Bitcoin:

The Potential Role of Digital Assets In Investment Portfolios

LVW Advisors Whitepaper

LVW ADVISORS

Digital Assets: introduction

Bitcoin and other Digital Assets have been a hot topic in mainstream and financial news over the past several years. Lauded as the next world-changing technological innovation by some and dismissed as worthless by others, it can be difficult to discern where the value proposition and use case lie. A high level of misunderstanding exists when it comes to the conversation around Digital Assets, by both financial professionals and everyday investors alike. In our view, the bulk of the misunderstanding and confusion around Bitcoin and other Digital Assets stems from preconceived notions based on both bearish misinformation and overidealistic views of the future. We believe that the reality, per usual, lies somewhere in the middle.

What is a Digital Asset and why is it valuable?

Digital Assets are rooted in blockchain technology. So, what is blockchain? In the simplest terms, from BankRate: “A blockchain is a digital, public ledger that records online transactions. Blockchain is the core technology for cryptocurrencies like Bitcoin. A blockchain ensures the integrity of a Digital Asset by encrypting, validating, and permanently recording transactions. A blockchain is like a bank’s ledger, but open and accessible to everyone who utilizes the Digital Assets it supports.”

So, what is a cryptocurrency? Simply put, a cryptocurrency is a Digital Asset - in essence, software - built on the blockchain, that facilitates peer-to-peer transactions through a validated, secure network that does not require a third-party intermediary. Oxford defines cryptocurrency as “a digital currency in which transactions are verified and records maintained by a decentralized system using cryptography, rather than by a centralized authority.” In the case of Bitcoin, since those who validate the network are rewarded with Bitcoin, a peer-verified, decentralized network is created.

Though it can also include other assets, for purposes of this paper, we will use the term “Digital Asset” to broadly encompass transactional assets such as Bitcoin, Ethereum, and the like.

Digital Assets can be used to facilitate a transfer of value. Rather than requiring the banks of a sender and a receiver to cross validate the ability to transfer assets (confirm available balance, verify wiring instructions, etc.), with high transaction fees and long processing times (days to weeks for complex, international transactions), large Digital Asset transfers can be accomplished in a matter of minutes to hours, with low transaction costs on a peer-verified network.

What has allowed Bitcoin to be a leader in the Digital Assets space?

Bitcoin has been the leader in the space since its inception – constituting 66% of the total market cap of all Digital Assets as of year-end 2020. Other than enjoying the benefits of being a first mover in the space, it is one of the most secure computing networks in the world. Notably, there have been no successful hacks of the Bitcoin network throughout its history. Other qualities that have helped Bitcoin emerge as a leader are its scarcity and decentralization. It has been referred to as "digital gold," with a store of value given its fixed supply. As investors have begun to understand Bitcoin, there has been increased demand among institutional investors, such as endowments, pension funds, and hedge funds. Recently, several large corporate entities such as MicroStrategy, Tesla, and Square have allocated portions of their balance sheets into Bitcoin, as a proposed means to hedge against inflation and the erosion of the value of cash on the balance sheet.

To help demonstrate some of the benefits and risks of an asset like Bitcoin, below is a chart that quickly illustrates some of the more prevalent pros and cons.

Pros/Benefits	Cons/Risks
Fixed Supply	Volatility
Decentralized	Regulatory environment
Secure	Difficult to value traditionally
Low correlation to other investments	Immutable/irreversible transactions
Potential store of value/inflation hedge	Unrecoverable if lost/stolen
Ease and speed of transaction	Competition

Many of the benefits mirror what one may observe in fiat currency - transactable, non-consumable, durable, divisible, and secure—to varying degrees. Where Bitcoin differentiates itself is security (it cannot be counterfeited), scarcity (there is a predictable amount of supply at all times), ease and speed of use, and the decentralization of the platform. These factors have allowed Bitcoin to function as a proposed alternative to gold and fiat money for various functions. Below is a table that further illustrates the qualities of Bitcoin, gold and fiat currency, and how they meet each use case/trait.

What are the risks to widespread adoption and long-term success of Bitcoin and Digital Assets?

