

Part I: Request for Denial of Digital Asset Spot ETFs

Please consider the denial of the listing of ARK 21Shares Bitcoin ETF and all related digital asset Spot ETF applications filed under the Proposed Rule Change of BZX Rule 14.11)(e)(4). The digital assets on which on which ARK 21Shares Bitcoin ETF and relating Bitcoin Spot ETFs are derived are illegal pyramid schemes.

For ease of explanation, the following comments focus on Bitcoin; however, due to similar structure and distribution practices, this relates to a variety of other digital assets including Ether/Etherium.

Part II: Elements of the Bitcoin pyramid scheme

Bitcoin has many elements of a pyramid scheme, however it is well disguised. Coinbase published an informative video explaining how Bitcoin is not a Ponzi/pyramid scheme. Please see <https://www.youtube.com/watch?v=coQrhskIHHI> for the video.

Conbase defines a Ponzi/pyramid scheme to exist “when a person or group offers an investment that promises very large profits for very little risk and that early investors receive funds from later investors. This system keeps going as long as there is continuous cash flow and new investors to pay of old investors without any profit generating system apart from luring in those new investors.”

Coinbase notes that in order for there to be a Ponzi/pyramid scheme, there must be 1) a leader or CEO, 2) a marketing team to lure in investors, 3) a promise of investment returns, and 4) a secretive and complex strategy.

Leader/CEO – Coinbase notes that there is no leader or CEO for Bitcoin. However, in this case, it would be the creator of Bitcoin. This is assumed to be Satoshi Nakamoto, the author of the Bitcoin Whitepaper. However, it would also apply to an individual, group or organization, individually or in collusion, with significant influence in the crypto community. In that sense, exchanges like Binnance and FTX have been instrumental in supporting cryptocurrencies along with their CEO's Changpeng Zhao and Sam Bankman-Fried.

Marketing Team to lure investors – This is a blatant mischaracterization or omission by Coinbase. Bitcoin.org, Blockchain.com, Crypto.com and various crypto exchanges, including Coinbase, FTX, and Binnance, have all pushed massive advertising campaigns to attract investors. They have used celebrity and athlete endorsements, sports endorsements, Superbowl ads, and stadium sponsorships to build hype and draw in investors. We also have many social influencers, money managers and prominent cryptocurrency supporters appealing through television interviews and social media posts.

Promise of Investment Returns – Coinbase notes that there are no promises of returns. This is not accurate. In US dollar terms, no promises were made, however in Bitcoin terms, mining rewards were promised for being a node for the blockchain and processing transactions. For each block successfully written to the blockchain a 50 Bitcoin incentive (created coins) would be paid, reduced by half for every 210,000 blocks created. The full breakdown of incentives can be found at the following website: <https://www.coinwarz.com/bitcoin-halving>. As incentives decline, they are replaced by transaction fees.

Secretive and Complex Strategy – Coinbase notes that most Ponzi/pyramid schemes have complex strategies or structures and that in contrast, Bitcoin is transparent and can be audited. Complexity, transparency and being subject to audit are not mutually exclusive. Although transparency and auditing are deterrents to committing fraud they do not necessarily prevent or detect fraud.

The complexities of Ponzi/pyramid schemes often arise in the deception and effort to cover-up schemes themselves. This often involves falsifying statements, using contributions to fund withdrawals, limiting withdrawals, or moving cash close to reporting dates. In this case, Bitcoin is more inventive in its approach. **Most schemes focuses on the direct misappropriation of cash and investment securities, but Bitcoin uses electricity and computer processing power to deprive participants.**

Along with the structural complexity, we also have complexity in valuation as Bitcoin lacks traditional valuation metrics like credit quality and cash flows for securities or input demand for goods and services utilizing commodities. Cryptocurrency supporters have pushed valuations based on perceived scarcity, cost of mining, anonymity, and other intangible benefits.

Additional Considerations – Consulting the Securities and Exchange Commission’s own Investor.gov website, we see that a couple additional pyramid scheme red flags apply. Namely easy money or passive income and no genuine product or service provided. Bitcoin was as noted earlier was intended to be a form of digital cash thus providing a service as a medium of exchange. However, the volatility and limited number of units have made it mostly unusable for this purpose. The Bitcoin transaction and mining rewards are passive income relying on GPU or CPU processing. The question is whether any tangible value is provided by the transaction processing. Many of the recent transactions have been for non-fungible tokens. Most of these tokens provide ownership of digital images and the transactions are a way for the original artist to obtain payment. However, images are easily copied on the internet without regard to ownership, so the value of processing such transactions is debatable. In addition, any other form of payment medium could be utilized.

Part III: Explanation of the Bitcoin pyramid scheme

The table below shows the inverse relationship between the mining rewards and the energy and computing power utilized in Bitcoin mining. This relationship is consistent with pyramid schemes. All amounts below are estimates as available. As a result of increases in mining difficulty as well as declines in mining rewards, participants provide larger quantities of electricity and computing power to successfully mine each bitcoin.

Date	Coin Creation/ Mining Reward (BTC)	Energy Consumption (TWh)	Bitcoin in Circulation (Millions)	Approximate Coins Created (Millions)	Energy use per Coin (kWh)	Hash Rate TH/s (Measure of Computing Power)
2009	50.000	N/A	1.61	1.61	N/A	N/A
2010		N/A	5.00	3.39	N/A	0.098
2011		0.14	7.98	2.98	47	8.047
2012	25.000	0.10	10.61	2.63	38	23.297
2013		1.06	12.20	1.59	666	1,063.545
2014		4.73	13.67	1.47	3,218	314,392.651
2015		3.62	15.03	1.36	2662	695,865.711
2016	12.500	5.73	16.07	1.04	5,510	2,388,534.836
2017		12.93	16.78	0.71	18,211	13,155,477.123
2018		43.32	17.76	0.98	44,204	38,725,392.663
2019		54.63	18.14	0.38	143,763	97,011,480.592
2020	6.250	67.14	18.59	0.45	149,200	134,441,785.807
2021		89.00	18.92	0.33	269,697	177,492,161.354
2022		95.53	19.25	0.33	289,485	253,145,844.160
2023		121.13				508,792,533.094
2024	3.125					

Bitcoin mining reward/incentives per CoinWarz.com – <https://www.coinwarz.com/bitcoin-halving>

Energy consumption estimates per University of Cambridge Judge Business School – <https://ccaf.io/cbnsi/cbeci>

Bitcoin tokens in circulation per statista – <https://www.statista.com/statistics/247280/number-of-bitcoins-in-circulation/> Table uses December as year end.

Hash rate per second per Blockchain.com – <https://www.blockchain.com/explorer/charts/hash-rate> Table uses last full week of December. data

Part IV: Why hasn't the Bitcoin pyramid scheme collapsed?

The Bitcoin miners have historically been able to convert Bitcoin to US dollars or other currencies for a value greater than the cost of electricity and computing power used to obtain the mining rewards. In addition, although concerns over the large use of electricity, utility companies and regulators in many areas have imposed very few restrictions on Bitcoin miners.