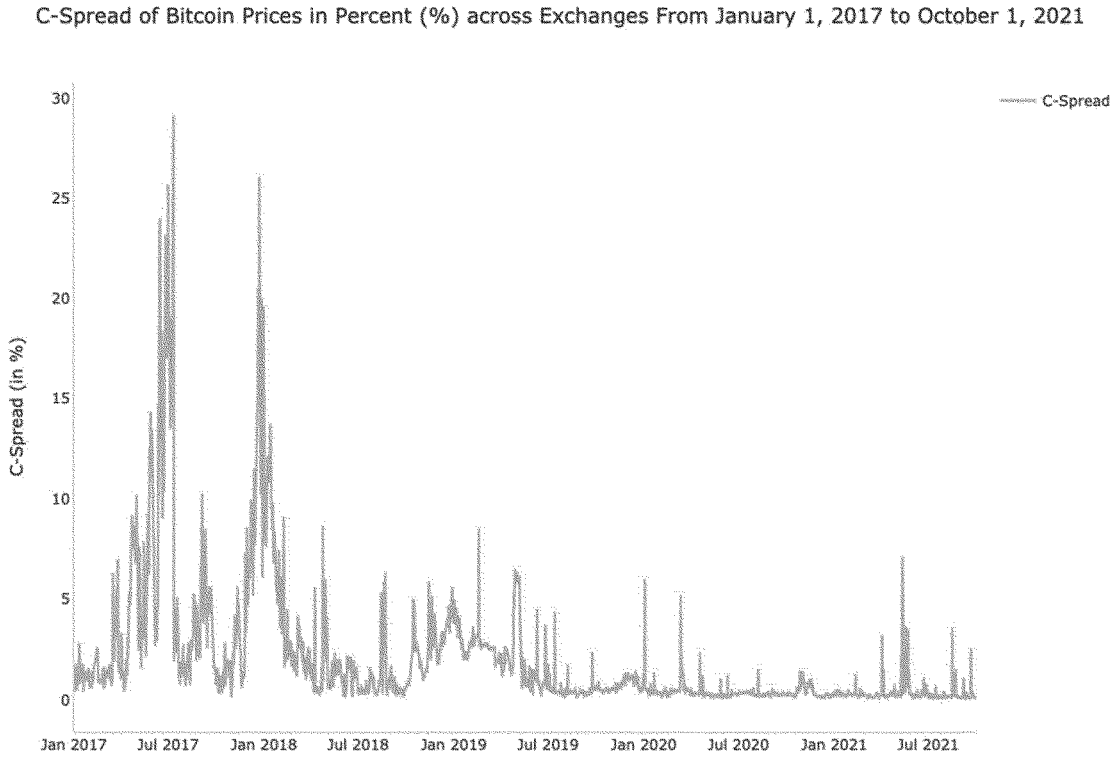
[67] As further described below, the ''Index'' for the Fund is the S&P Bitcoin Index. The current exchange composition of the Index is Binance, Bitfinex, Bitflyer, Bittrex, Bitstamp, Coinbase Pro, Gemini, HitBTC, Huobi, Kraken, KuCoin, and Poloniex.

[68] These statistics are based on samples of bitcoin liquidity in USD (excluding stablecoins or Euro liquidity) based on executable quotes on Coinbase Pro, Gemini, Bitstamp, Kraken, LMAX Exchange, BinanceUS, and OKCoin during February 2021.

research, cross-exchange spreads in Bitcoin have been declining consistently over the past several years. Based on the daily Bitcoin price series from several popular centralized exchanges [69] the Sponsor has calculated the largest cross-exchange percentage spread (labelled as %C-Spread) by deducting the highest or maximum price (P) at time t from the lowest or minimum, and dividing by the lowest across all exchanges (i). Formally, this is expressed as:

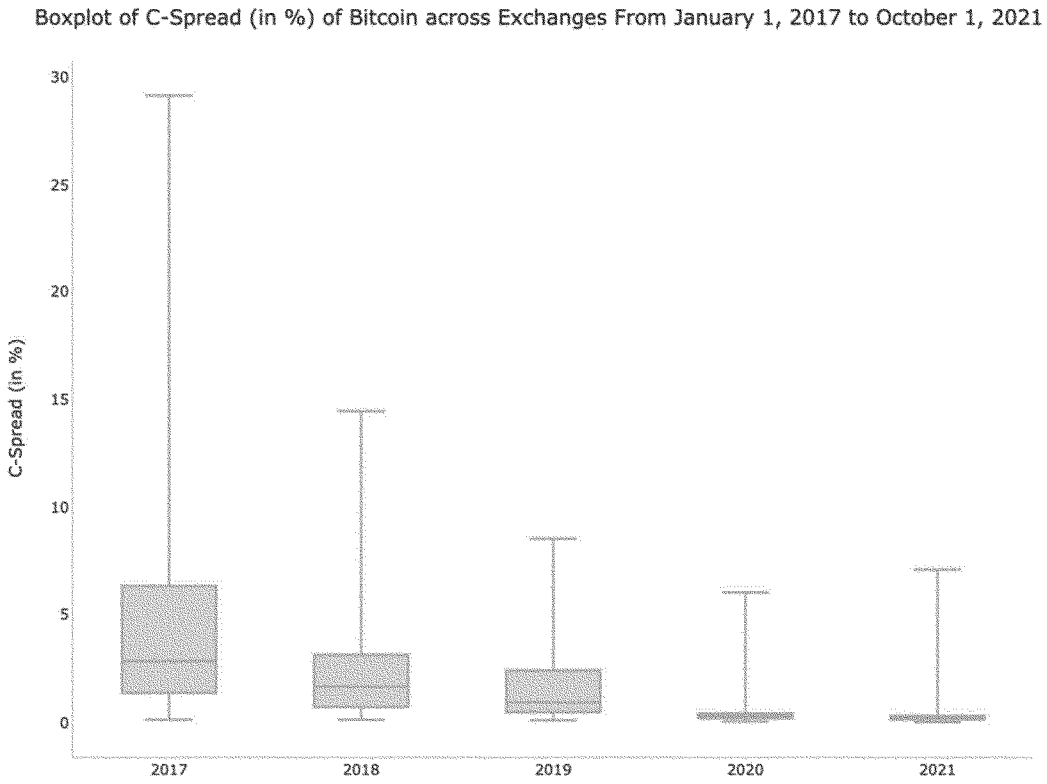
$$\%C - Spread_t = \frac{max(P_{i,t}) - min(P_{i,t})}{min(P_{i,t})}$$

The results show a clear and sharp decline in the %C-Spread, indicating that the Bitcoin market has become more efficient as cross-exchange prices have converged over time.



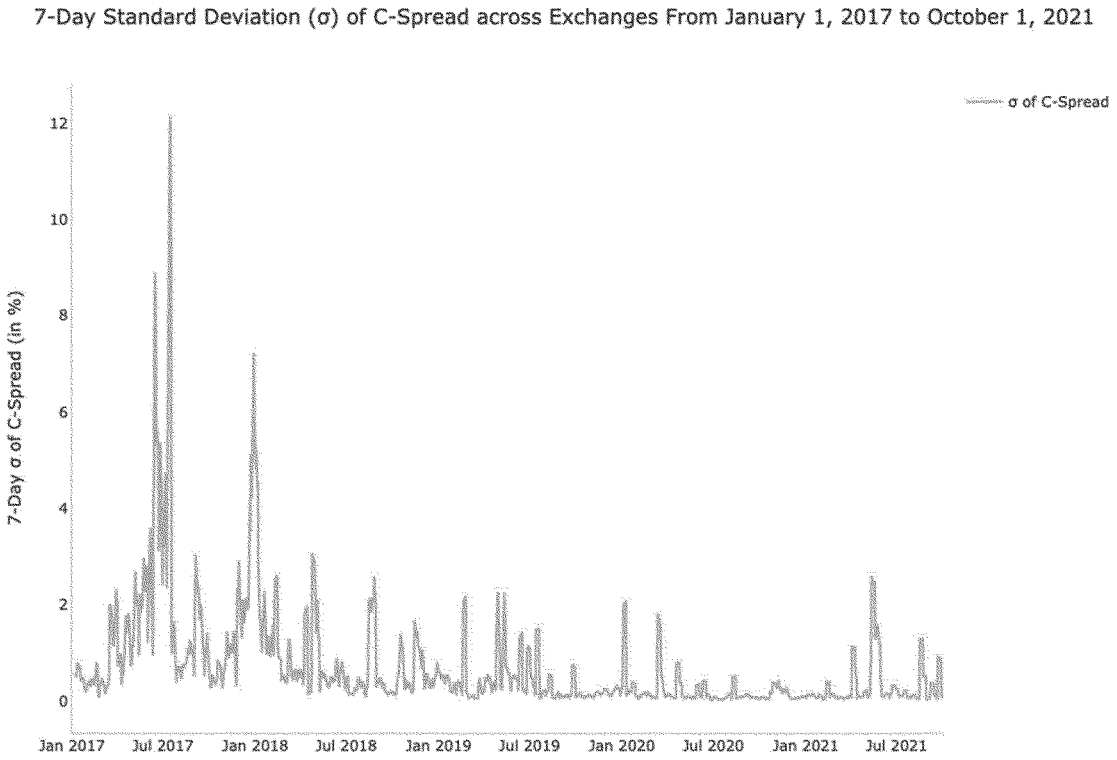
In addition, the magnitude of outlier % C-spreads has also declined over time. This boxplot shows that, not only did the median value of the %C-Spread decline over time, but also the extreme outlier values. For instance, the maximum %C-Spread for 2017, 2018, 2019, 2020, and 2021 are 29.14%, 14.45%, 8.54%, 6.04%, and 7.1%, respectively. The market has experienced a 38% year-on-year decline in the annual median %C-Spread indicating a greater degree of Bitcoin price convergence across exchanges and a more efficient market.

[69] The exchanges include Binance, Bitfinex, Bithumb, Bitstamp, Cexio, Coinbase, Coinone, Gateio, Gemini, HuobiPro, itBit, Kraken, Kucoin, and OKEX.

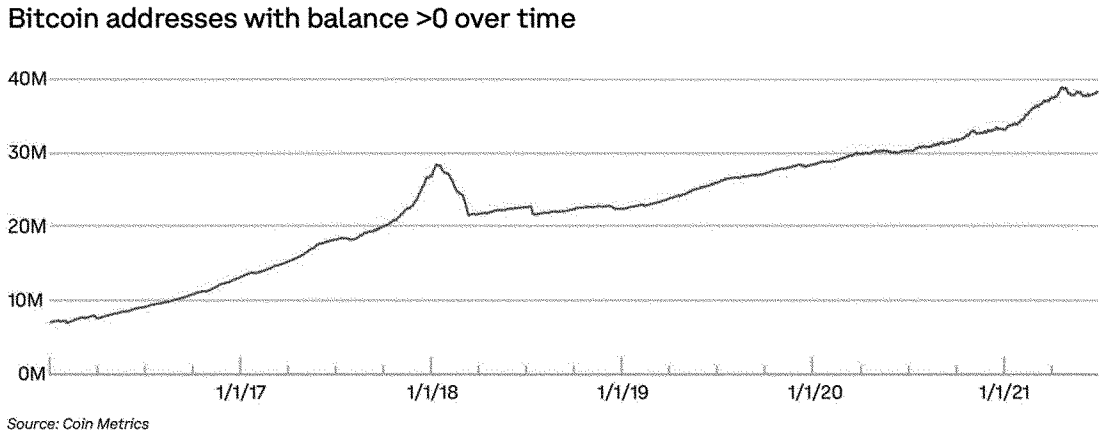


The dispersion (σ) of Bitcoin Prices has also declined over the same period. This chart shows the 7-day rolling standard deviation of the %C-Spread from January 1, 2017 to October 1, 2021. The Sponsor's research finds that the dispersion in Bitcoin prices across all exchanges has decreased over time, indicating that prices on all the considered exchanges converge towards the intrinsic average much more efficiently. This suggests that the market has become better at quickly reaching a consensus price for Bitcoin.