Traits of Money	Gold	Fiat (US Dollar)	Crypto (Bitcoin)
Fungible *(Interchangeable)*	High	High	High
Non-Consumable	High	High	High
Portability	Moderate	High	High
Durable	High	Moderate	High
Highly Divisible	Moderate	Moderate	High
Secure *(Cannot be counterfeited)*	Moderate	Moderate	High
Easily Transactable	Low	High	High
Scarce *(Predictable Supply)*	Moderate	Low	High
Sovereign *(Government Issued)*	Low	High	Low
Decentralized	Low	Low	High
Smart *(Programmable)*	Low	Low	High

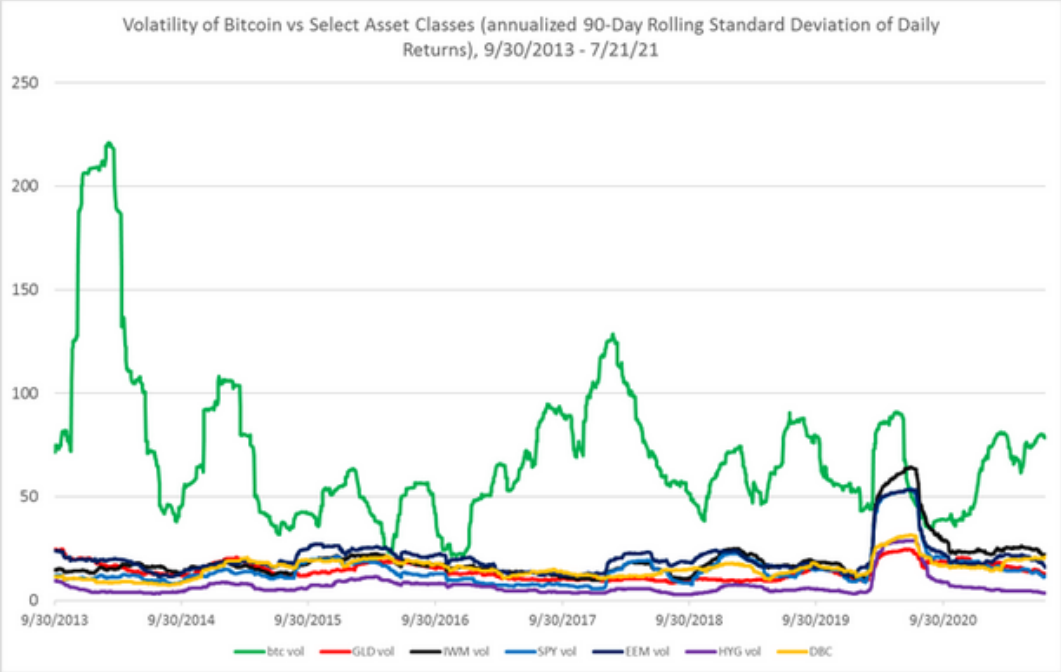
Investopedia

The major headwind for Bitcoin in taking market share from gold as a potential store of value is largely adoption. A Digital Asset, or any asset for that matter, has no value if no one is willing to pay for it. The inherent trust in the value of gold has been established for millennia, while fiat currency has the full backing of sovereign governments. As more institutions and individuals invest in and utilize Bitcoin, confidence that it is commonly accepted and valuable should improve. Some recent examples of the increasing adoption of Bitcoin include Paypal's commitment to allow Bitcoin to be used for purchases and El Salvador's introduction of legislation that will make it the world's first sovereign nation to adopt Bitcoin as legal tender. That said, there is also legislation being proposed and adopted that could negatively impact adoption, such as China's recent prohibition of Bitcoin as legal tender.

An additional hurdle to Bitcoin adoption is volatility. Throughout its history, Bitcoin has been a volatile asset (to put it mildly), with multiple 70% or greater decreases in value. A large drop like this would require a 333% or greater return from the bottom to recover one's initial investment. Milder retraces greater than 20% have occurred over 20 times since October of 2013. For reference, the S&P 500 had a drop that large only once over this period. For many investors, these types of drops over Bitcoin's history would have induced an inability to stay invested. As time has gone on, these large fluctuations in value have decreased in both scale and frequency. From its early nascent period to now, we have seen both a reduction in size and frequency of drawdowns, illustrated by the volatility chart below. This decline in volatility is consistent with what we would expect from an asset that is maturing, yet it still has a way to go before it can be considered mature. Despite the year over year reductions in volatility, Bitcoin still has a long way to go to reach the lower volatility seen in gold or even equities.

