

# US Bitcoin ETFs Are Finally Here: How It's Going to Impact the Industry

Deep dive into the pros and cons of the newly-introduced US Bitcoin ETF, how it works, and its impact on investors and Bitcoin's price

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17 December 2021



For more than a decade, [Bitcoin](#) proponents have fought for its recognition as an investable asset class. After more than eight years since the Winklevosses' (failed) Bitcoin Exchange-Traded Fund (BTC ETF) application in 2013, the first BTC ETF in the US, ProShares Bitcoin Strategy ETF ([\\$BITO](#)), was finally approved by the US Securities & Exchange Commission (SEC) and listed on the New York Stock Exchange (NYSE) on 19 October 2021.

\$BITO is significant because it marked the first SEC-approved BTC ETF in the US; but, it is far from being the first in the world. In fact, Canada's Purpose Bitcoin ETF (\$BTCC) was the first-ever BTC ETF - it was listed on the Toronto Stock Exchange (TSX) months before \$BITO

on 18 February 2021. Even Brazil launched its own BTC ETF (QR CME CF Bitcoin Reference Rate Fundo de Índice IE) on 22 June 2021.

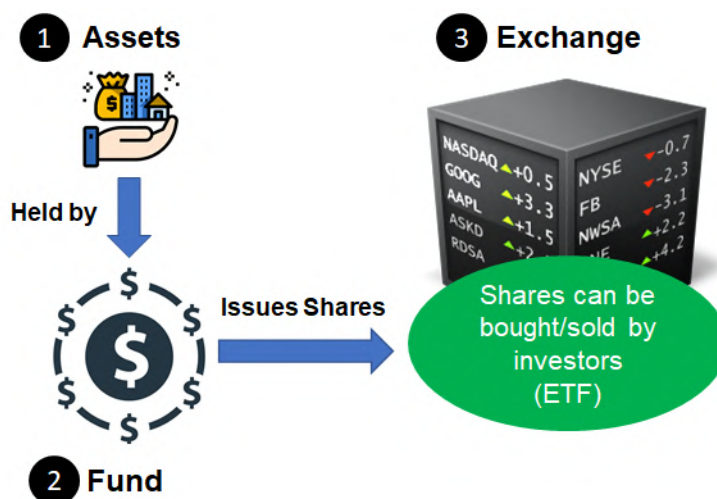
Regardless, this is a big win for the crypto industry as investors in the US now have greater access to a new Bitcoin investment product. It also helps that the SEC has explicitly approved crypto to be incorporated into traditional capital markets, which is a contrast to other countries like China who are continuing their crackdown on cryptocurrencies. Therefore, one might assume that a BTC ETF translates into ‘up only,’ but the reality is far more complicated than that.

## What is an ETF?

Before we explore the implications of a BTC ETF, we must first consider what an ETF is. ETFs are a subset of Exchange-Traded Products (ETP) which are **securities that track underlying securities, an index, or other financial instruments**.

The current Bitcoin ETFs are part of a class known as “passive funds” or “passive ETFs”, which are created to track a specific benchmark index. For such products, the fund manager chooses a benchmark index, creates a fund that buys and holds the underlying assets, making sure to track the index as closely as possible, and then sells units of that fund to investors.

Unitholders own a portion of an ETF, and by virtue of that a portion of the underlying assets in the fund. Investors in an ETF that tracks a stock index may get lump dividend payments, or reinvestments, for the stocks that make up the index.



Source: CoinGecko Research

Since passive ETFs are designed to track the value of an underlying asset or index, ETF products can be categorized under different segments. Here are some of the most common categories:

Type of Passive ETF	Examples	Underlying Asset
Bond	VanEck Vectors Investment Grade Floating Rate ETF	Investment-grade Floating-Rate Bonds
Stock	S&P 500 SPDR	Shares of all S&P 500 companies
Currency	Invesco DB US Dollar Index Bullish Fund	\$USD
Commodity	SPDR Gold MiniShares Trust	Gold
Derivative	Direxion Daily 20+ Year Treasury Bull (TMF) 3X Shares	20-year US Treasury Bonds

One thing to note about ETFs is that they sometimes trade at market-determined prices that usually differ from that asset. What's more, because of expenses, an ETF's longer-term returns will vary from those of its underlying asset.

## Pros and Cons of ETFs

At this point, you might be wondering why someone would hold an ETF as opposed to acquiring the assets themselves. Below, we highlight some of the advantages and disadvantages of an ETF:

Advantages	Disadvantages
<p><b>Simple Diversification</b> Many ETFs hold a basket of assets, allowing investors to purchase a single product and diversify their portfolio immediately.</p>	<p><b>Inaccurate Prices</b> ETFs are meant to track an underlying asset but sometimes its prices are prone to slippage. Further, there are certain circumstances where the price is legally allowed to deviate for an extended period (e.g. during dividend payments).</p>
<p><b>Cost Savings</b> Holding assets themselves have more costs attached to them (e.g. storage, security, and logistics). However, ETFs simplify down this problem for investors and leave it in the hands of the fund manager. Moreover, passive ETFs (such as \$BITO) generally have lower management fees than other actively-managed funds.</p>	<p><b>Lack of Control</b> ETFs are designed with holders in mind, meaning that investment strategies are fixed and less reactive. While there are ETFs that aggressively rebalance their portfolio (much like an active unit trust), the speed of adaptation cannot match the pace of other investment strategies like traditional holders.</p>

