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ProShares

Bitcoin. The Investment Landscape Is Evolving. Are You Capitalizing on This Rapidly Growing Digital Asset?

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Bitcoin: The Evolution of the Investment Landscape
Are You Capitalizing on This Rapidly Growing Digital Asset?

Introducing the Speakers



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Agenda

- **Bitcoin basics, adoption, and institutionalization**
- **Ways to gain exposure**
 - from exchanges and wallets to the first bitcoin strategy mutual fund
- **Introduction to bitcoin futures**
 - characteristics and specifications
- **Why experience matters when offering innovative assets and funds**

Bitcoin basics, adoption, and institutionalization

An Introduction to bitcoin

Introduced in 2009, bitcoin is the world's first successful cryptocurrency.

- operates as digital money on an open-source, peer-to-peer computer network
- decentralized and outside the control of any government or central bank
- bitcoin transactions are validated and recorded in a public ledger known as a “blockchain”

How may bitcoin be used?

- to pay for goods and services
- stored for future use
- converted to a traditional currency

The bitcoin blockchain contains a record for each bitcoin transaction.

- A blockchain is a shared and continually reconciled database protected by cryptography (a mathematical means of securing data)

What gives bitcoin value? Value may be determined by supply of (which is limited), and demand for, bitcoin in the markets for exchange that facilitate bitcoin trading

- participants in bitcoin markets for exchange may ascribe bitcoin value for its use as:
 - a payment, like a traditional currency
 - an investment, like a precious metal

Source: ProFunds, https://www.profundsfund.com/prospectus/prospectus.html?ticker=bitcoin_strategy&doc=1

The Bitcoin Protocol and Network

The Bitcoin Protocol is open-source software that underpins bitcoin, governing its creation and recording its movement.

Participants, those with computers running the software, make up and collectively maintain the Bitcoin Network.

Network participants come in several forms:

Miners	Developers	Users
Process and validate transactions for which they receive new bitcoin	Maintain and propose updates to the Bitcoin Protocol	Access the Bitcoin Network for use of bitcoin

Bitcoins are created by the Bitcoin Protocol as a reward to miners for processing and validating transactions.

Source: ProFunds, https://www.profundsfunds.com/prospectus/prospectus.html?ticker=bitcoin_strategy&doc=1

2021: The Year of Capital Markets Regulated Cryptocurrency Investments

Huge growth of capital markets regulated crypto investment products



- World's First Crypto ETFs launched in February 2021
- Bitcoin & Ether ETFs now trading; AuM in excess of \$2.5bn



- 15 crypto ETNs now listed on XETRA
 - Bitcoin, Ether, Litecoin
- Monthly Trading Volume avg. €1bn+ per month



- First Crypto ETFs launched for trading on B3 (Bitcoin & Ether) in June 2021
 - Bitcoin, Ether & Portfolio
- AuM in excess of \$700M



- 28 crypto ETPs now listed on SIX Exchanges
 - Bitcoin, Ether, Litecoin, Polkadot, Cardano & Portfolio



- CME launches Ether Futures to compliment its Bitcoin Futures & Options
- ProFunds launches Bitcoin Strategy Fund – first 1940 Securities & Exchange Act regulated crypto fund

The Challenge of Cryptocurrency Pricing

There are severe frictions in reporting the value of cryptocurrency holdings, such as in financial statements and tax returns. Auditors and tax authorities rightly wish to know that the pricing sources are accurate, robust and representative.



Distributed – the distributed nature of cryptocurrency trading means there is not a recognized single source for pricing of cryptocurrencies (such as a stock exchange closing price for equities)



Price Volatility – the price volatility exhibited by cryptocurrencies can mean significant swings in short periods of time means that pricing that is accurate down to the second is imperative for accurate valuations at key reporting dates such as financial or tax year ends