Finally, valuing Bitcoin has been a challenge for potential investors to understand. It is not a tangible asset; it produces no cash flow. This lack of traditional valuation metrics is not unique to Digital Assets like Bitcoin. Gold and other precious metals and commodities, although they have specific use cases, can be difficult to value as well. Fiat currencies face a similar predicament. For example, the elimination of the gold standard backing the U.S. dollar leaves the currency theoretically vulnerable to a loss of faith. Extreme cases of this have occurred in Weimar Republic Germany and Zimbabwe - hyperinflation can cause the fiat currency to become worthless. Even the Federal Reserve's targeted average annual inflation reduces your net worth as each dollar you hold buys you less and less.

Volatility of Bitcoin vs Select Asset Classes (Annualized 90-Day Rolling Standard Deviation of Daily Returns), September 30, 2013 – July 21, 2021



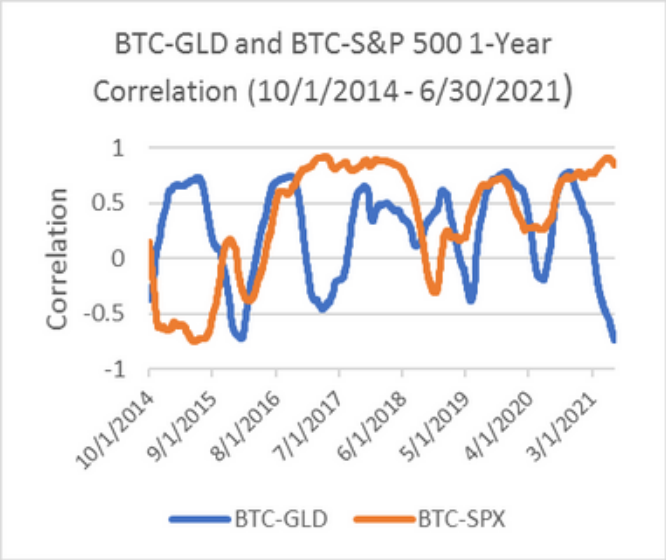
One approach to valuing Bitcoin is by comparable market displacement. If you look at the gold market, as of the end of 2020, Bitcoin was roughly 5% of gold's market value. If Bitcoin continues to take market share from the traditional gold market of $10T, or the roughly $39T Global M2 supply, there is a case for a potential Bitcoin price of greater than $100,000 over a 3–5-year time horizon.

Another valuation metric that ties to market displacement is adoption. As it is outlined in Metcalf's law, adoption occurs when network value is proportional to the square of the number of users of said network. Widespread adoption has an exponential effect on the value of Bitcoin and other Digital Assets.

There have also been various financial and mathematical models built in an attempt to value Bitcoin; that being said, the potential value comes with a high level of speculation and uncertainty. However, Digital Assets do have fundamental factors that offer substantial rationale for potential price appreciation.

How can a Bitcoin allocation affect portfolios and how do you size it?

Bitcoin has historically (using data since 2014) added both returns and diversification to help justify its position in a portfolio. Bitcoin's correlation to gold and the S&P 500 over 1-year rolling periods has oscillated over its history between both positive and negative territories.



In conjunction with being an asset that has added diversification, Bitcoin has been additive to returns in both absolute and risk adjusted terms.