<p><b>Benefits of traditional capital market infrastructure</b></p> <p>Since ETFs trade on a stock exchange, it becomes immediately accessible to a large group of incumbent investors; Moreover, it is hosted on resilient infrastructure and also benefits from other market actors such as market makers, thus, giving better spreads and liquidity. There is also better access to other risk management products like derivatives, and options.</p>	<p><b>Additional Costs</b></p> <p>As investors invest in ETFs through brokers, there are usually fees associated with each trade. Some ETFs may also have additional legal requirements to minimize concentration risks - which leads to weighting methodologies that increase management costs.</p>
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## Other similar products to BTC ETFs

While BTC ETFs have been the talk of the town, it is pertinent to note that other ETF-like products have already been around for a while. Notably, BTC Exchange-Traded Notes (ETN) have been around even longer, preceding the first BTC ETF by 2 years; the first ETN for Bitcoin was actually listed on the Swiss stock exchange (SIX) on 26 February 2019. Both ETFs and ETNs are a subset of ETPs since they trade on exchanges like a stock.

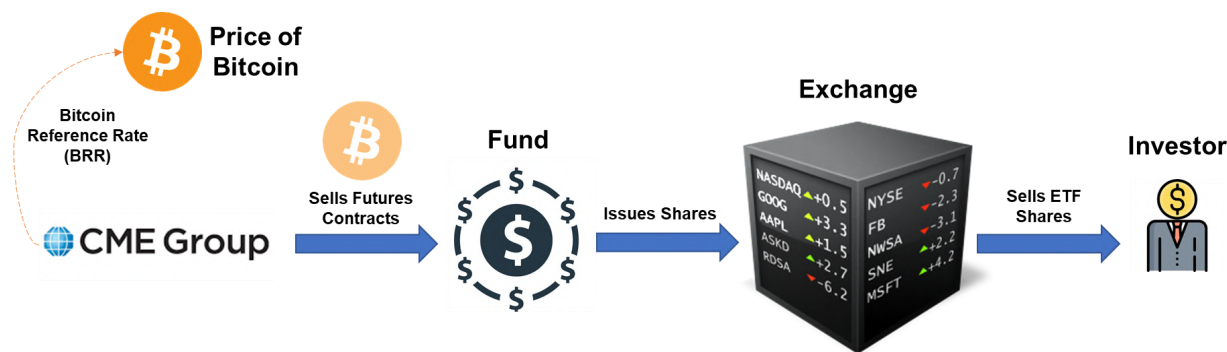
Aside from ETNs, however, there are also other regulated products that offer exposure to Bitcoin. Below, we cover the different products and methodologies:

Product	Description	Example
Exchange-Traded Notes (ETN)	ETNs, like ETFs, also track an underlying index of securities and trade on major exchanges. However, ETNs are baskets of unsecured debt securities. The ETN pays investors the return received from the index they track at the maturity date, less any fees or commissions. In other words, ETNs act more like bonds as opposed to stocks.	21Shares Bitcoin
Closed-Ended Trust (CET)	A CET is structured like a company whereupon it has a limited number of shares. Issuance/buyback of shares by the CET can occur, but the CET has the sole discretion to decide the periods and amounts. A CET is regulated by the US Office of the Comptroller of the Currency (OCC) because it is not a security and thus cannot be traded on exchanges. A CET can only be sold Over-The-Counter (OTC) i.e. directly between counterparties or an OTC exchange.	Grayscale Bitcoin Trust
Open-Ended Trust (OET)	An OET operates very similarly to a CET. Unlike a CET, however, the issuance of OET shares is based on buyer/seller demand. For example, whenever an investor buys into an OET, new shares are issued accordingly. This means the market is a lot more liquid and price	Bitwise 10 Crypto Index Fund

	discrepancies between the net asset value (NAV) and the OET shares are typically lower compared to a CET.	
Blockchain Company Shares & Blockchain Company ETFs	Blockchain companies are seen as an alternative bet on the growth of the industry. Rather than having direct exposure to Bitcoin, investors may either buy an ETF that tracks blockchain companies or directly purchase its shares. These companies usually operate in the cryptocurrency ecosystem or have a certain amount of net crypto holdings in their accounts.	MicroStrategy

## How BTC ETFs work in the US

While \$BITO and other subsequent US-based BTC ETFs track the price of BTC, they are actually derivative-based ETFs and do not hold actual Bitcoin in the fund. More specifically, the fund buys and holds standardized, cash-settled Bitcoin futures contracts (BTC futures contracts) that trade on the Chicago Mercantile Exchange (CME). The CME is the primary choice for BTC ETFs in the US because it has the highest liquidity and is one of the few exchanges which have obtained regulatory approval for BTC futures contracts from the Commodity Futures Trading Commission (CFTC).