As the pricing of the crypto market becomes increasingly efficient, pricing methodologies become more accurate and less susceptible to manipulation. The clustering of prices across a variety of sources within the primary market points towards robust price discovery mechanisms and efficient arbitrage.



One factor that has contributed to the overall efficiency of, and improved price discovery within the Bitcoin market is the increase in the number of participants, and subsequently, the total dollar amount allocated to this market. This can be illustrated by the following chart, which shows the number of wallet addresses holding Bitcoin from January 2016 to June 2021.



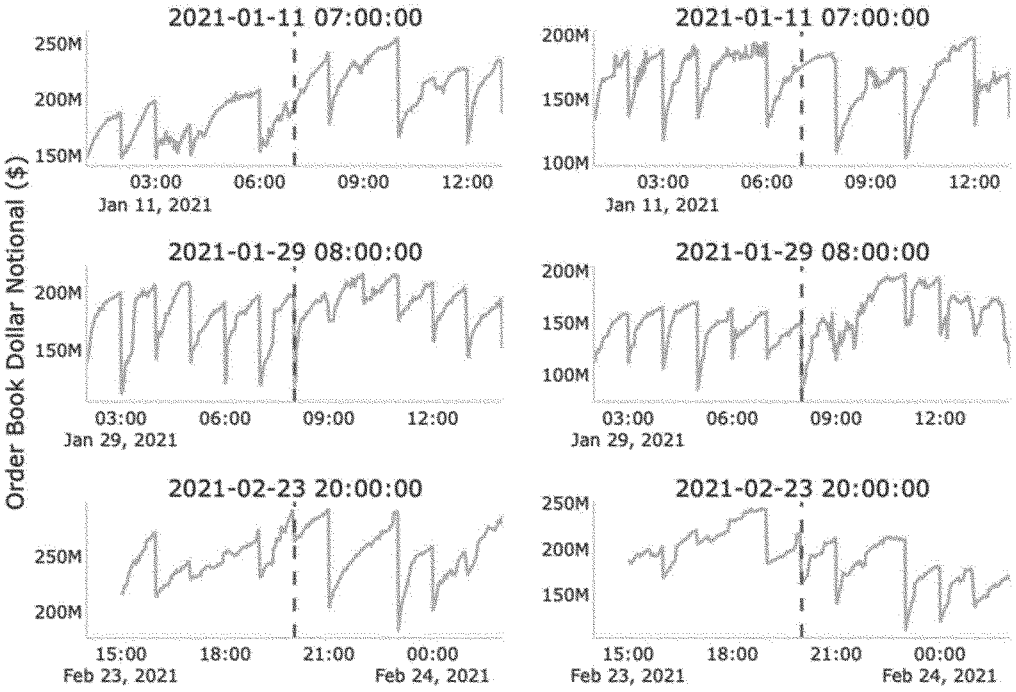
The increase in the number of participants has manifested itself in higher liquidity in the market. This is exhibited in the following chart, which shows the daily aggregated dollar notional of the bid and ask order books within the first 100 price levels across several of the largest centralized crypto exchanges from October 2020 to April 2021. Specifically, the dollar notional that is allocated closest to the mid price has increased from around $230 million to $860 million over that period, representing a 270% increase in half a year.

An increased notional order book suggests that there is a higher degree of consensus among investors regarding the price of Bitcoin. Moreover, this market characteristic hampers any attempt of price manipulation by any single large entity.

As a robustness check, the Sponsor investigates whether the dollar notional in the order book changes significantly prior to, and post an extreme price event. Specifically, for events constituting large increases in the price of Bitcoin, if the ask (or sell) side of the order book experiences a significant shrinkage in the dollar notional right before the event, then this may be an indication of market manipulation whereby the ask-side of the order book becomes sufficiently thin for a large order to move the price upward. Similarly, for events constituting large decreases in the price of Bitcoin, if the bid (or buy) side of the order book experiences a significant shrinkage in the dollar notional prior to such events, then this may be an indication of market manipulation whereby the thinner bid-side of the order book may potentially lead to significant downward price movements.

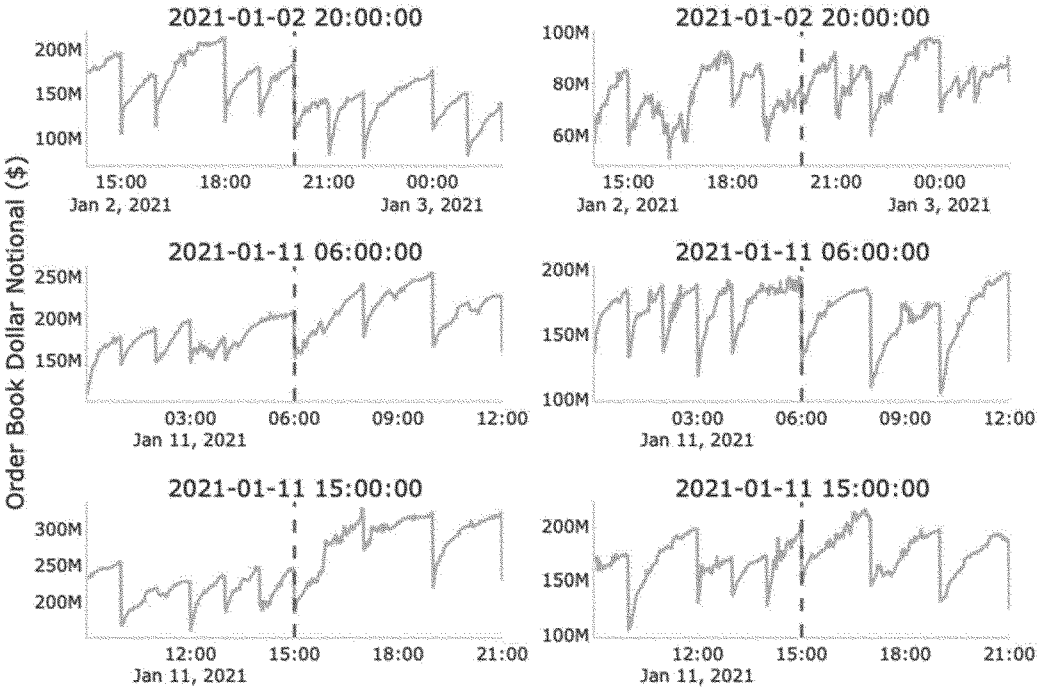
Using the top and bottom 0.1% of hourly price changes from October 2020 to April 2021 as events of extreme upward and downward market movements, respectively, the Sponsor plotted the bid (left charts) and ask (right charts) dollar notional of the Bitcoin order book within a six-hour window around these events in the chart below, which shows the results for extreme upward price movements. The extreme price events (indicated by the dashed green lines) perfectly coincide with the decrease in dollar notional of the ask-side of the order book. This is indicative of an efficient market, whereby large market movements are quickly and dynamically absorbed by a thick orderbook. Moreover, the dollar notional on the ask side after the event is replenished back to its pre-event level, which implies that market participants' reactions are quick to restore the market back to its equilibrium level.

Median Hourly Order Book Dollar Notional of Bid (Left Charts) and Ask (Right Charts) on Six Hours Pre and Post Extreme Price Deviations in the Top 0.1%



The same results and conclusions are found for extreme downward price movements. The charts below show that such price events perfectly coincide with shrinkages on the bid side of the order book (left charts), indicating an efficient and dynamic Bitcoin market. Moreover, the bid-side of the order book after the event is also restored back to its pre-event level, which suggests that the market is symmetrically efficient in moving back to equilibrium.

Median Hourly Order Book Dollar Notional of Bid (Left Charts) and Ask (Right Charts) on Six Hours Pre and Post Extreme Price Deviations in the Bottom 0.1%



Finally, offering only in-kind creation and redemption will provide unique protections against potential attempts to manipulate the Shares. While the Sponsor believes that the Index which it uses to value the Trust's bitcoin is itself resistant to manipulation based on the methodology further described below, the fact that creations and redemptions are only available in-kind makes the manipulability of the Index significantly less important. Specifically, because the Trust will not accept cash to buy bitcoin in order to create new shares or, barring a forced redemption of the Trust or under other extraordinary circumstances, be forced to sell bitcoin to pay cash for redeemed shares, the price that the Sponsor uses to value the Trust's bitcoin is not particularly important.[70] When authorized participants are creating with the Trust, they need to deliver a certain number of bitcoin per share (regardless of the valuation used) and when they're redeeming, they can similarly expect to receive a certain number of bitcoin per share. As such, even if the price used to value the Trust's bitcoin is manipulated (which the Sponsor believes that its methodology is resistant to), the ratio of bitcoin per Share does not change and the Trust will either accept (for creations) or distribute (for redemptions) the same number of bitcoin regardless of the value. This not only mitigates the risk associated with potential manipulation, but also discourages and disincentivizes manipulation of the Index because there is little financial incentive to do so.

(ii) Designed To Protect Investors and the Public Interest

The Exchange believes that the proposal is designed to protect investors and the public interest. Over the past several years, U.S. investor exposure to bitcoin through OTC Bitcoin Funds has grown into the tens of billions of dollars and more than a billion dollars of exposure through Bitcoin Futures ETFs. With that growth, so too has grown the quantifiable investor protection issues to U.S. investors through roll costs for Bitcoin Futures ETFs and premium/discount volatility and management fees for OTC Bitcoin Funds. The Exchange believes that the concerns related to the prevention of fraudulent and manipulative acts and practices have been sufficiently addressed to be consistent with the Act and, to the extent that the Commission disagrees with that assertion, such concerns are now outweighed by investor protection concerns. As such, the Exchange believes that approving this proposal (and comparable proposals) provides the Commission with the opportunity to allow U.S. investors with access to bitcoin in a regulated and transparent exchange-traded vehicle that would act to limit risk to U.S. investors by: (i) Reducing premium and discount volatility; (ii) reducing management fees through meaningful competition; (iii) reducing risks and costs associated with investing in Bitcoin Futures ETFs and operating companies that are imperfect proxies for bitcoin exposure; and (iv) providing an alternative to custodying spot bitcoin.

ARK 21Shares Bitcoin ETF

Delaware Trust Company is the trustee (''Trustee''). The Bank of New York Mellon will be the administrator (''Administrator'') and transfer agent (''Transfer Agent''). Foreside Global Services, LLC will be the marketing agent (''Marketing Agent'') in connection with the creation and redemption of ''Baskets'' of Shares. ARK Investment Management LLC (''ARK'') will provide assistance in the marketing of the Shares. Coinbase Custody Trust Company, LLC, a third-party regulated custodian (the ''Custodian''), will be responsible for custody of the Trust's bitcoin.