PORTFOLIO PERFORMANCE METRICS

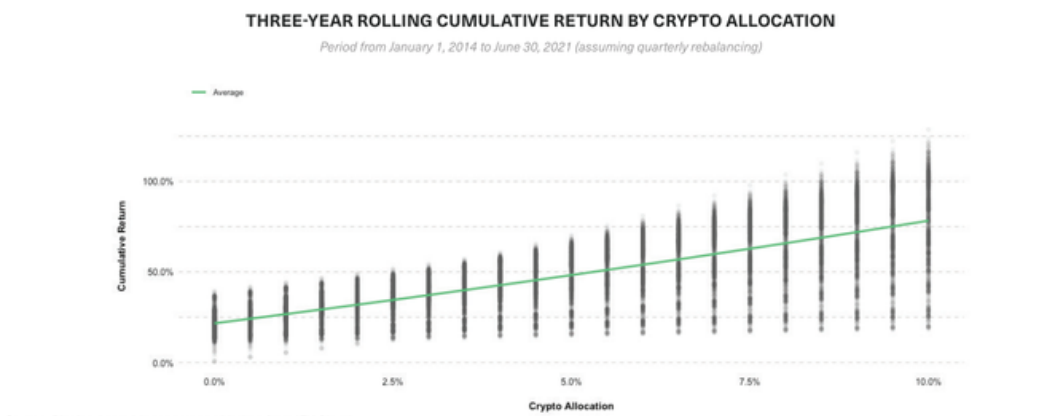
Period between January 1, 2014 and June 30, 2021 (assuming quarterly rebalancing)

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional Portfolio	74.72%	7.75%	10.19%	0.609	21.07%
Traditional Portfolio + 1.0% crypto	89.26%	8.90%	10.21%	0.719	21.32%
Traditional Portfolio + 2.5% crypto	112.73%	10.62%	10.43%	0.867	21.80%
Traditional Portfolio + 5.0% crypto	156.46%	13.42%	11.18%	1.055	22.76%

Source: Bitwise Asset Management with data from IEX Cloud

Past performance does not predict or guarantee future results. Nothing contained herein is intended to predict the performance of any investment. There can be no assurance that actual outcomes will match the assumptions or that actual returns will match any expected returns. Historical performance of sample portfolios has been generated and maximized with the benefit of hindsight. The returns do not represent the returns of an actual account and do not include the fees and expenses charged by funds.

As set forth in the chart on the previous page, for the limited period of January 1, 2014 through June 30, 2021, a 1% allocation to Bitcoin in portfolios has meaningfully impacted returns without a significant increase in volatility. As also set forth above, increased sizing during this period has led to increased volatility, but the improved Sharpe ratios suggest that investors are compensated for that volatility. Over any 3-year period from January of 2014 through June of 2021, a 2.5% allocation to Bitcoin had a positive contribution on both cumulative and risk-adjusted returns with respect to a Traditional Portfolio, which for this paper is defined as a 60% allocation to the Vanguard Total World Stock ETF (VT) and a 40% allocation to the Vanguard Total Bond Market ETF (BND).



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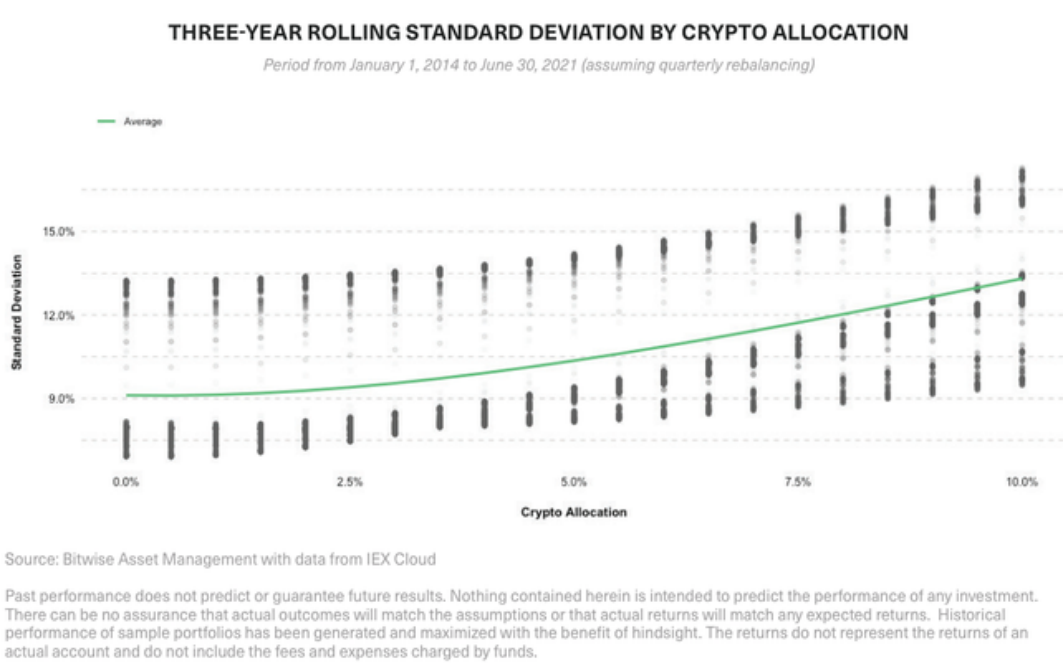