Source: CoinGecko Research

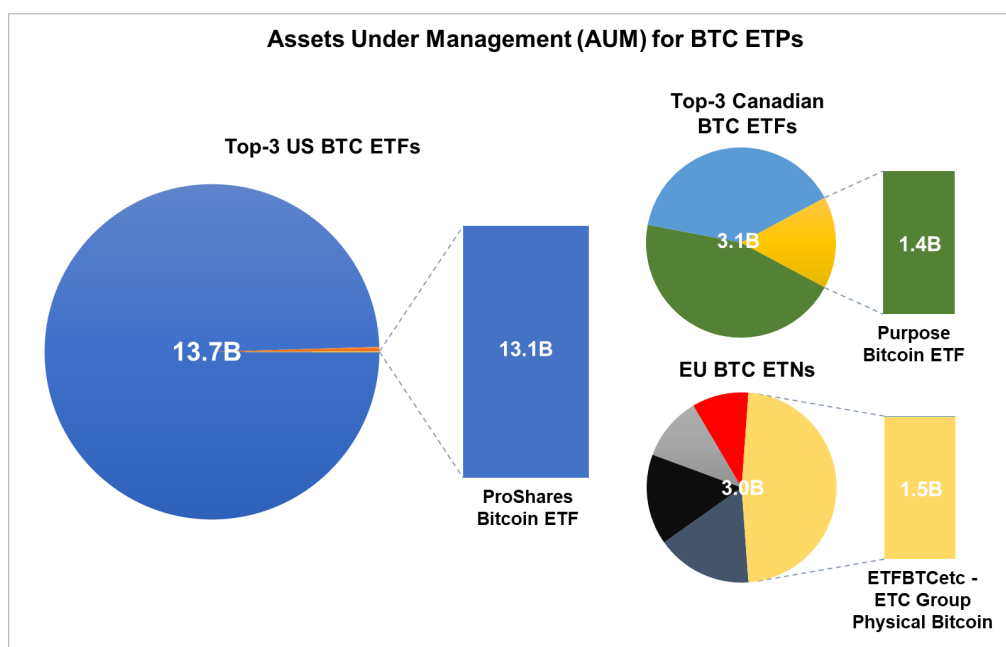
In order to maintain exposure to BTC futures contracts, BTC ETFs must sell their futures contracts as they near expiration and replace them with new futures contracts with a later expiration date; otherwise known as “rolling”.

In \$BITO’s case, the fund has adopted a front-month approach, meaning that the ETF will roll its futures contracts on a monthly basis. Most funds prefer this route as it is the futures contract with the shortest maturity date on CME.

# Impact of BTC ETFs

## Investors

The most obvious impact is that Bitcoin is now more widely accessible to both traditional institutional investors, as well as retail investors who might have been previously too risk-averse to try or couldn't bother figuring out private keys. Receiving a stamp of approval from the SEC is monumental, who for years, have been reluctant to approve a BTC ETF. Being an ETF is crucial to wider adoption as more conservative parties can invest in Bitcoin with a greater sense of security. Institutional investors which may only have investment mandates to invest in listed securities now also have the option to gain exposure to Bitcoin. It is infinitely easier to convince prospective investors to buy a regulated NYSE product as opposed to 'magic internet money' that has not received regulatory approval.



Source: CoinGecko Research

\*Data is sourced as of 22 November 2021.

\*\* List of all Bitcoin ETPs (to the author's knowledge) and other relevant details are appended under Appendix.

The chart above clearly demonstrates the demand for 'regulated Bitcoin'. Although US's ETFs are much newer, there is a significant difference in regional demand, likely because the US's ETF market is the largest in the world, which accounts for [almost 75% \(\\$5.6T\) of global assets under management \(AUM\) in 2020](#).

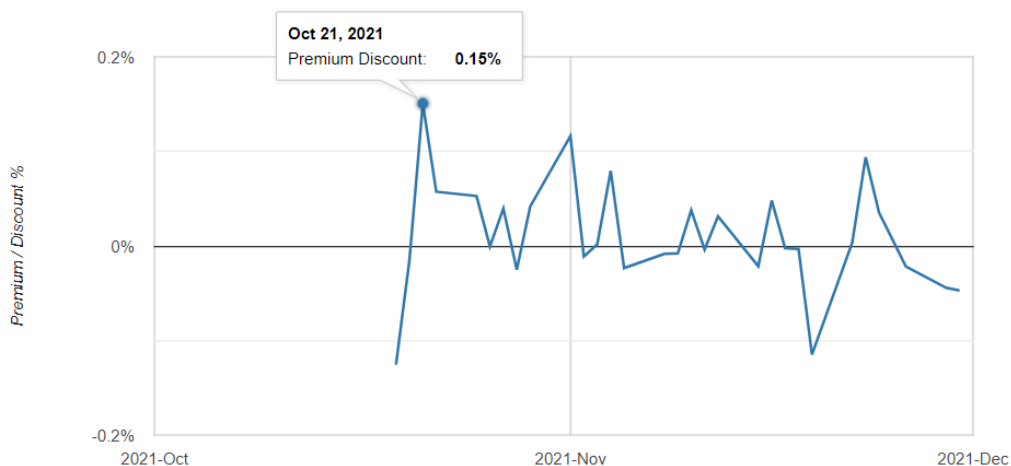
As of 22 November 2021, Canada's biggest BTC ETF \$BTCC with an AUM of \$1.4B. Contrast this with US's \$BITO, which is almost 10 times bigger with a total AUM of \$13.7B, despite launching much later. Collectively, the US represents 69% of all Bitcoin ETP products, and that includes ETNs.