According to the Registration Statement, each Share will represent a

[70] While the Index will not be particularly important for the creation and redemption process, it will be used for calculating fees.

fractional undivided beneficial interest in the bitcoin held by the Trust. The Trust's assets will consist of bitcoin held by the Custodian on behalf of the Trust. The Trust generally does not intend to hold cash or cash equivalents. However, there may be situations where the Trust will unexpectedly hold cash on a temporary basis.

According to the Registration Statement, the Trust is neither an investment company registered under the Investment Company Act of 1940, as amended,[71] nor a commodity pool for purposes of the Commodity Exchange Act (''CEA''), and neither the Trust nor the Sponsor is subject to regulation as a commodity pool operator or a commodity trading adviser in connection with the Shares.

When the Trust sells or redeems its Shares, it will do so in ''in-kind'' transactions in blocks of 5,000 Shares (a ''Creation Basket'') at the Trust's NAV. Authorized participants will deliver, or facilitate the delivery of, bitcoin to the Trust's account with the Custodian in exchange for Shares when they purchase Shares, and the Trust, through the Custodian, will deliver bitcoin to such authorized participants when they redeem Shares with the Trust. Authorized participants may then offer Shares to the public at prices that depend on various factors, including the supply and demand for Shares, the value of the Trust's assets, and market conditions at the time of a transaction. Shareholders who buy or sell Shares during the day from their broker may do so at a premium or discount relative to the NAV of the Shares of the Trust.

Investment Objective

According to the Registration Statement and as further described below, the investment objective of the Trust is to seek to track the performance of bitcoin, as measured by the performance of the S&P Bitcoin Index (the ''Index''), adjusted for the Trust's expenses and other liabilities. In seeking to achieve its investment objective, the Trust will hold bitcoin and will value the Shares daily based on the Index. The Trust will process all creations and redemptions in-kind in transactions with authorized participants. The Trust is not actively managed.

The Index

As described in the Registration Statement, the Fund will use the Index to calculate the Trust's NAV. The Index is a U.S. dollar-denominated composite reference rate for the price of bitcoin. There is no component other than bitcoin in the Index. The underlying exchanges are sourced by Lukka Inc. (the ''Data Provider'')[72] based on a combination of qualitative and quantitative metrics to analyze a comprehensive data set and evaluate factors including legal/regulation, KYC/transaction risk, data provision, security, team/exchange, asset quality/diversity, market quality and negative events. The Index price is currently sourced from the following set of exchanges: Binance, Bitfinex, Bitflyer, Bittrex, Bitstamp, Coinbase Pro, Gemini, HitBTC, Huobi, Kraken, KuCoin, and Poloniex. As the digital ecosystem continues to evolve, the Data Provider can add additional or remove exchanges based on the processes established by Lukka's Pricing Integrity Oversight Board.[73]

The Index methodology is intended to determine the fair market value (''FMV'') for bitcoin by determining the principal market for bitcoin as of 4pm ET daily. The Index methodology uses a ranking approach that considers several exchange characteristics including oversight and intra-day trading volume. Specifically, to rank the credibility and quality of each exchange, the Data Provider dynamically assigns a Base Exchange Score (''BES'') score to the key characteristics for each exchange.

The BES reflects the fundamentals of an exchange and determines which exchange should be designated as the principal market at a given point of time. This score is determined by computing a weighted average of the values assigned to four different exchange characteristics. The exchange characteristics are as follows: (i) Oversight; (ii) microstructure efficiency; (iii) data transparency and (iv) data integrity.

Oversight

This score reflects the rules in place to protect and to give access to the investor. The score assigned for exchange oversight will depend on parameters such as jurisdiction, regulation, ''Know Your Customer and Anti-Money Laundering Compliance'' (KYC/AML), among other proprietary factors.

Microstructure Efficiency

The effective bid ask spread is used as a proxy for efficiency. For example, for each exchange and currency pair, the Data Provider takes an estimate of the ''effective spread'' relative to the price.

Data Transparency

Transparency is the term used for a quality score that is determined by the level of detail of the data offered by an exchange. The most transparent exchanges offer order-level data, followed by order book, trade-level, and then candles.

Data Integrity

Data integrity reconstructs orders to ensure the transaction amounts that make up an order equal the overall order amount matching on both a minute and daily basis. This data would help expose nefarious actions such as wash trading or other potential manipulation of data.

The methodology then applies a five-step weighting process for identifying a principal exchange and the last price on that exchange. Following this weighting process, an executed exchange price is assigned for bitcoin as of 4pm ET. The Index price is determined according to the following procedure:

- *Step 1:* Assign each exchange a Base Exchange Score (''BES'') reflecting static exchange characteristics such as oversight, microstructure and technology, as discussed below.
- *Step 2:* Adjust the BES based on the relative monthly volume each exchange services. This new score is the Volume Adjusted Score (''VAS'').
- *Step 3:* Decay the VAS based on the time passed since the last trade on the exchange. Here, the Data Provider is assessing the level of activity in the market by considering the frequency (volume) of trades. The decay factor reflects the time since the last trade on the exchange. This is the final Decayed Volume Adjusted Score (''DVAS''), which tracks the freshness of the data by tracking most recent trades.
- *Step 4:* Rank the exchanges by the DVAS score and designate the highest-ranking exchange as the principal market for that point in time. The principal market is the exchange with the highest DVAS.
- *Step 5:* After selecting a primary exchange, an executed exchange price is used for bitcoin representing FMV at 4p.m. ET. The Data Provider takes the last traded prices at that moment in time on that trading venue for the relevant

[71] 15 U.S.C. 80a–1.

[72] Lukka is an independent third-party digital asset data company engaged by the Sponsor to provide fair market value (FMV) bitcoin prices. This price, commercially available from Lukka, will form the basis for determining the value of the Trust's Bitcoin Holdings. Lukka is not affiliated with the Trust or the Sponsor other than through a commercial relationship. All of Lukka's products are also SOC 1 and 2 Type 2 certified.

[73] The purpose of Lukka's Pricing Integrity Oversight Board is to ensure (i) the integrity and validity of the Lukka pricing and valuation products and (ii) the Lukka pricing and valuation products remain fit for purpose in the rapidly evolving market and corresponding regulatory environments.

pair (Bitcoin/USD) when determining the Index price.

As discussed in the Registration Statement, the fact that there are multiple bitcoin spot markets that may contribute prices to the Index price makes manipulation more difficult in a well-arbitraged and fractured market, as a malicious actor would need to manipulate multiple spot markets simultaneously to impact the Index price, or dramatically skew the historical distribution of volume between the various exchanges.

The Data Provider has designed a series of automated algorithms designed to supplement the core Lukka Prime Methodology in enhancing the ability to detect potentially anomalous price activity which could be detrimental to the goal of obtaining a Fair Market Value price that is representative of the market at a point in time.[74]

In addition to the automated algorithms, the Data Provider has dedicated resources and has established committees to ensure all prices are representative of the market. Any price challenges will result in an independent analysis of the price. This includes assessing whether the price from the selected exchange is biased according to analyses designed to recognize patterns consistent with manipulative activity, such as a quick reversion to previous traded levels following a sharp price change or any significant deviations from the volume weighted average price on a particular exchange or pricing on any other exchange included in the Lukka Prime eligibility universe. Policies and procedures for any adjustments to prices or changes to core parameters (*e.g.,* exchange selection) are described in the Lukka Price Integrity Manual.[75]

Upon detection or external referral of suspect manipulative activities, the case is raised to the Price Integrity Oversight Board. These checks occur on an on-going, intraday basis and any investigations are typically resolved promptly, in clear cases within minutes and in more complex cases same business day. The evidence uncovered shall be turned over to the Data Provider's Price Integrity Oversight Board for final decision and action. The Price Integrity Oversight Board may choose to pick an alternative primary market and may exclude such market from future inclusion in the Index methodology or choose to stand by the original published price upon fully evaluating all available evidence. It may also initiate an investigation of prior prices from such markets and shall evaluate evidence presented on a case-by-case basis.

After the Lukka Prime price is generated, the S&P DJI (''The Index Provider'') performs independent quality checks as a second layer of validation to those employed by the Data Provider, including checks against assets with large price movements, assets with missing prices, assets with zero prices, assets with unchanged prices, assets that have ceased pricing and assets where the price does not match the Lukka Prime primary exchange. The Index Provider may submit a price challenge to Lukka if any of the checks listed above are found to be material. Lukka will perform an independent review of the price challenge to ensure the price is representative of the fair value of a particular cryptocurrency. If there is a change, the process will follow that described in the Recalculation Policy found on The Index Provider Digital Assets Indices Policies & Practices and Index Mathematics Methodology.

In addition, The Index Provider currently provides the below additional quality assurance mechanisms with respect to crypto price validation. These checks are based on current market conditions, internal system processes and other assessments. The Index Provider reserves the right within its sole discretion to supplement, modify and/or remove individual checks and/or the parameters used within the checks, at any time without notice.

Crypto Price and Exchange Validation

- Check for any assets with no price received from Lukka;
- Check for any assets with a zero price received from Lukka;
- Check for any assets with a large change from the previous day. (Outliers +/− 40%);
- Check for any assets with a stale price, aggregating the number of days the price remains stale;
- Confirm the Lukka price matches the Lukka Prime primary exchange price;
- Confirm the Lukka price is consistent with other Lukka Prime exchange prices;
- Check the volume of the Lukka Prime exchanges and challenge the Lukka primary exchange if the exchange is not within the top percentile of the trading volume for that asset;
- Aggregation of Lukka Prime primary exchange changes.

Availability of Information

In addition to the price transparency of the Index, the Trust will provide information regarding the Trust's bitcoin holdings as well as additional data regarding the Trust. The Trust will provide an Intraday Indicative Value (''IIV'') per Share updated every 15 seconds, as calculated by the Exchange or a third-party financial data provider during the Exchange's Regular Trading Hours (9:30 a.m. to 4:00 p.m. E.T.). The IIV will be calculated by using the prior day's closing NAV per Share as a base and updating that value during Regular Trading Hours to reflect changes in the value of the Trust's bitcoin holdings during the trading day.

The IIV disseminated during Regular Trading Hours should not be viewed as an actual real-time update of the NAV, which will be calculated only once at the end of each trading day. The IIV will be widely disseminated on a per Share basis every 15 seconds during the Exchange's Regular Trading Hours by one or more major market data vendors. In addition, the IIV will be available through on-line information services.