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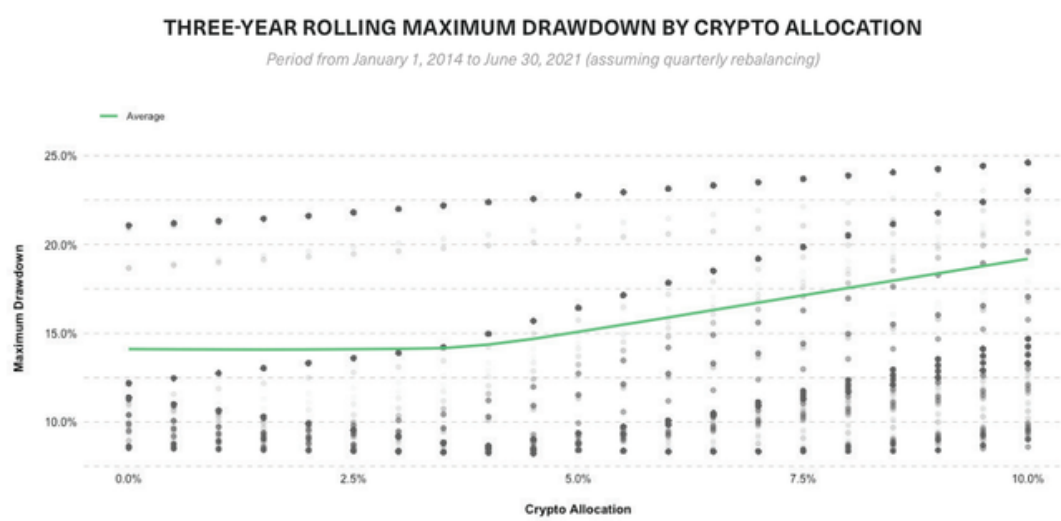
Although the returns increase in a linear fashion as a larger Bitcoin position is added, the standard deviation increases in a more exponential fashion. Looking at the graph, once a Bitcoin allocation exceeds 3%, it appears to have a meaningful increase on a portfolio's volatility.

The final chart below shows the impact that an allocation to Bitcoin has had on a portfolio's maximum drawdown. Up to a 3.5% allocation, the average maximum drawdown over a 3-year period remains constant as the Bitcoin allocation increases. Above the 3.5% level, a portfolio's maximum drawdown tends to increase, and Bitcoin becomes a major driver of these maximum drawdowns. Given that maximum drawdowns are an important piece of investor psychology and behavior, this data would indicate that with an allocation below the 3.5% level, most investors would not experience a notable difference in drawdowns.



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On the topic of rebalancing: if left to its own devices, Bitcoin's returns would have led to a much greater than intended sizing and much more volatility. It is important to note that the Traditional Portfolio would have experienced both greater returns and volatility if rebalanced on either an annual or quarterly basis. This highlights the importance of having a robust investment policy in place.

PORTFOLIO PERFORMANCE METRICS

Period between January 1, 2014 and June 30, 2021

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional Portfolio (no rebalancing)	75.13%	7.78%	10.71%	0.583	23.08%
2.5% crypto allocation (no rebalancing)	184.88%	15.02%	17.71%	0.755	32.52%
2.5% crypto allocation (yearly rebalancing)	144.12%	12.67%	11.11%	0.995	21.80%
2.5% crypto allocation (quarterly rebalancing)	112.73%	10.62%	10.43%	0.867	21.80%
2.5% crypto allocation (monthly rebalancing)	99.07%	9.64%	10.41%	0.776	22.31%

Source: Bitwise Asset Management with data from IEX Cloud

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Risks & Concerns

All of the above information regarding historical returns, volatility, and sizing of Digital Assets is for a limited period of time and subject to all of the future uncertainties that still attach to Digital Assets. Along these lines, it is important to highlight some of the issues that Bitcoin may face, including regulation, security and competition.