Aside from strong regional demand from the US, the success of BTC ETFs can be attributed to the growing traction of Bitcoin and crypto amongst the investor community. Degens may be well-versed in holding cryptocurrencies but for an institution, directly holding cryptocurrencies (or futures contracts) can be intimidating. Managing security risks (e.g. wallet security), obtaining regulatory approval, and even placating compliance departments/shareholders are huge obstacles to overcome. For many, paying a management fee and buying units of an ETF is a lot easier than dealing with these complications.

That being said, there are tradeoffs for investors. Aside from the costs of brokerage accounts, trading fees, etc, the average cost of management fees alone for a BTC ETF is about 1%.<sup>1</sup> There are also tax complexities [since BTC is often interchangeably seen as either a currency, security or even a commodity](#). The Internal Revenue Service (IRS), however, classifies BTC as personal property. To avoid the regulatory complexities, [different ETFs have different corporate structure solutions](#). Special tax implications also apply to derivative-based ETFs. Since derivatives cannot be delivered in kind, they must be constantly bought and sold which is a taxable event. While all these tax considerations only apply to the fund managers, the additional costs usually trickle down towards investors through the management fee.

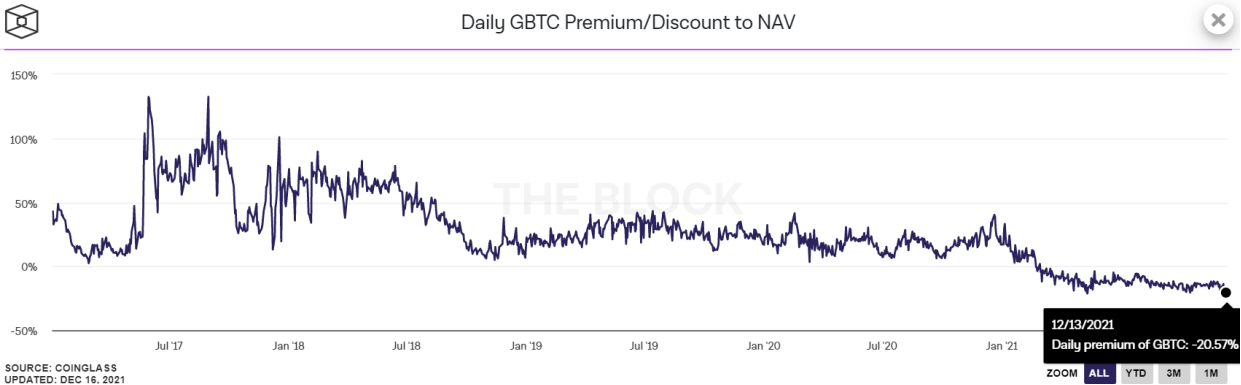
Moreover, like all ETFs, \$BITO is prone to mispricing. It is impossible to achieve perfect market tracking since share prices do not necessarily trade according to its underlying assets. For example, \$BITO's highest premium i.e. market price relative to its NAV was 0.15% on 21 October 2021, likely driven by 'institutional FOMO' after being newly created.



Source: ProShares

This is a natural consequence since ETFs track the underlying price of an asset. In fact, the slippage is minimal when compared with other products like the Grayscale Bitcoin Trust.

<sup>1</sup> Calculated by averaging the costs of all BTC ETF products. List of all BTC ETF products for this report have been appended in the table below under Appendix.



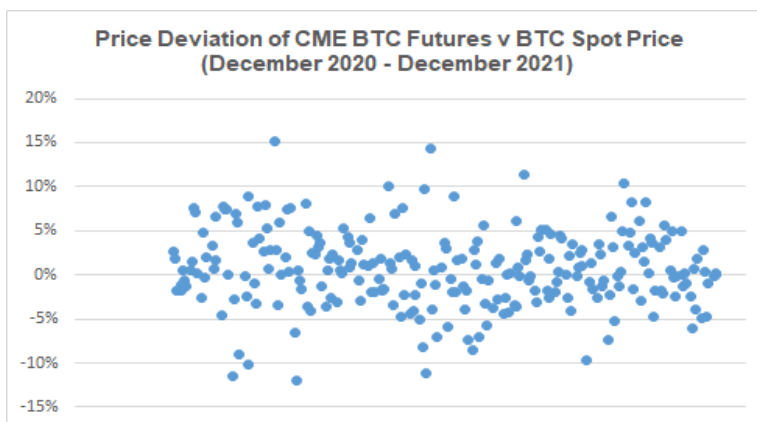
Source: *The Block*

A large reason for this is because ETFs have a [creation/redemption mechanism](#) that helps keep their prices close to their NAV. In any event, such price discrepancies should be seen as more of a feature rather than a bug. However, a **derivative-based BTC ETF** introduces other variables into the equation, making it difficult to achieve price equilibrium.

### Derivative-based BTC ETFs fuel the mispricing effect

Rolling requires \$BITO and other US-based ETFs to sell their existing BTC futures contracts as it approaches expiry and buy new ones, regardless of their current price. In other words, ETFs have to bear the premiums or discounts of any price discrepancies. These price deviations are known as the ‘contango’ and ‘backwardation’ relationships. A contango relationship occurs when a futures contract with a longer term to expiration is priced higher than a futures contract with a shorter term to expiration. Conversely, a backwardation relationship occurs when a futures contract with a longer term to expiration is priced lower than a futures contract with a shorter term to expiration.