The website for the Trust, which will be publicly accessible at no charge, will contain the following information: (a) The current NAV per Share daily and the prior business day's NAV and the reported closing price; (b) the BZX Official Closing Price[76] in relation to the NAV as of the time the NAV is calculated and a calculation of the premium or discount of such price against such NAV; (c) data in chart form displaying the frequency distribution of discounts and premiums of the Official Closing Price against the NAV, within appropriate ranges for each of the four previous calendar quarters (or for the life of the Trust, if shorter); (d) the prospectus; and (e) other applicable quantitative information. The Trust will also disseminate the Trust's holdings on a daily basis on the Trust's website. The price of bitcoin will be made available by one or more major market data vendors, updated at least every 15 seconds during Regular Trading Hours. Information about the Index, including key elements of how the Index is calculated, will be publicly available at *https://www.spglobal.com/spdji/en/indices/digital-assets/sp-bitcoin-index//.*

The NAV for the Trust will be calculated by the Administrator once a day and will be disseminated daily to all market participants at the same time. Quotation and last-sale information

[74] Upon request, Lukka can provide additional information and detail to the Commission regarding the algorithms and data quality checks that are put in place, with confidential treatment requested.

[75] Upon request, Lukka can provide the Commission the Lukka Pricing Integrity Manual, with confidential treatment requested.

[76] As defined in Rule 11.23(a)(3), the term ''BZX Official Closing Price'' shall mean the price disseminated to the consolidated tape as the market center closing trade.

regarding the Shares will be disseminated through the facilities of the Consolidated Tape Association (''CTA'').

Quotation and last sale information for bitcoin is widely disseminated through a variety of major market data vendors, including Bloomberg and Reuters, as well as the Index. Information relating to trading, including price and volume information, in bitcoin is available from major market data vendors and from the exchanges on which bitcoin are traded. Depth of book information is also available from bitcoin exchanges. The normal trading hours for bitcoin exchanges are 24 hours per day, 365 days per year.

Net Asset Value

NAV means the total assets of the Trust including, but not limited to, all bitcoin and cash less total liabilities of the Trust, each determined on the basis of generally accepted accounting principles. The Administrator determines the NAV of the Trust on each day that the Exchange is open for regular trading, as promptly as practical after 4:00 p.m. EST. The NAV of the Trust is the aggregate value of the Trust's assets less its estimated accrued but unpaid liabilities (which include accrued expenses). In determining the Trust's NAV, the Administrator values the bitcoin held by the Trust based on the price set by the Index as of 4:00 p.m. EST. The Administrator also determines the NAV per Share.

Creation and Redemption of Shares

According to the Registration Statement, on any business day, an authorized participant may place an order to create one or more baskets. Purchase orders must be placed by 4:00 p.m. Eastern Time, or the close of regular trading on the Exchange, whichever is earlier. The day on which an order is received is considered the purchase order date. The total deposit of bitcoin required is an amount of bitcoin that is in the same proportion to the total assets of the Trust, net of accrued expenses and other liabilities, on the date the order to purchase is properly received, as the number of Shares to be created under the purchase order is in proportion to the total number of Shares outstanding on the date the order is received. Each night, the Sponsor will publish the amount of bitcoin that will be required in exchange for each creation order. The Administrator determines the required deposit for a given day by dividing the number of bitcoin held by the Trust as of the opening of business on that business day, adjusted for the amount of bitcoin constituting estimated accrued but unpaid fees and expenses of the Trust as of the opening of business on that business day, by the quotient of the number of Shares outstanding at the opening of business divided by 5,000. The procedures by which an authorized participant can redeem one or more Creation Baskets mirror the procedures for the creation of Creation Baskets.

Rule 14.11(e)(4)—Commodity-Based Trust Shares

The Shares will be subject to BZX Rule 14.11(e)(4), which sets forth the initial and continued listing criteria applicable to Commodity-Based Trust Shares. The Exchange will obtain a representation that the Trust's NAV will be calculated daily and that these values and information about the assets of the Trust will be made available to all market participants at the same time. The Exchange notes that, as defined in Rule 14.11(e)(4)(C)(i), the Shares will be: (a) Issued by a trust that holds a specified commodity [77] deposited with the trust; (b) issued by such trust in a specified aggregate minimum number in return for a deposit of a quantity of the underlying commodity; and (c) when aggregated in the same specified minimum number, may be redeemed at a holder's request by such trust which will deliver to the redeeming holder the quantity of the underlying commodity.

Upon termination of the Trust, the Shares will be removed from listing. The Trustee, Delaware Trust Company, is a trust company having substantial capital and surplus and the experience and facilities for handling corporate trust business, as required under Rule 14.11(e)(4)(E)(iv)(a) and that no change will be made to the trustee without prior notice to and approval of the Exchange. The Exchange also notes that, pursuant to Rule 14.11(e)(4)(F), neither the Exchange nor any agent of the Exchange shall have any liability for damages, claims, losses or expenses caused by any errors, omissions or delays in calculating or disseminating any underlying commodity value, the current value of the underlying commodity required to be deposited to the Trust in connection with issuance of Commodity-Based Trust Shares; resulting from any negligent act or omission by the Exchange, or any agent of the Exchange, or any act, condition or cause beyond the reasonable control of the Exchange, its agent, including, but not limited to, an act of God; fire; flood; extraordinary weather conditions; war; insurrection; riot; strike; accident; action of government; communications or power failure; equipment or software malfunction; or any error, omission or delay in the reports of transactions in an underlying commodity. Finally, as required in Rule 14.11(e)(4)(G), the Exchange notes that any registered market maker (''Market Maker'') in the Shares must file with the Exchange in a manner prescribed by the Exchange and keep current a list identifying all accounts for trading in an underlying commodity, related commodity futures or options on commodity futures, or any other related commodity derivatives, which the registered Market Maker may have or over which it may exercise investment discretion. No registered Market Maker shall trade in an underlying commodity, related commodity futures or options on commodity futures, or any other related commodity derivatives, in an account in which a registered Market Maker, directly or indirectly, controls trading activities, or has a direct interest in the profits or losses thereof, which has not been reported to the Exchange as required by this Rule. In addition to the existing obligations under Exchange rules regarding the production of books and records (see, *e.g.,* Rule 4.2), the registered Market Maker in Commodity-Based Trust Shares shall make available to the Exchange such books, records or other information pertaining to transactions by such entity or registered or non-registered employee affiliated with such entity for its or their own accounts for trading the underlying physical commodity, related commodity futures or options on commodity futures, or any other related commodity derivatives, as may be requested by the Exchange.

Trading Halts

With respect to trading halts, the Exchange may consider all relevant factors in exercising its discretion to halt or suspend trading in the Shares. The Exchange will halt trading in the Shares under the conditions specified in BZX Rule 11.18. Trading may be halted because of market conditions or for reasons that, in the view of the Exchange, make trading in the Shares inadvisable. These may include: (1) The extent to which trading is not occurring in the bitcoin underlying the Shares; or (2) whether other unusual conditions or circumstances detrimental to the maintenance of a fair and orderly market are present. Trading in the Shares also will be subject to Rule

[77] For purposes of Rule 14.11(e)(4), the term commodity takes on the definition of the term as provided in the Commodity Exchange Act. As noted above, the CFTC has opined that Bitcoin is a commodity as defined in Section 1a(9) of the Commodity Exchange Act. *See* Coinflip.

14.11(e)(4)(E)(ii), which sets forth circumstances under which trading in the Shares may be halted.

Trading Rules

The Exchange deems the Shares to be equity securities, thus rendering trading in the Shares subject to the Exchange's existing rules governing the trading of equity securities. BZX will allow trading in the Shares during all trading sessions on the Exchange. The Exchange has appropriate rules to facilitate transactions in the Shares during all trading sessions. As provided in BZX Rule 11.11(a), the minimum price variation for quoting and entry of orders in securities traded on the Exchange is $0.01 where the price is greater than $1.00 per share or $0.0001 where the price is less than $1.00 per share.

Surveillance

The Exchange believes that its surveillance procedures are adequate to properly monitor the trading of the Shares on the Exchange during all trading sessions and to deter and detect violations of Exchange rules and the applicable federal securities laws. Trading of the Shares through the Exchange will be subject to the Exchange's surveillance procedures for derivative products, including Commodity-Based Trust Shares. The issuer has represented to the Exchange that it will advise the Exchange of any failure by the Trust or the Shares to comply with the continued listing requirements, and, pursuant to its obligations under Section 19(g)(1) of the Exchange Act, the Exchange will surveil for compliance with the continued listing requirements. If the Trust or the Shares are not in compliance with the applicable listing requirements, the Exchange will commence delisting procedures under Exchange Rule 14.12. The Exchange may obtain information regarding trading in the Shares and Bitcoin Futures via ISG, from other exchanges who are members or affiliates of the ISG, or with which the Exchange has entered into a comprehensive surveillance sharing agreement.[78]

Information Circular

Prior to the commencement of trading, the Exchange will inform its members in an Information Circular of the special characteristics and risks associated with trading the Shares. Specifically, the Information Circular will discuss the following: (i) The procedures for the creation and redemption of Baskets (and that the Shares are not individually redeemable); (ii) BZX Rule 3.7, which imposes suitability obligations on Exchange members with respect to recommending transactions in the Shares to customers; (iii) how information regarding the IIV and the Trust's NAV are disseminated; (iv) the risks involved in trading the Shares outside of Regular Trading Hours[79] when an updated IIV will not be calculated or publicly disseminated; (v) the requirement that members deliver a prospectus to investors purchasing newly issued Shares prior to or concurrently with the confirmation of a transaction; and (vi) trading information.

In addition, the Information Circular will advise members, prior to the commencement of trading, of the prospectus delivery requirements applicable to the Shares. Members purchasing the Shares for resale to investors will deliver a prospectus to such investors. The Information Circular will also discuss any exemptive, no-action and interpretive relief granted by the Commission from any rules under the Act.

2. Statutory Basis

The Exchange believes that the proposal is consistent with Section 6(b) of the Act[80] in general and Section 6(b)(5) of the Act[81] in particular in that it is 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 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.

The Commission has approved numerous series of Trust Issued Receipts,[82] including Commodity-Based Trust Shares,[83] to be listed on U.S. national securities exchanges. In order for any proposed rule change from an exchange to be approved, the Commission must determine that, among other things, the proposal is consistent with the requirements of Section 6(b)(5) of the Act, specifically including: (i) The requirement that a national securities exchange's rules are designed to prevent fraudulent and manipulative acts and practices;[84] and (ii) the requirement that an exchange proposal be designed, in general, to protect investors and the public interest. The Exchange believes that this proposal is consistent with the requirements of Section 6(b)(5) of the Act and that this filing sufficiently demonstrates that the CME Bitcoin Futures market represents a regulated market of significant size and that, on the whole, the manipulation concerns previously articulated by the Commission are sufficiently mitigated to the point that they are outweighed by quantifiable investor protection issues that would be resolved by approving this proposal.

(i) Designed To Prevent Fraudulent and Manipulative Acts and Practices

In order to meet this standard in a proposal to list and trade a series of Commodity-Based Trust Shares, the Commission requires that an exchange demonstrate that there is a comprehensive surveillance-sharing

[78] For a list of the current members and affiliate members of ISG, *see www.isgportal.com.*

[79] Regular Trading Hours is the time between 9:30 a.m. and 4:00 p.m. Eastern Time.

[80] 15 U.S.C. 78f.

[81] 15 U.S.C. 78f(b)(5).

[82] See Exchange Rule 14.11(f).

[83] Commodity-Based Trust Shares, as described in Exchange Rule 14.11(e)(4), are a type of Trust Issued Receipt.