Although it could be difficult for a government to ban or regulate a cryptocurrency, this narrative and announcements by government entities can acutely impact price. We have seen this with China several times as of late, where they have announced that they will not recognize cryptocurrencies as legal tender. While it is difficult, if not impossible, to control a digitally native asset, one way that governments could hinder the adoption of Digital Assets is by banning platforms from converting legal tender into Digital Assets, and vice versa. Furthermore, they could ban platforms from mobile app stores in their respective countries. Although there would be no way to fully control Digital Assets, governments could effectively kill demand if the hurdles to adopt these technologies become too great.

Gary Gensler, the chairman of the U.S. Securities and Exchange Commission, had these comments on digital assets: “Currently, we just don't have enough investor protection in crypto finance, issuance, trading, or lending…This crypto space is now certainly of a size that without those investor protections of banking, insurance [and] securities laws [and] market oversight, I do think somebody is going to get hurt.” His comments reflect the reality that Digital Assets in circulation today have thus far largely been able to avoid regulation. Most are not treated as securities, and because of this, require fewer disclosures (if any) and have little oversight. Although the SEC has said that they have no plans to ban Digital Assets, but rather seek increased regulation, taxation, supervision and investor protection, their view could always change and lead to greater scrutiny, regulation or bans.

Another area that is under scrutiny is the taxation of digital assets. Increased oversight by the IRS and other global taxation entities could create obstacles to widespread adoption. In addition, Digital Assets have a small advantage over traditional equities in that they are not subject to the wash-sale rule. The wash sale rule states, in simple terms, that if an investment is sold at a loss and then repurchased within 30 days, the initial loss cannot be claimed for tax purposes. Without this rule in place, it is very easy to sell Digital Assets at a loss and then repurchase them immediately. This ability to tax-loss harvest Bitcoin and other Digital Assets can reduce the tax burden that investors may incur, especially when harvesting short term losses. This loophole is currently being challenged by the House Ways and Means Committee. Although this would eliminate an advantage that these investments have over traditional investments, it would simply bring them in line with other traditional markets' tax regulations.

Security is another risk. Although Bitcoin and other blockchain technologies are among the most secure in the world, this level of security does not extend to the exchanges. Coinbase, Kraken and many other exchanges could be hacked, and this would present a risk to investors. Of course, this same type of issue could come up at traditional financial exchanges, but it is important to note that Digital Asset exchanges are much more nascent and may not be as resilient or secure as larger financial institutions.

Competition is a concern as well. Bitcoin and Ethereum are leading technologies in the space today. But they are just the tip of the iceberg. As of January of 2021, there were over 6,000 Digital Assets in existence. There is a risk that these lesser-known Digital Assets, or newcomers yet to be created, could out-innovate and overtake some of the major players today, much like the tech stock world. Although the risk may be lower given the significant first mover advantage, disruptors tend to enter every innovative space over time in an attempt to take market share from well established players.

Conclusion

There are many reasons to both be excited about the future of Bitcoin and blockchain and to be wary of its various risks. Digital Assets seem to be a likely part of the future of global economics, finance and payment systems, but there are many hurdles that still need to be overcome. Education that leads to widespread adoption by many more institutions and individuals is vital to the long-term success of Digital Assets. Investors must understand the volatility, potential returns, benefits and risks, and make educated decisions around implementation and sizing in an asset that is still speculative, in its infancy, and not suitable for all investors. Should one consider allocating to Digital Assets, it is critical to understand how to own, how much to own, how to rebalance, and the multitude of benefits and risk factors associated with adding Digital Assets to a portfolio. Finally, it is of utmost importance to not ignore but rather educate oneself on this new asset class before making an investment decision, properly balancing between the overly bullish and overly bearish market sentiments.

Disclosure

SOURCES

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