If we look at the closing price deviations for CME BTC futures contracts, they tend to be significant and occur quite often.



Average Premium	4%
Average Discount	3%
Days where >5%	39(15%)
Days where <-5%	18(7%)
Days trading at Premium	142 (56%)
Days trading at Discount	111(44%)

Source: *TradingView*



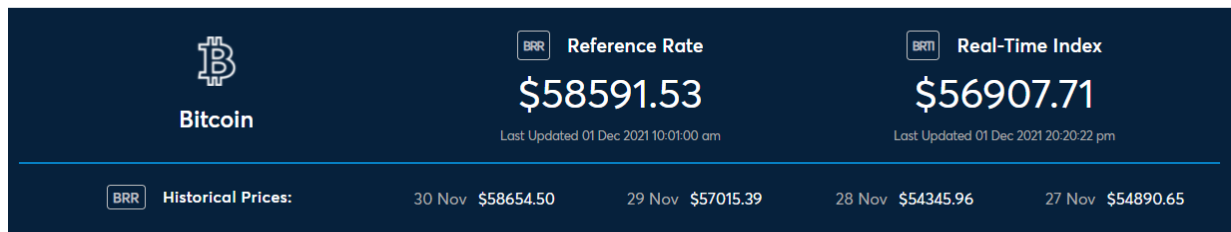
\*Data excludes days that contracts do not trade. CME Globex operating hours are Sunday - Friday 6:00 p.m. - 5:00 p.m. ET (5:00 p.m. - 4:00 p.m. CT) with a 60-minute break each day beginning at 5:00 p.m. ET (4:00 p.m. CT). Closed on Public Holidays.

\*\*Bitcoin's Spot Price is derived from Bitcoin's trading price on Coinbase Exchange.

Throughout a 1-year period, the average premium is 4% while the average discount is 3%. On average, an investor is likely to pay a premium 56% of the time. Notably, prices tend to spike above 5% more often (15%) than it does for days where it is trading below discount (7%).

When contracts are further away from expiration, they are more speculative and usually cheaper. Whereas the closer it is to expiration, prices are usually more expensive as there is a higher premium on certainty. Since BTC ETFs traditionally sell their contracts close to expiry at the end of the month (CME futures expire on the last Friday of every month) to make room for the next batch of futures contracts, there is a higher probability of a contango relationship.

Aside from the 'rolling dilemma' however, there is also another problem. To ensure that the price of BTC futures contracts remains as accurate as possible, CME tracks the price of BTC through their Bitcoin Reference Rate (BRR).<sup>2</sup> While this may be appropriate for traditional markets, it is worth remembering Gordon Gekko's quote: ~~money~~ Bitcoin never sleeps. And since Wall Street most definitely does, there will always be price discrepancies, especially during hours when the market is closed.



Source: CME

According to [CME's 2020 study](#), however, this is not a big issue. During their analysis period (1 January 2019 - 20 November 2020), the CME simulated the impact of purchasing 50 bitcoins on their BRR. The findings are as follows:

Days where 50 Bitcoins exceeded 10%, 25% and 50% of BRR Volumes		
Percentage	All Days	Weekdays Only
10%	64.36%	39.25%
25%	11.98%	1.73%
50%	2.17%	0.14%

Source: CME

<sup>2</sup> The BRR is a daily reference rate that aggregates the prices of BTC from major exchanges during a specific one-hour calculation window. This one-hour window is then partitioned into 12, five-minute intervals, where the BRR is calculated as the equally-weighted average of the volume-weighted medians of all 12 partitions. The result is the US dollar price of one Bitcoin as of 4 pm London time.

While the frequency of a 10% discrepancy is quite significant (64.35% of the time), it is worth noting that the analysis is only based on ‘Constituent Exchanges’ (exchanges that have been selected for the BRR benchmark), and does not include other venues, including the Over-The-Counter (OTC) market. According to CME, if the study accounted for the OTC market, ‘the measured price impact of attempts to replicate the BRR would be lower than that described in this paper.’ Moreover, CME reiterates that Bitcoin liquidity peaks in accordance with traditional market trading times, meaning that price discrepancies swiftly correct when it matters i.e. during peak hours.