[84] As the Exchange has stated in a number of other public documents, it continues to believe that bitcoin is resistant to price manipulation and that "other means to prevent fraudulent and manipulative acts and practices" exist to justify dispensing with the requisite surveillance sharing agreement. The geographically diverse and continuous nature of bitcoin trading render it difficult and prohibitively costly to manipulate the price of bitcoin. The fragmentation across bitcoin platforms, the relatively slow speed of transactions, and the capital necessary to maintain a significant presence on each trading platform make manipulation of bitcoin prices through continuous trading activity challenging. To the extent that there are bitcoin exchanges engaged in or allowing wash trading or other activity intended to manipulate the price of bitcoin on other markets, such activity does not normally impact prices on other exchange because participants will generally ignore markets with quotes that they deem non-executable. The reason is that wash trading aims to manipulate the volume rather than the price of an asset to give the impression of heightened market activity in hopes of attracting investors to that asset. Moreover, wash trades are executed within an exchange rather than cross exchange since the entity executing the wash trades would aim to trade against itself, and as such, this can only happen within an exchange. Should the wash trades of that entity result in a deviation of the price on that exchange relative to others, arbitrageurs would then be able to capitalize on this mispricing, and bring the manipulated price back to equilibrium, resulting in a loss to the entity executing the wash trades. Moreover, the linkage between the bitcoin markets and the presence of arbitrageurs in those markets means that the manipulation of the price of bitcoin price on any single venue would require manipulation of the global bitcoin price in order to be effective. Arbitrageurs must have funds distributed across multiple trading platforms in order to take advantage of temporary price dislocations, thereby making it unlikely that there will be strong concentration of funds on any particular bitcoin exchange or OTC platform. As a result, the potential for manipulation on a trading platform would require overcoming the liquidity supply of such arbitrageurs who are effectively eliminating any cross-market pricing differences.

agreement in place[85] with a regulated market of significant size. Both the Exchange and CME are members of ISG.[86] The only remaining issue to be addressed is whether the Bitcoin Futures market constitutes a market of significant size, which both the Exchange and the Sponsor believe that it does. The terms ''significant market'' and ''market of significant size'' 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 manipulate the ETP, so that a surveillance-sharing agreement would assist the listing exchange 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.[87]

The Commission has also recognized that the ''regulated market of significant size'' standard is not the only means for satisfying Section 6(b)(5) of the act, specifically providing that a listing exchange could demonstrate that ''other means to prevent fraudulent and manipulative acts and practices'' are sufficient to justify dispensing with the requisite surveillance-sharing agreement.[88]

(a) Manipulation of the ETP

According to the Sponsor's research presented above, the Bitcoin Futures market is the leading market for bitcoin price formation. Where Bitcoin Futures lead the price in the spot market such that a potential manipulator of the bitcoin spot market (beyond just the constituents of the Index[89]) would have to participate in the Bitcoin Futures market, it follows that a potential manipulator of the Shares would similarly have to transact in the Bitcoin Futures market because the Index is based on spot prices. Further, the Trust only allows for in-kind creation and redemption, which, as further described below, reduces the potential for manipulation of the Shares through manipulation of the Index or any of its individual constituents, again emphasizing that a potential manipulator of the Shares would have to manipulate the entirety of the bitcoin spot market, which is led by the Bitcoin Futures market. As such, the Exchange believes that part (a) of the significant market test outlined above is satisfied and that common membership in ISG between the Exchange and CME would assist the listing exchange in detecting and deterring misconduct in the Shares.

(b) Predominant Influence on Prices in Spot and Bitcoin Futures

The Exchange and Sponsor also believe that trading in the Shares would not be the predominant force on prices in the Bitcoin Futures market or spot market for a number of reasons, including the significant volume in the Bitcoin Futures market, the size of bitcoin's market cap, and the significant liquidity available in the spot market. In addition to the Bitcoin Futures market data points cited above, the spot market for bitcoin is also very liquid. According to data from CoinRoutes from February 2021, the cost to buy or sell $5 million worth of bitcoin averages roughly 10 basis points with a market impact of 30 basis points.[90] For a $10 million market order, the cost to buy or sell is roughly 20 basis points with a market impact of 50 basis points. Stated another way, a market participant could enter a market buy or sell order for $10 million of bitcoin and only move the market 0.5%. More strategic purchases or sales (such as using limit orders and executing through OTC bitcoin trade desks) would likely have less obvious impact on the market—which is consistent with MicroStrategy, Tesla, and Square being able to collectively purchase billions of dollars in bitcoin. As such, the combination of Bitcoin Futures leading price discovery, the overall size of the bitcoin market, and the ability for market participants, including authorized participants creating and redeeming in-kind with the Trust, to buy or sell large amounts of bitcoin without significant market impact will help prevent the Shares from becoming the predominant force on pricing in either the bitcoin spot or Bitcoin Futures markets, satisfying part (b) of the test outlined above.

(c) Other Means To Prevent Fraudulent and Manipulative Acts and Practices

As noted above, the Commission also permits a listing exchange to demonstrate that ''other means to prevent fraudulent and manipulative acts and practices'' are sufficient to justify dispensing with the requisite surveillance-sharing agreement. The Exchange and Sponsor believe that such conditions are present. According to the Sponsor, a significant portion of the considerations around crypto pricing have historically stemmed from a lack of consistent pricing across markets. However, according to the Sponsor's research, cross-exchange spreads in Bitcoin have been declining consistently over the past several years. Based on the daily Bitcoin price series from several popular centralized exchanges[91] the Sponsor has calculated the largest cross-exchange percentage spread (labelled as %C-Spread) by deducting the highest or maximum price (P) at time t from the lowest or minimum, and dividing by the lowest across all exchanges (i). Formally, this is expressed as:

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[85] As previously articulated by the Commission, ''The standard requires such surveillance-sharing agreements since ''they provide a necessary deterrent to manipulation because they facilitate the availability of information needed to fully investigate a manipulation if it were to occur.'' The Commission has emphasized that it is essential for an exchange listing a derivative securities product to enter into a surveillance-sharing agreement with markets trading underlying securities for the listing exchange to have the ability to obtain information necessary to detect, investigate, and deter fraud and market manipulation, as well as violations of exchange rules and applicable federal securities laws and rules. The hallmarks of a surveillance-sharing agreement are that the agreement provides for the sharing of information about market trading activity, clearing activity, and customer identity; that the parties to the agreement have reasonable ability to obtain access to and produce requested information; and that no existing rules, laws, or practices would impede one party to the agreement from obtaining this information from, or producing it to, the other party.'' The Commission has historically held that joint membership in ISG constitutes such a surveillance sharing agreement. See Wilshire Phoenix Disapproval.

[86] For a list of the current members and affiliate members of ISG, see *www.isgportal.com.*

[87] *See* Wilshire Phoenix Disapproval.

[88] *See* Winklevoss Order at 37580. The Commission has also specifically noted that it ''is not applying a 'cannot be manipulated' standard; instead, the Commission is examining whether the proposal meets the requirements of the Exchange Act and, pursuant to its Rules of Practice, places the burden on the listing exchange to demonstrate the validity of its contentions and to establish that the requirements of the Exchange Act have been met.'' Id. at 37582.

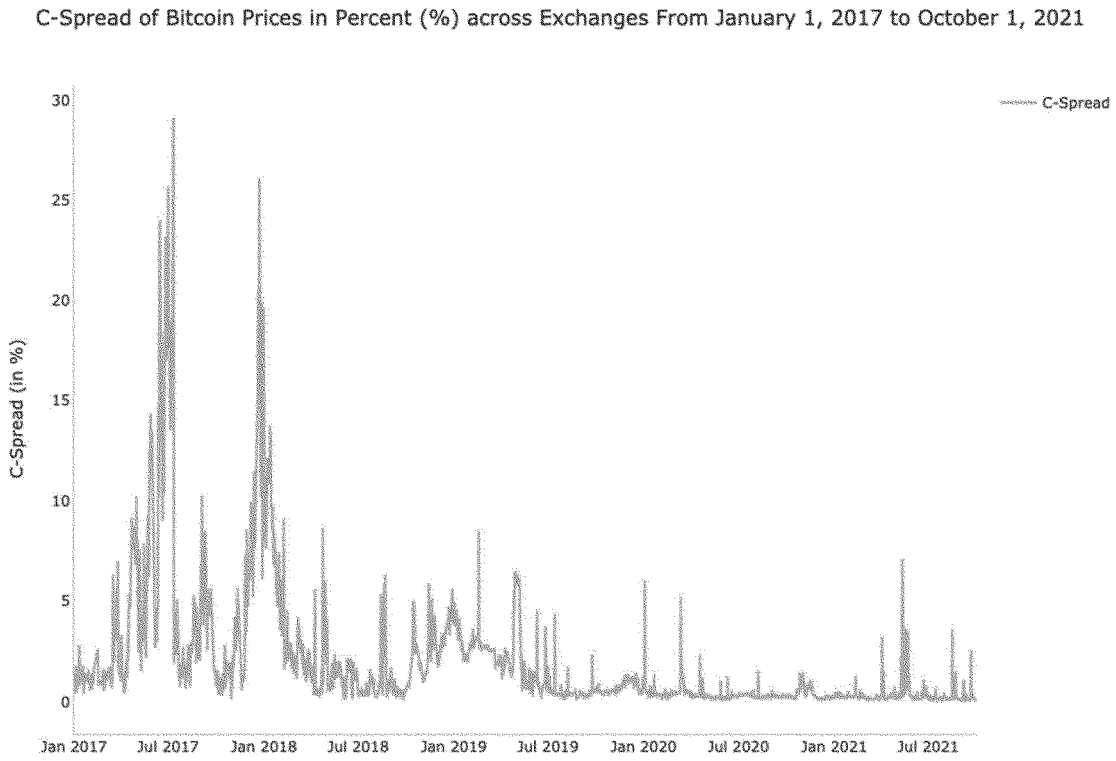
[89] As further described below, the ''Index'' for the Fund is the S&P Bitcoin Index. The current exchange composition of the Index is Binance, Bitfinex, Bitflyer, Bittrex, Bitstamp, Coinbase Pro, Gemini, HitBTC, Huobi, Kraken, KuCoin, and Poloniex.

[90] These statistics are based on samples of bitcoin liquidity in USD (excluding stablecoins or Euro liquidity) based on executable quotes on Coinbase Pro, Gemini, Bitstamp, Kraken, LMAX Exchange, BinanceUS, and OKCoin during February 2021.