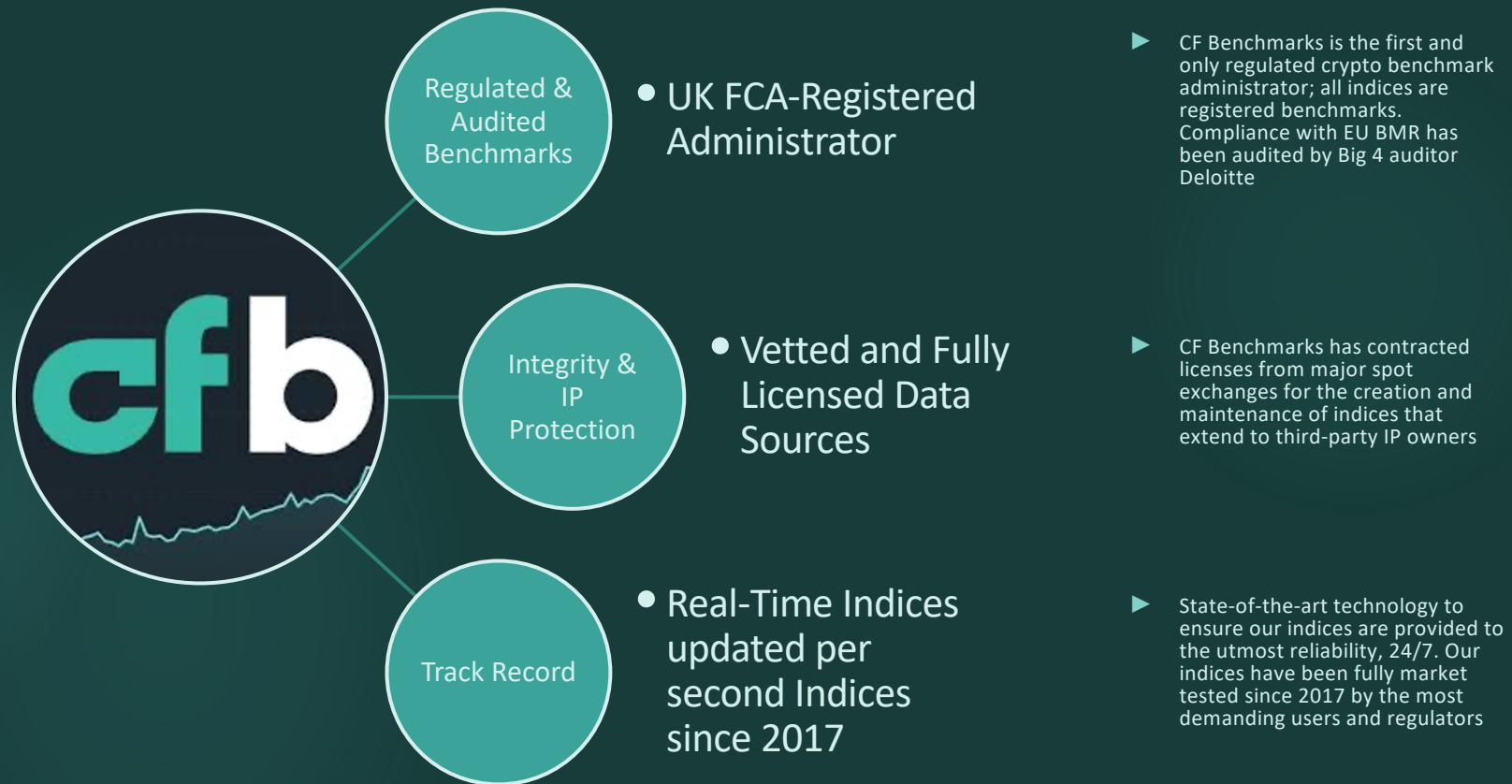
Lack of Regulation – regulations are not consistent if in existence at all; this means that the available data (which is plentiful) may not be fully relied upon due to questions of integrity



Limited Fiat Crosses – much of cryptocurrency trading is in crosses against other cryptocurrencies or so-called stablecoins; actual trading of cryptocurrency to fiat currency is limited



CF Benchmarks – A Unique Leader for Crypto Benchmarking



Track Record: \$400bn settled and managed to CFB Indices

CFB indices underpin regulated financial products in the crypto space

- ▶ CME Bitcoin USD Futures & Options
- ▶ CME Ether USD Futures
- ▶ Crypto Facilities MTF Futures
- ▶ Evolve Bitcoin ETF (TSX)
- ▶ Evolve Ether ETF (TSX)
- ▶ WisdomTree Bitcoin ETP (SIX/ XETRA)
- ▶ WisdomTree Ether ETP (SIX/ XETRA)
- ▶ QR Asset Bitcoin ETF (BRZ)
- ▶ QR Asset Ether ETF (BRZ)