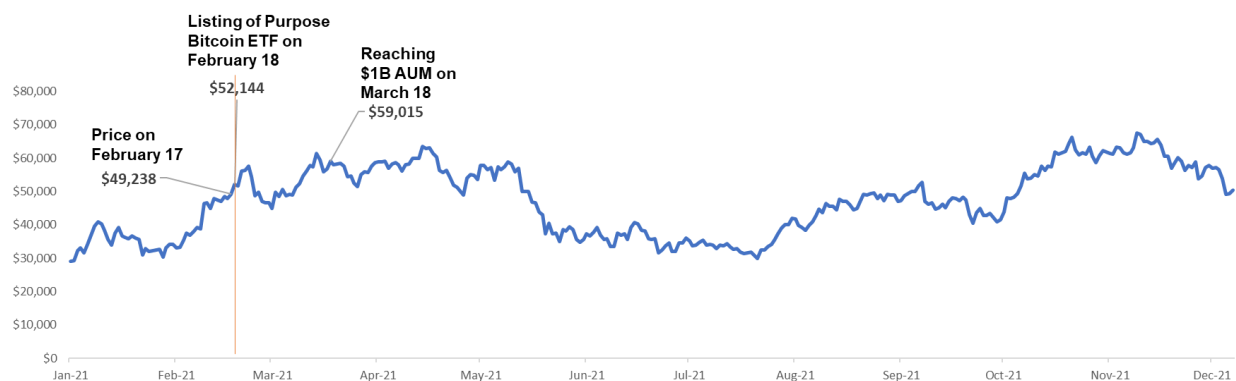
Nevertheless, this does not change the fact that Bitcoin is available on every single crypto exchange 24/7, including [decentralized exchanges](#). Bitcoin is a relatively volatile asset, and trying to accurately track its price through a regulated reference rate that has ‘operating hours’ may be a handicap. An ETF further fuels the mispricing effect, especially for ETFs like \$BITO since it is essentially a bundle of derivatives. Consequently, **active traders**, whether in the spot or futures markets, **will always have an edge in terms of capturing arbitrage opportunities quicker and more efficiently over ETF investors/traders.**

## Price of Bitcoin

It is impossible to wholly encapsulate the impact of an ETF on Bitcoin’s price, largely because there are countless market variables that affect price movements at any one time. However, there are **broad assumptions that we can make based on an ETF’s underlying mechanisms over short time-frames.**

Spot-ETFs can be seen as a channel of access for Bitcoin. Much like how a business works, the wider your marketing channels, the greater likelihood of distribution. In this case, spot ETFs offer greater distribution opportunities to traditional investors. In turn, this leads to higher demand, translating into the further acquisition of Bitcoin (as the underlying asset for ETFs) and driving its price up.

At first glance, this might appear to be the case if we look back at the first spot-BTC ETF listing in Canada, \$BTCC.



Source: CoinGecko

Within a day of its launch, Bitcoin's closing price jumped by \$3k. At the same time, [\\$BTCC saw huge interest and traded \\$200 million shares on its first day](#). According to Balchunas, Senior ETF Analyst for Bloomberg, this is significant because it puts it in the top-5 of all time for first-day demand for ETFs (including the US).

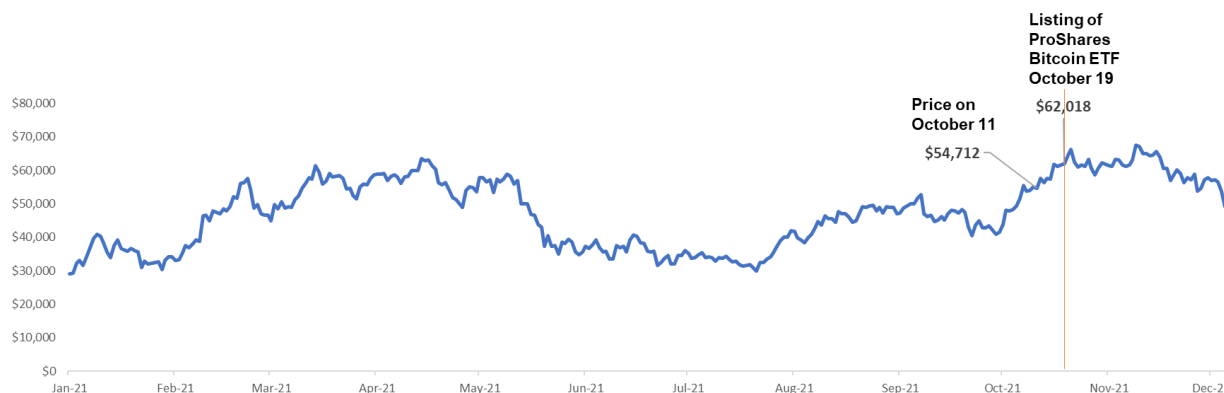


Source: @EricBalchanus

A month later, the total AUM for the ETF reached \$1B. Throughout that 1-month period, \$1B worth of Bitcoin got 'locked up' in the ETF.

While there appears to be some strong correlation here, it is worth remembering that on March 18, 2021, Bitcoin's market cap was \$1.1T. Factoring in price impact variables like liquidity, spreads, macroeconomic factors, etc, it is extremely unlikely that an accumulation of \$1B worth of Bitcoin over a month, was the sole factor for the price increase. A more reasonable assumption is that the **first BTC ETF was seen as a bullish event for the market**.

On the other hand, a futures-ETF is very different. For ETFs like \$BITO, there is no acquisition of actual Bitcoin, making it impossible to directly drive up the price through purchasing Bitcoin. However, as we have seen with \$BTCC, ETFs are very good 'marketing tools', especially when \$BITO was the first Bitcoin-based ETF in the US.



Source: CoinGecko

In the week before \$BITO's listing (11-18 October), the price of Bitcoin rose significantly during the period amidst rumors that the SEC would be approving the first US BTC ETF. The price of Bitcoin went up from \$54.7k to \$61.6k, representing an increase of 12.6%. Upon \$BITO's listing on October 19, 2021, the price of Bitcoin closed at \$62k. 2 days later, it closed at \$66.2k (an ATH by that point) before retracing.