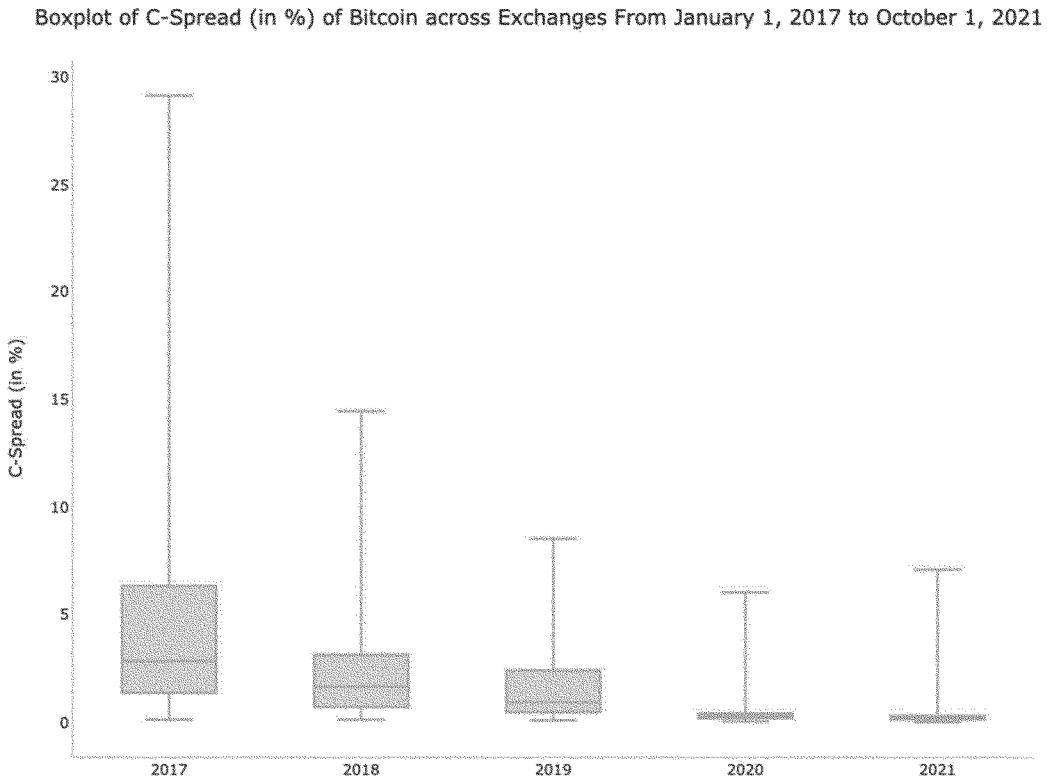
[91] The exchanges include Binance, Bitfinex, Bithumb, Bitstamp, Cexio, Coinbase, Coinone, Gateio, Gemini, HuobiPro, itBit, Kraken, Kucoin, and OKEX.

$$\%C - Spread_t = \frac{max(P_{i,t}) - min(P_{i,t})}{min(P_{i,t})}$$

The results show a clear and sharp decline in the %C-Spread, indicating that the Bitcoin market has become more efficient as cross-exchange prices have converged over time.

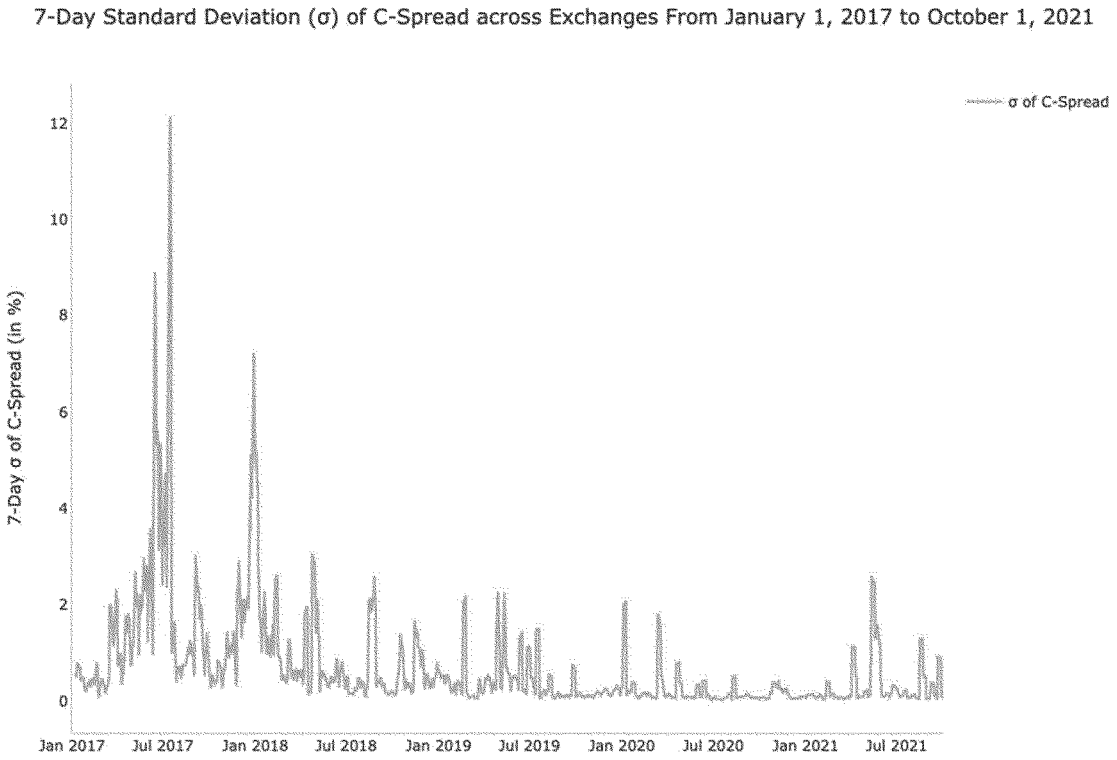


In addition, the magnitude of outlier % C-spreads has also declined over time. This boxplot shows that, not only did the median value of the %C-Spread decline over time, but also the extreme outlier values. For instance, the maximum %C-Spread for 2017, 2018, 2019, 2020, and 2021 are 29.14%, 14.45%, 8.54%, 6.04%, and 7.1%, respectively. The market has experienced a 38% year-on-year decline in the annual median %C-Spread indicating a greater degree of Bitcoin price convergence across exchanges and a more efficient market.

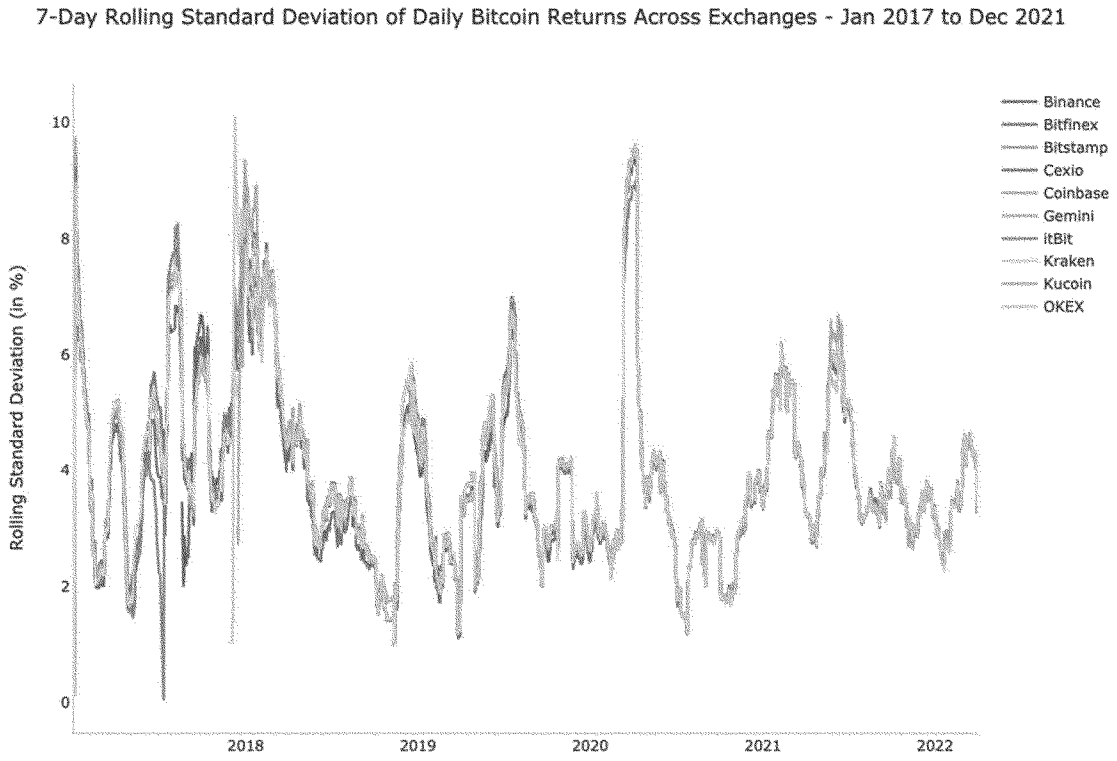


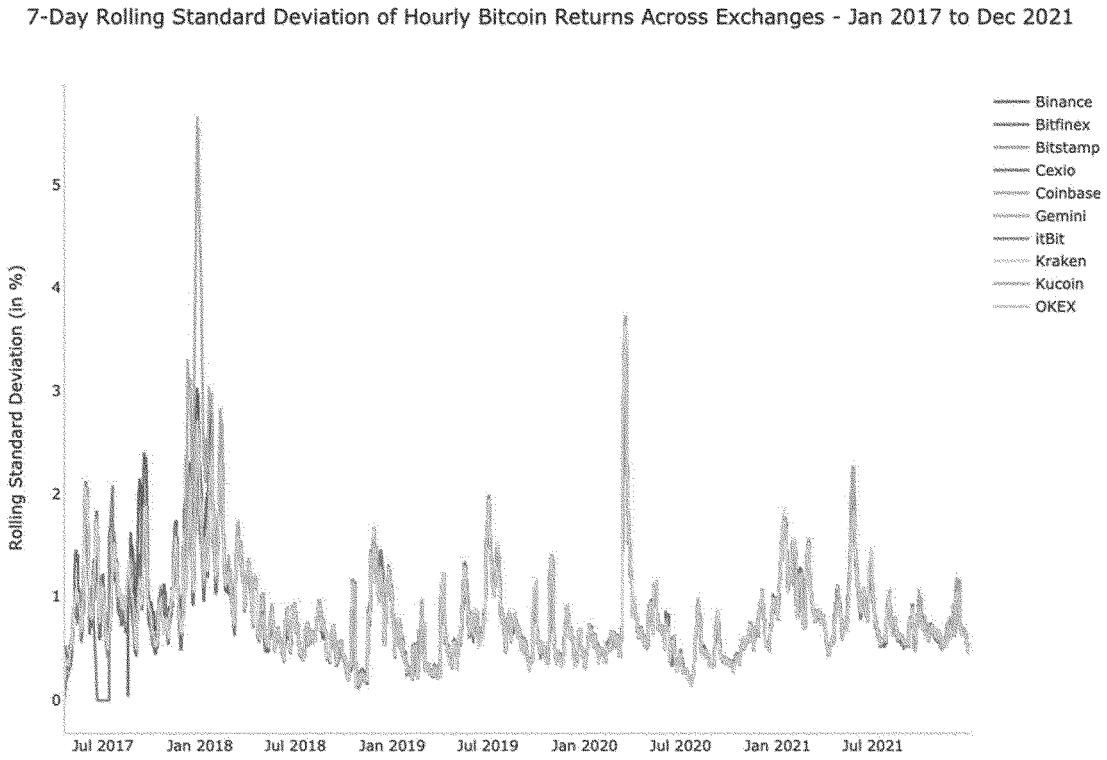
The dispersion (σ) of Bitcoin Prices has also declined over the same period. This chart shows the 7-day rolling standard deviation of the %C-Spread from January 1, 2017 to October 1, 2021. The Sponsor's research finds that the dispersion in Bitcoin prices across all exchanges has decreased over time, indicating that prices on all the considered exchanges converge towards the intrinsic average much more efficiently. This suggests that the market has become better at quickly reaching a consensus price for Bitcoin.