Our indices are increasingly used by forward-thinking service providers in the crypto economy – such as BlockFi

CF Benchmarks indices are published and disseminated through major vendor platforms

- ▶ Bloomberg: <BRR> GO
- ▶ Refinitiv : .BRR
- ▶ CME DataMine

CF Benchmarks provides key index analytics on its website in real time to give index users an up-to-date picture of price action dynamics and volume flows



CFXBTUSN* –Benchmark Daily Valuation

Calculated and published once a day at 4:00pm ET to represent the USD price of 1 bitcoin

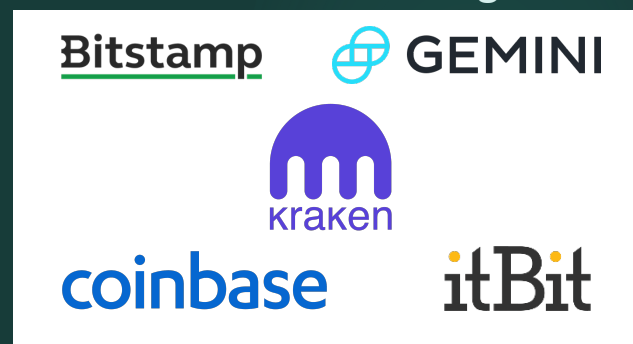
- ▶ Computed using transaction data from constituent exchanges retrieved during a one hour observation window from 3:00-4:00pm ET
 - ▶ All transactions – regardless of exchange- are aggregated together
 - ▶ The window is split into 12 equal partitions, trades are apportioned to corresponding partition by timestamp
 - ▶ The volume-weighted median is calculated for each partition
- ▶ The index value is given as the mean of the volume weighted medians

Benefits

- ▶ Accurate Market Representation
 - ▶ Only transactions in the actual pair (no stablecoin pairs) are used in the calculation so they fully represent the underlying market reality
 - ▶ Using executed trades from multiple vetted exchanges so capturing the market “consensus” during the time preceding NY market close
- ▶ Manipulation Resistance
 - ▶ Use of volume weighted medians reduces the influence of outsize trades while still exploiting their information value
 - ▶ Multiple exchanges and observation window divided into partitions make any attempts at manipulation high risk, expensive and easily identifiable
- ▶ Replicable
 - ▶ An observation window allows users to replicate the index with minimal slippage

*The Index (Bloomberg Ticker: CFXBTUSN) is a once-a-day benchmark index price for Bitcoin that aggregates trade data from multiple Bitcoin-USD markets operated by major cryptocurrency exchanges that conform to the CF Constituent Exchange Criteria.

Constituent Exchanges



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Ways to gain exposure

From exchanges and wallets to the first bitcoin strategy mutual fund

Ways to Gain Exposure to Bitcoin

Difference between “spot” and “futures” prices

“SPOT” Market

- Current cash price of a bitcoin

“FUTURES” Market

- Provides exposure to the price of bitcoin without physical ownership
 - Futures contracts represent the price of an underlying asset for delivery on a future date
 - Bitcoin futures can perform differently from the “spot” price

An Introduction to Futures Contracts

Futures contracts are standardized contracts traded on an exchange to buy or sell a specific type and quantity of an underlying asset at a designated price.

Futures are traded on a wide variety of underlying assets, including:

- bitcoin, stock indexes, bonds, currencies, commodities

Features of futures contracts

- created by regulated exchanges
- exchange guarantees the contracts will be honored
 - eliminates counterparty risk
 - every exchange-traded futures contract is centrally cleared
 - exchange becomes buyer to every seller and seller to every buyer

Introduction to bitcoin futures

Characteristics and specifications

Bitcoin Futures

Introduction & Contract Specifications

Exchange and launch: CME – December 17, 2017

What is the price of bitcoin futures based on? CME CF Bitcoin Reference Rate (“BRR”)
• BRR provides an indication of the price of bitcoin across certain cash bitcoin exchanges

Contract Unit: 5 bitcoin

Position limits: 1) “front-month” position limits: 2,000 contracts
2) 5,000 contracts in all contract months combined

Listing Cycle: Monthly contracts: nearest six consecutive months and nearest 2 Decembers

Listing Termination: Last day of trading is last Friday of contract month

Settlement Type: Cash-settled

Source: CME <https://www.cmegroup.com/education/bitcoin/cme-bitcoin-futures-frequently-asked-questions.html>

“Rolling” Futures Contracts

Understanding Backwardation and Contango

Process by which a fund or index closes or sells out of a futures position prior to its expiration month and purchases a new futures contract with a later expiration date.