Aside from the FOMO-inducing effect, however, it is worth noting that futures-ETFs can indirectly affect prices. If there is a significant disparity between spot and futures prices, traders can employ a [cash-and-carry trade](#) (otherwise known as basis trading) which involves either shorting/longing BTC futures contracts, while simultaneously buying/selling Bitcoin. The idea is that arbitrageurs can take advantage of pricing inefficiencies to capture riskless profit.



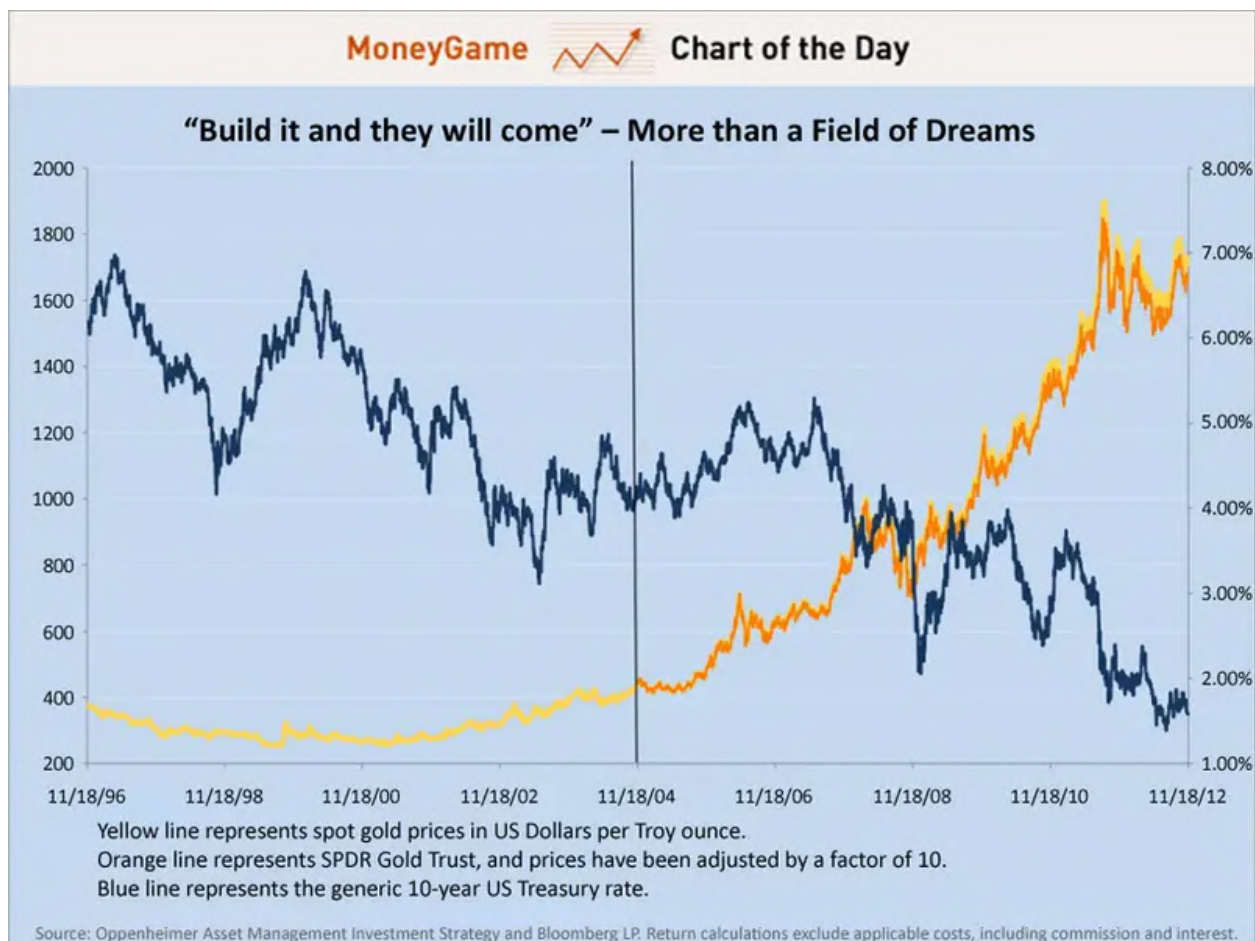
Source: Te55racT (TradingView)

During \$BITO's listing, the price of BTC futures contracts on CME spiked, giving rise to a significant premium against Bitcoin's spot price. However, that quickly corrected as traders stepped into arbitrage. More specifically, arbitrageurs were incentivized to buy Bitcoin while simultaneously selling BTC futures contracts. As a result, real buying pressure was introduced, albeit for a short period of time until the prices converged to trading equilibrium.

## Does Gold offer a glimpse into Bitcoin's future?

While ETFs have demonstrably short-term bullish effects on Bitcoin's price movements, it is difficult to say what a longer-time frame might look like. Bitcoin was initially designed to be a new form of currency but current developments suggest that it is treated more like a 'store of value'; hence the nickname, digital gold.

Historically, gold has been in an uptrend since the first gold-ETF (Gold Bullion Securities), was listed on the Australian Securities Exchange on 28 March 2003. This rose exponentially after the first gold ETF, SPDR Gold Shares (GLD) was listed in the US on 18 November 2004.