As the pricing of the crypto market becomes increasingly efficient, pricing methodologies become more accurate and less susceptible to manipulation. The clustering of prices across a variety of sources within the primary market points towards robust price discovery mechanisms and efficient arbitrage.

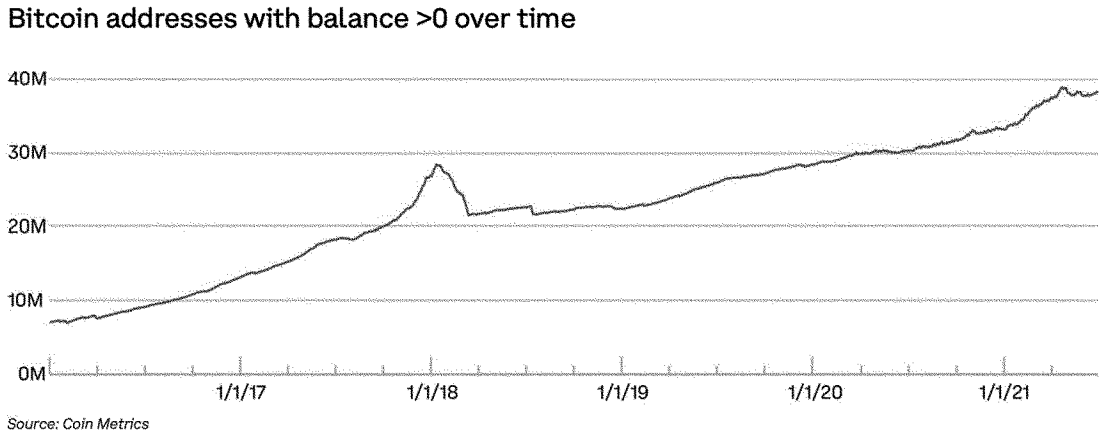


It is very important to note that the cross-exchange spreads, and therefore the process of price discovery in the Bitcoin market has improved significantly over time despite the market experiencing rather uniform albeit sinusoidal volatility. This can be shown in the graphs below where we can clearly observe a slightly decreasing yet consistent level of volatility in the Bitcoin market based on daily and hourly returns across the considered exchanges. Again, this further supports the argument that the Bitcoin market has exhibited significant improvements in terms of price discovery over time, irrespective and despite of the volatility of the asset itself, which can be attributed to efficient arbitrage operations.





One factor that has contributed to the overall efficiency of, and improved price discovery within the Bitcoin market is the increase in the number of participants, and subsequently, the total dollar amount allocated to this market. This can be illustrated by the following chart, which shows the number of wallet addresses holding Bitcoin from January 2016 to June 2021.



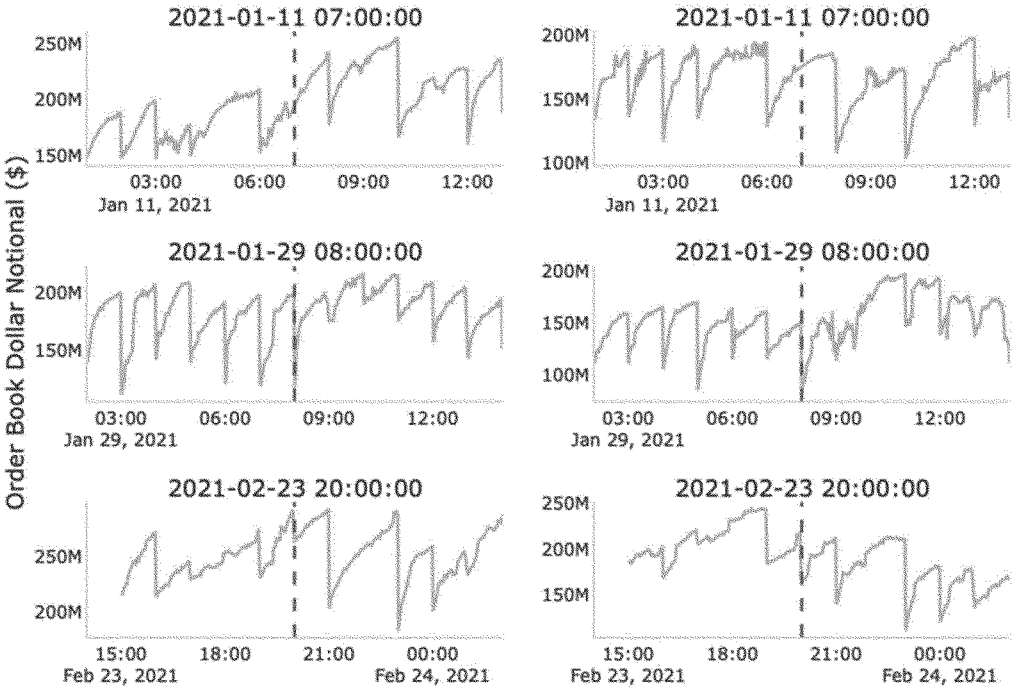
The increase in the number of participants has manifested itself in higher liquidity in the market. This is exhibited in the following chart, which shows the daily aggregated dollar notional of the bid and ask order books within the first 100 price levels across several of the largest centralized crypto exchanges from October 2020 to April 2021. Specifically, the dollar notional that is allocated closest to the mid price has increased from around $230 million to $860 million over that period, representing a 270% increase in half a year.

An increased notional order book suggests that there is a higher degree of consensus among investors regarding the price of Bitcoin. Moreover, this market characteristic hampers any attempt of price manipulation by any single large entity.

As a robustness check, the Sponsor investigates whether the dollar notional in the order book changes significantly prior to, and post an extreme price event. Specifically, for events constituting large increases in the price of Bitcoin, if the ask (or sell) side of the order book experiences a significant shrinkage in the dollar notional right before the event, then this may be an indication of market manipulation whereby the ask-side of the order book becomes sufficiently thin for a large order to move the price upward. Similarly, for events constituting large decreases in the price of Bitcoin, if the bid (or buy) side of the order book experiences a significant shrinkage in the dollar notional prior to such events, then this may be an indication of market manipulation whereby the thinner bid-side of the order book may potentially lead to significant downward price movements.

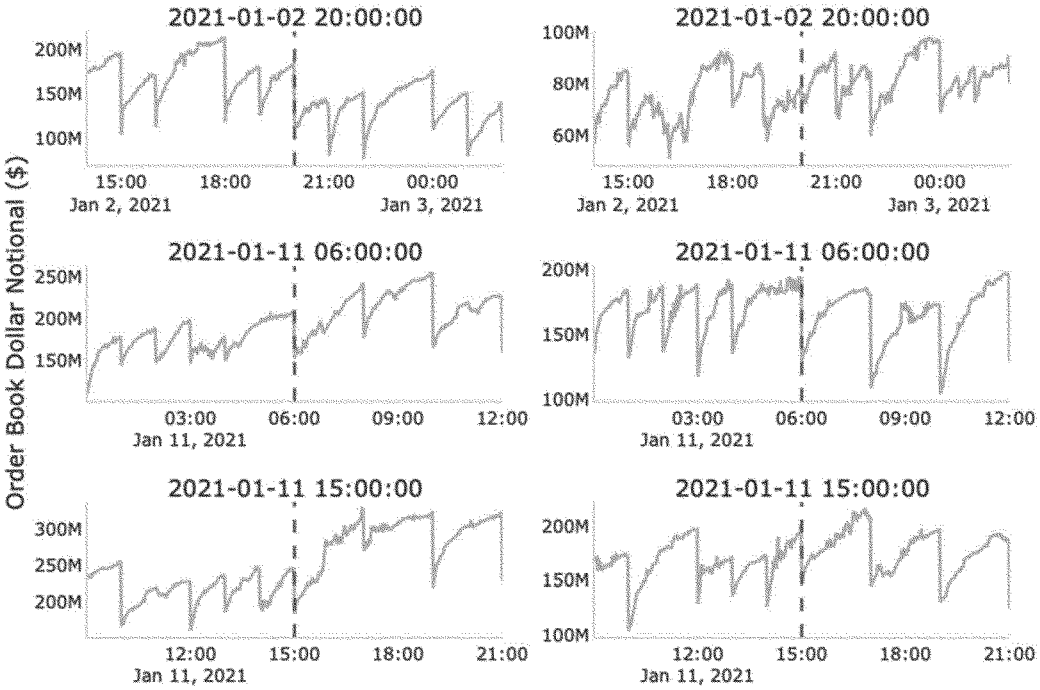
Using the top and bottom 0.1% of hourly price changes from October 2020 to April 2021 as events of extreme upward and downward market movements, respectively, the Sponsor plotted the bid (left charts) and ask (right charts) dollar notional of the Bitcoin order book within a six-hour window around these events in the chart below, which shows the results for extreme upward price movements. The extreme price events (indicated by the dashed green lines) perfectly coincide with the decrease in dollar notional of the ask-side of the order book. This is indicative of an efficient market, whereby large market movements are quickly and dynamically absorbed by a thick orderbook. Moreover, the dollar notional on the ask side after the event is replenished back to its pre-event level, which implies that market participants' reactions are quick to restore the market back to its equilibrium level.

Median Hourly Order Book Dollar Notional of Bid (Left Charts) and Ask (Right Charts) on Six Hours Pre and Post Extreme Price Deviations in the Top 0.1%



The same results and conclusions are found for extreme downward price movements. The charts below show that such price events perfectly coincide with shrinkages on the bid side of the order book (left charts), indicating an efficient and dynamic Bitcoin market. Moreover, the bid-side of the order book after the event is also restored back to its pre-event level, which suggests that the market is symmetrically efficient in moving back to equilibrium.

Median Hourly Order Book Dollar Notional of Bid (Left Charts) and Ask (Right Charts) on Six Hours Pre and Post Extreme Price Deviations in the Bottom 0.1%



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Finally, offering only in-kind creation and redemption will provide unique protections against potential attempts to manipulate the Shares. While the Sponsor believes that the Index which it uses to value the Trust's bitcoin is itself resistant to manipulation based on the methodology further described below, the fact that creations and redemptions are only available in-kind makes the manipulability of the Index significantly less important. Specifically, because the Trust will not accept cash to buy bitcoin in order to create new shares or, barring a forced redemption of the Trust or under other extraordinary circumstances, be forced to sell bitcoin to pay cash for redeemed shares, the price that the Sponsor uses to value the Trust's bitcoin is not particularly important.[92] When authorized participants are creating with the Trust, they need to deliver a certain number of bitcoin per share (regardless of the valuation used) and when they're redeeming, they can similarly expect to receive a certain number of bitcoin per share. As such, even if the price used to value the Trust's bitcoin is manipulated (which the Sponsor believes that its methodology is resistant to), the ratio of bitcoin per Share does not change and the Trust will either accept (for creations) or distribute (for redemptions) the same number of bitcoin regardless of the value. This not only mitigates the risk associated with potential manipulation, but also discourages and disincentivizes manipulation of the Index because there is little financial incentive to do so.