Backwardation

- Longer-term futures priced lower than shorter-term futures
 - Results in positive roll yield



Contango

- Longer-term futures priced higher than shorter-term futures
 - Results in negative roll yield



Characteristics: Correlation & Beta

Front-month bitcoin futures to spot bitcoin

Specifications for Analysis

- Front-month CME bitcoin futures
 - rolled to the next “nearby” futures contract a day prior to expiration
- Spot bitcoin
 - measured by CF Bitcoin-Dollar U.S. Settlement Price
- Time period covered (1/2/2019 – 6/25/2021)*

Time Period	Correlation	Beta ¹
2019	0.99	1.02
2020	0.99	1.02
2021 YTD	0.98	0.97
Full Period	0.99	1.01

*Common inception period of CME bitcoin futures and CF Bitcoin-Dollar U.S. Settlement Price. Correlation and beta calculated using daily returns.

¹Beta is a measure of the volatility – or systematic risk – of a security or portfolio compared to the market as a whole.

Why experience matters when offering innovative assets and funds

ProFunds – decades of fund management expertise

20+ years of experience offering some of the most innovative funds in the financial industry

Oversee ~\$60 bn in assets as a firm (ProFunds and ProShares)

- Diverse experience managing complex assets, including:
 - commodities, currencies, domestic and international equities, fixed income, volatility, CDS
- First issuer of leveraged and inverse ETFs¹
- First K-1 free U.S. Crude Oil ETF
- Innovator in thematic strategies
- First bitcoin strategy mutual fund in the U.S.²

¹ <https://www.profunds.com/about.html>

² <https://www.businesswire.com/news/home/20210728005580/en/ProFunds-Launches-The-First-Bitcoin-Strategy-Mutual-Fund>

Important Information

Bitcoin and bitcoin futures are a relatively new asset class and the market for bitcoin is subject to rapid changes and uncertainty. Bitcoin and bitcoin futures are subject to unique and substantial risks, including significant price volatility and lack of liquidity. The value of an investment in the Fund could decline significantly and without warning, including to zero. You should be prepared to lose your entire investment.

The Fund invests in bitcoin futures contracts. The Fund does not invest directly in or hold bitcoin. The price of bitcoin futures should be expected to differ from the current or “spot” price of bitcoin. Consequently, the performance of the Fund should be expected to differ from the performance of the spot price of bitcoin. The market for bitcoin futures may be less developed, and potentially less liquid and more volatile, than more established futures markets. Bitcoin futures are subject to margin requirements, collateral requirements and daily limits that may prevent the Fund from achieving its objective.

Bitcoin is largely unregulated and bitcoin investments may be more susceptible to fraud and manipulation than more regulated investments. Bitcoin is subject to rapid price swings, including as a result of actions and statements by influencers and the media.

If the Fund’s ability to obtain exposure to bitcoin-related investments consistent with its investment objective is disrupted for any reason, including as a result of a lack of liquidity, volatility or a disruption to the bitcoin futures market, or as a result of margin requirements or position limits applicable to the Fund, the Fund may not be able to achieve its investment objective and may experience significant losses. ProFunds may, in its sole discretion and without prior notice, limit or reject purchases or close the Fund to new investment. ProFunds may re-open the Fund in its sole discretion and without prior notice.

“**Spot**” price refers to the price of physical bitcoin that can be purchased for immediate delivery.

ProFunds are not suitable for all investors because of the sophisticated techniques the funds employ. ProFunds entail certain risks, including risk associated with the use of derivatives. **Carefully consider the investment objectives, risks, charges and expenses of ProFunds before investing. This and other information can be found in the Fund’s summary and full prospectus. Read them carefully before investing.** There is no guarantee any ProFund will achieve its investment objective.

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