Source: *Business Insider*

According to [pundits](#), macroeconomic factors such as the 2008 financial crisis and inflationary monetary policies created a favorable environment for gold as an ideal hedging asset. The primary reason, however, was the ease of access and liquidity to which Gold ETFs provided.

These same factors apply to spot BTC-ETFs which is why many advocate for a spot BTC ETF over a futures BTC ETF, perhaps hoping that it would mirror gold's price trajectory. However, there are several reasons why this may not be the case

For one, Bitcoin does not have the same costs of carry as Gold. Unlike Bitcoin, Gold is a hard metal. Investors who want to hold Gold have to manage and deal with high transportation, security, and storage costs. Gold ETFs provided an alternative to circumvent this extremely unappealing option. Contrast this with Bitcoin which is as simple as storing it in a 'pen drive'. While there are other security risks, the financial costs of holding Bitcoin are clearly lower - there are fewer incentives to buy a BTC ETF over holding Bitcoin.

Secondly, for many years, Gold was seen as the best hedging asset against inflation. Nowadays, that same narrative competes with Bitcoin regularly - the market dynamics for assets that offer a 'store of value' are more competitive than before. Rather than having gold as the only option, investors can choose Bitcoin or even other Gold substitutes like Silver. Demand is more spread out and less concentrated, slowing down long-term price growths for individual assets like Bitcoin.

Finally, it is the nature of the assets themselves. While maxis may tout Bitcoin as superior Gold, this does not detract from its risks or perceived risks. The fact of the matter is that Bitcoin is highly volatile, made by a pseudonymous party, technologically intimidating, and still nascent. Gold, on the other hand, has been part of human culture for centuries, is easily understood, and is tangible.

In short, while **the historical impact of Gold ETFs on its price does offer some hopium for Bitcoin, current market conditions suggest otherwise**. The fact that **Gold is familiar whereas Bitcoin is intimidating** is a strong reason to support that thesis.

## Closing thoughts

There is no denying that a BTC ETF (whether spot/futures), is a historic milestone for the crypto community. We don't even know who Satoshi Nakamoto is (nor do we need to) and yet, Bitcoin has managed to pass regulatory scrutiny, at least to the point where it is now part of a globally-recognized ETP.

Many have continued to criticize the SEC's decisions regarding spot-based BTC ETFs. While other countries like Canada and even Brazil have approved spot BTC ETFs, the SEC has continued to reject US-based applications [out of concern for potential fraud and manipulative practices in the cryptocurrency space](#).

**Approving ETFs like \$BITO is often seen as a temporary solution to appease investors** but that is unlikely to last for long. A spot-based ETF offers numerous advantages over futures-based ETFs and there is no clear reason why one should be approved over the other. That being said, **ETFs should not be thought of as the end-goal but rather the first step**. We should soon see the emergence of more traditional investor (whether retail or institutional) friendly capital market products with a portion of crypto coming to the market, bringing in a new audience for the crypto industry.

Savvy investors will eventually learn to embrace managing their own crypto wallets and systems. Alternatively, they may adopt Tesla's approach and use an exchange custody service like Coinbase. Either way, **ETFs will help push greater adoption and hopefully convert more people into degens as they start experimenting with [DeFi](#) and other crypto-native products**.



## Appendix

Type of ETP	Listing Date	Country	Name	AUM as of 22 November 2021 (\$ billions)	Management Fee (per annum)
ETN	26 February 2019	Switzerland	21Shares Bitcoin	0.51B	1.49%
ETN	19 January 2021	Jersey	CoinShares Physical Bitcoin	0.48B	0.98%
ETN	28 November 2019	Jersey	WisdomTree Bitcoin	0.34B	0.95%
ETN	19 November 2020	Liechtenstein	VanEck Vectors Bitcoin ETN	0.3B	1.00%
ETN	15 April 2021	Germany	Iconic Funds Physical Bitcoin ETP	0.01B	0.95%
ETN	8 June 2020	Germany	BTC etc - ETC Group Physical Bitcoin	1.48B	2.00%
ETF (spot)	18 February 2021	Canada	Purpose Bitcoin ETF	1.36B	1.00%
ETF (spot)	31 March 2021	Canada	3iQ CoinShares Bitcoin ETF	1.18B	1.00%
ETF (spot)	5 March 2021	Canada	CI Galaxy Bitcoin ETF	0.47B	0.40%
ETF (futures)	14 April 2021	Canada	Betapro Bitcoin ETF	0.01B	1.00%
ETF (spot)	22 June 2021	Brazil	QR CME CF Bitcoin Reference Rate Fundo de Indice IE	0.05B	0.75%
ETF (futures)	19 October 2021	US	ProShares Bitcoin Strategy ETF	13.6B	0.95%

ETF (futures)	22 October 2021	US	Valkyrie's Bitcoin Strategy ETF	0.06B	0.95%
ETF (futures)	16 November 2021	US	Vaneck Bitcoin Strategy ETF	0.01B	0.65%

*\*Data was collected as of 22 November 2021 and meant to provide a holistic outlook. There might be other ETPs that have not been listed here.*

*\*\*Volume data is taken from its largest single-point source. Some ETPs may trade on more than one exchange at smaller volumes which have not been included in our calculations.*