(ii) Designed To Protect Investors and the Public Interest

The Exchange believes that the proposal is designed to protect investors and the public interest. Over the past several years, U.S. investor exposure to bitcoin through OTC Bitcoin Funds has grown into the tens of billions of dollars and more than a billion dollars of exposure through Bitcoin Futures ETFs. With that growth, so too has grown the quantifiable investor protection issues to U.S. investors through roll costs for Bitcoin Futures ETFs and premium/discount volatility and management fees for OTC Bitcoin Funds. The Exchange believes that the concerns related to the prevention of fraudulent and manipulative acts and practices have been sufficiently addressed to be consistent with the Act and, to the extent that the Commission disagrees with that assertion, also believes that such concerns are now outweighed by these investor protection concerns. As such, the Exchange believes that approving this proposal (and comparable proposals) provides the Commission with the opportunity to allow U.S. investors with access to bitcoin in a regulated and transparent exchange-traded vehicle that would act to limit risk to U.S. investors by: (i) Reducing premium and discount volatility; (ii) reducing management fees through meaningful competition; (iii) reducing risks and costs associated with investing in Bitcoin Futures ETFs and operating companies that are imperfect proxies for bitcoin exposure; and (iv) providing an alternative to custodying spot bitcoin.

Commodity-Based Trust Shares

The Exchange believes that the proposed rule change is designed to prevent fraudulent and manipulative acts and practices in that the Shares will be listed on the Exchange pursuant to the initial and continued listing criteria in Exchange Rule 14.11(e)(4). The Exchange believes that its surveillance procedures are adequate to properly monitor the trading of the Shares on the Exchange during all trading sessions and to deter and detect violations of Exchange rules and the applicable federal securities laws. Trading of the Shares through the Exchange will be subject to the Exchange's surveillance

[92] While the Index will not be particularly important for the creation and redemption process, it will be used for calculating fees.

procedures for derivative products, including Commodity-Based Trust Shares. The issuer has represented to the Exchange that it will advise the Exchange of any failure by the Trust or the Shares to comply with the continued listing requirements, and, pursuant to its obligations under Section 19(g)(1) of the Exchange Act, the Exchange will surveil for compliance with the continued listing requirements. If the Trust or the Shares are not in compliance with the applicable listing requirements, the Exchange will commence delisting procedures under Exchange Rule 14.12. The Exchange may obtain information regarding trading in the Shares and listed bitcoin derivatives via the ISG, from other exchanges who are members or affiliates of the ISG, or with which the Exchange has entered into a comprehensive surveillance sharing agreement.

Availability of Information

The Exchange also believes that the proposal promotes market transparency in that a large amount of information is currently available about bitcoin and will be available regarding the Trust and the Shares. In addition to the price transparency of the Index, the Trust will provide information regarding the Trust's bitcoin holdings as well as additional data regarding the Trust. The Trust will provide an IIV per Share updated every 15 seconds, as calculated by the Exchange or a third-party financial data provider during the Exchange's Regular Trading Hours (9:30 a.m. to 4:00 p.m. E.T.). The IIV will be calculated by using the prior day's closing NAV per Share as a base and updating that value during Regular Trading Hours to reflect changes in the value of the Trust's bitcoin holdings during the trading day.

The IIV disseminated during Regular Trading Hours should not be viewed as an actual real-time update of the NAV, which will be calculated only once at the end of each trading day. The IIV will be widely disseminated on a per Share basis every 15 seconds during the Exchange's Regular Trading Hours by one or more major market data vendors. In addition, the IIV will be available through on-line information services.

The website for the Trust, which will be publicly accessible at no charge, will contain the following information: (a) The current NAV per Share daily and the prior business day's NAV and the reported closing price; (b) the BZX Official Closing Price in relation to the NAV as of the time the NAV is calculated and a calculation of the premium or discount of such price against such NAV; (c) data in chart form displaying the frequency distribution of discounts and premiums of the Official Closing Price against the NAV, within appropriate ranges for each of the four previous calendar quarters (or for the life of the Trust, if shorter); (d) the prospectus; and (e) other applicable quantitative information. The Trust will also disseminate the Trust's holdings on a daily basis on the Trust's website. The price of bitcoin will be made available by one or more major market data vendors, updated at least every 15 seconds during Regular Trading Hours. Information about the Index, including key elements of how the Index is calculated, will be publicly available at *https://www.spglobal.com/spdji/en/indices/digital-assets/sp-bitcoin-index/.*

The NAV for the Trust will be calculated by the Administrator once a day and will be disseminated daily to all market participants at the same time. Quotation and last-sale information regarding the Shares will be disseminated through the facilities of the CTA.

Quotation and last sale information for bitcoin is widely disseminated through a variety of major market data vendors, including Bloomberg and Reuters, as well as the Index. Information relating to trading, including price and volume information, in bitcoin is available from major market data vendors and from the exchanges on which bitcoin are traded. Depth of book information is also available from bitcoin exchanges. The normal trading hours for bitcoin exchanges are 24 hours per day, 365 days per year

For the above reasons, the Exchange believes that the proposed rule change is consistent with the requirements of Section 6(b)(5) of the Act.

B. Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Act. The Exchange notes that the proposed rule change, rather will facilitate the listing and trading of an additional exchange-traded product that will enhance competition among both market participants and listing venues, to the benefit of investors and the marketplace.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants, or Others

The Exchange has neither solicited nor received written comments on the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the **Federal Register** or within such longer period up to 90 days (i) as the Commission may designate if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the Exchange consents, the Commission will:

A. By order approve or disapprove such proposed rule change, or

B. institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic Comments

- Use the Commission's internet comment form (*http://www.sec.gov/rules/sro.shtml*); or
- Send an email to *rule-comments@sec.gov.* Please include File Number SR–CboeBZX–2022–031 on the subject line.

Paper Comments

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–1090.

All submissions should refer to File Number SR–CboeBZX–2022–031. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's internet website (*http://www.sec.gov/rules/sro.shtml*). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street NE, Washington, DC 20549 on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for

inspection and copying at the principal office of the Exchange. All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR–CboeBZX–2022–031 and should be submitted on or before June 22, 2022

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[93]

J. Matthew DeLesDernier,

Assistant Secretary.

[FR Doc. 2022–11676 Filed 5–31–22; 8:45 am]

BILLING CODE 8011–01–P

[93] 17 CFR 200.30–3(a)(12).

SMALL BUSINESS ADMINISTRATION

Data Collection Available for Public Comments

ACTION: 60-Day notice and request for comments.

SUMMARY: The Small Business Administration (SBA) intends to request approval, from the Office of Management and Budget (OMB) for the collection of information described below. The Paperwork Reduction Act (PRA) requires federal agencies to publish a notice in the **Federal Register** concerning each proposed collection of information before submission to OMB, and to allow 60 days for public comment in response to the notice. This notice complies with that requirement.

DATES: Submit comments on or before August 1, 2022.

ADDRESSES: Send all comments to Kelly LoTempio, Detailee for the Office of Strategic Alliances, Small Business Administration, Washington, DC 20416.

FOR FURTHER INFORMATION CONTACT: Kelly LoTempio, Detailee for the Office of Strategic Alliances, 716–551–3249, *kelly.lotempio@sba.gov,* Curtis B. Rich, Agency Clearance Office, 202–205–7030 *curtis.rich@sba.gov.*

SUPPLEMENTARY INFORMATION: Small business owners or advocates who have been nominated for an SBA recognition award submit this information for use in evaluating nominee's eligibility for an award: Verifying accuracy of information submitted and determining whether there are any actual or potential conflicts of interest. Awards are presented to winners during the Presidentially declared Small Business Week.

Solicitation of Public Comments

SBA is requesting comments on (a) Whether the collection of information is necessary for the agency to properly perform its functions; (b) whether the burden estimates are accurate; (c) whether there are ways to minimize the burden, including through the use of automated techniques or other forms of information technology; and (d) whether there are ways to enhance the quality, utility, and clarity of the information.

Summary of Information Collection

OMB Control Number: 3245–0360.
Title: U.S. Small Business Administration Award Nominations.
Description of Respondents: Nominated Small Business Owners or Advocates.
Form Number: 3300–3315/2023 Nomination Guidelines.
Annual Responses: 600.
Annual Burden: 1,200.

Curtis Rich,

Agency Clearance Officer.

[FR Doc. 2022–11755 Filed 5–31–22; 8:45 am]

BILLING CODE 8026–09–P

SOCIAL SECURITY ADMINISTRATION

[Docket No: SSA–2022–0024]

Agency Information Collection Activities: Comment Request

The Social Security Administration (SSA) publishes a list of information collection packages requiring clearance by the Office of Management and Budget (OMB) in compliance with Public Law 104–13, the Paperwork Reduction Act of 1995, effective October 1, 1995. This notice includes a new collection and revisions of OMB-approved information collections.

SSA is soliciting comments on the accuracy of the agency's burden estimate; the need for the information; its practical utility; ways to enhance its quality, utility, and clarity; and ways to minimize burden on respondents, including the use of automated collection techniques or other forms of information technology. Mail, email, or fax your comments and recommendations on the information collection(s) to the OMB Desk Officer and SSA Reports Clearance Officer at the following addresses or fax numbers.

(OMB) Office of Management and Budget, Attn: Desk Officer for SSA

Comments: https://www.reginfo.gov/public/do/PRAMain. Submit your comments online referencing Docket ID Number [SSA–2022–0024].

(SSA) Social Security Administration, OLCA, Attn: Reports Clearance Director, 3100 West High Rise, 6401 Security Blvd., Baltimore, MD 21235, Fax: 410–966–2830, Email address: *OR.Reports.Clearance@ssa.gov*

Or you may submit your comments online through *https://www.reginfo.gov/public/do/PRAMain,* referencing Docket ID Number [SSA–2022–0024].

SSA submitted the information collections below to OMB for clearance. Your comments regarding these information collections would be most useful if OMB and SSA receive them within 30 days from the date of this publication. To be sure we consider your comments, we must receive them no later than July 1, 2022. Individuals can obtain copies of these OMB clearance packages by writing to *OR.Reports.Clearance@ssa.gov.*

1. Disability Perception Survey (DPS)—0960–NEW.

Background

The Social Security Administration's (SSA's) Social Security Disability Insurance (SSDI) program provides crucial financial support to individuals unable to work due to a medical condition. Having access to and understanding information about SSDI among working adults is an important factor in connecting people with benefits. The purpose of the survey is to understand the type of information working adults currently have about the SSDI program to improve projections of disability applications and incidence.

SSA is requesting clearance to administer the Disability Perception Survey (DPS) to a sample of working age adult SSDI program recipients, and those who may qualify for this benefit, to capture attitudes and perceptions about SSDI among working-age adults in the general population, and to determine what roles those factors ultimately play in an individual's decision to apply to the program.

The DPS evaluation will consist of two parts: (1) The DPS administered to working-age adults (18 to 64 years of age) SSDI program recipients, and those who may qualify for SSDI benefits; and (2) links of the survey data, including the individuals' social security numbers, to individuals' administrative records for research purpose. SSA will use the data the DPS collects to learn about the average American SSDI adult recipient's knowledge and understanding of the SSDI program and about who qualifies for these benefits. Section 1110(a) of the Social Security Act (Act) gives the Commissioner of Social Security authorization to help