How Can Bitcoin Create Greater Efficiency For The Traditional Portfolio?

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I. Introduction

In recent years, the investment ecosystem has been marked by tumultuous markets with highs and lows, dramatic headlines, and talk of a looming recession that has delivered a soft landing. All of this change signals a time of great evolution. Amidst this backdrop of change, the digital asset ecosystem has evolved, reaching a new level of maturity and capturing the attention of financial advisors and investors.

The highly anticipated launch of a spot bitcoin ETF in the United States sparks a pivotal moment, which should indicate to advisors that digital assets are moving past their speculative phase, prompting a large portion of advisors to reconsider their role in investment strategies.

This white paper—along with its companion paper titled The ARK 21Shares Digital Asset ETF Suite: Offering Broad Based Exposure to a New Asset Class—explores the transformative impact of these developments on traditional portfolios. Traditional investment strategies will likely witness a shift with the integration of digital assets. As digital assets continue to move toward regulatory clarity and mainstream acceptance, many are wondering what role they should play in a traditional portfolio.

Our analysis demonstrates the potential strategic benefits of incorporating digital assets into a traditional portfolio and how these assets have the potential to enhance growth and diversification while increasing portfolio efficiency.

As the financial landscape undergoes rapid transformation, understanding and integrating digital assets is becoming an essential aspect of informed investment decision-making. This white paper aims to equip investors and their advisors with comprehensive insights into the strategic inclusion of digital assets, highlighting their potential to complement and elevate traditional investment methodologies at a time when they are becoming increasingly relevant.

Key highlights:

- Traditional investment strategies will likely witness a shift with the integration of digital assets.
- Bitcoin's limited supply and growing adoption offer a compelling case as a long-term store of value.
- Adding bitcoin to a portfolio may result in an improved Sharpe ratio[1].

1 *The Sharpe ratio is a key metric for evaluating investment strategies that provides a theoretical measure of return per unit of risk.*

The Value of Digital Assets:

Digital assets stand at the forefront of innovation, and are valued not only for their monetary properties but also for the overall activity on their respective networks, which creates potential growth. Each blockchain network holds a distinct set of technological characteristics that allow for the growth of new businesses and services. They provide us with a new way to interact with and perceive value. Blockchain technologies:

- Enable us to store and transfer value in ways that are more efficient, direct, and cost-effective than traditional methods. This efficiency is not just a technical improvement; it's a fundamental shift in the way value is exchanged globally.
- Provide access to decentralized platforms that foster the creation of new goods and services while presenting the opportunity for new business models.
- Allow us to manage data and economic activities in more effective and efficient ways than previously imaginable. Applying decentralization to economic interactions and the subsequent data should result in more transparent, secure, and efficient financial systems.

In today's economic environment, it's easy to understand the potential benefits of diversification. Neglecting a crucial new asset class may keep investors from fully capitalizing on a diverse portfolio.

Bitcoin: Catalyzing Growth and Diversification in Modern Portfolios

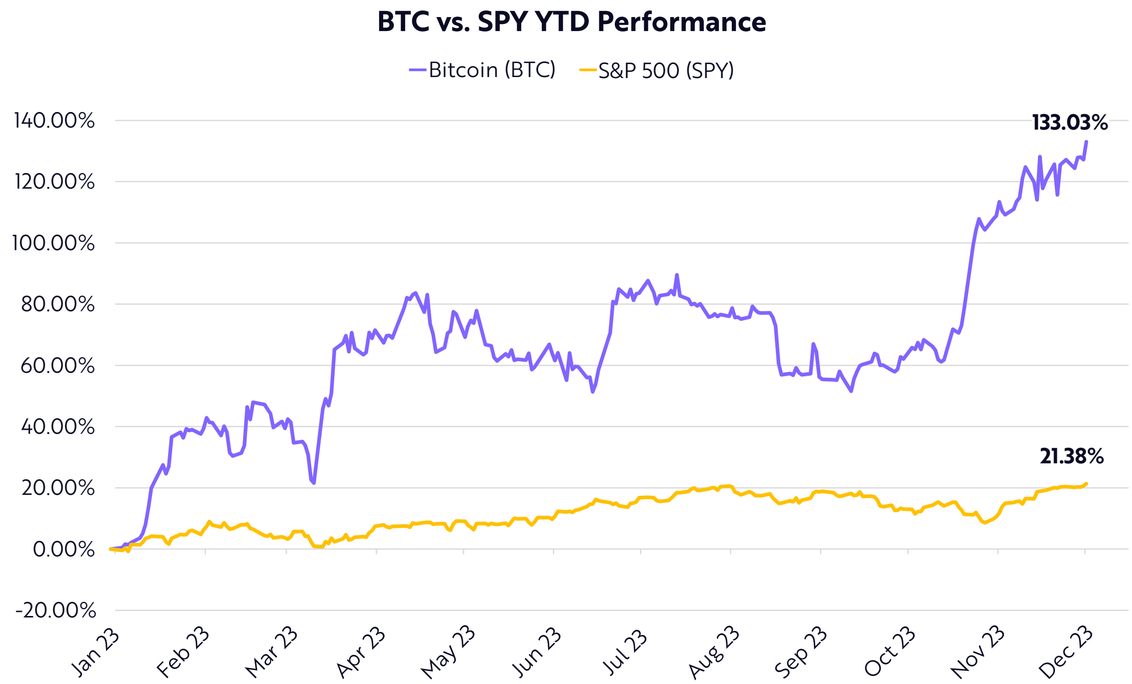
As the first and largest digital asset by market cap, bitcoin has emerged as a key player in the growing adoption of digital assets. Its fixed supply creates inherent upward price potential, especially as adoption widens.

Properties and Use Cases of Bitcoin

Modern Growth Potential

Bitcoin's historical performance has shown massive growth potential— As of November 27 2023, the asset has increased by 133.40% this calendar year[2].

2 *https://www.marketwatch.com/investing/cryptocurrency/btcusd*



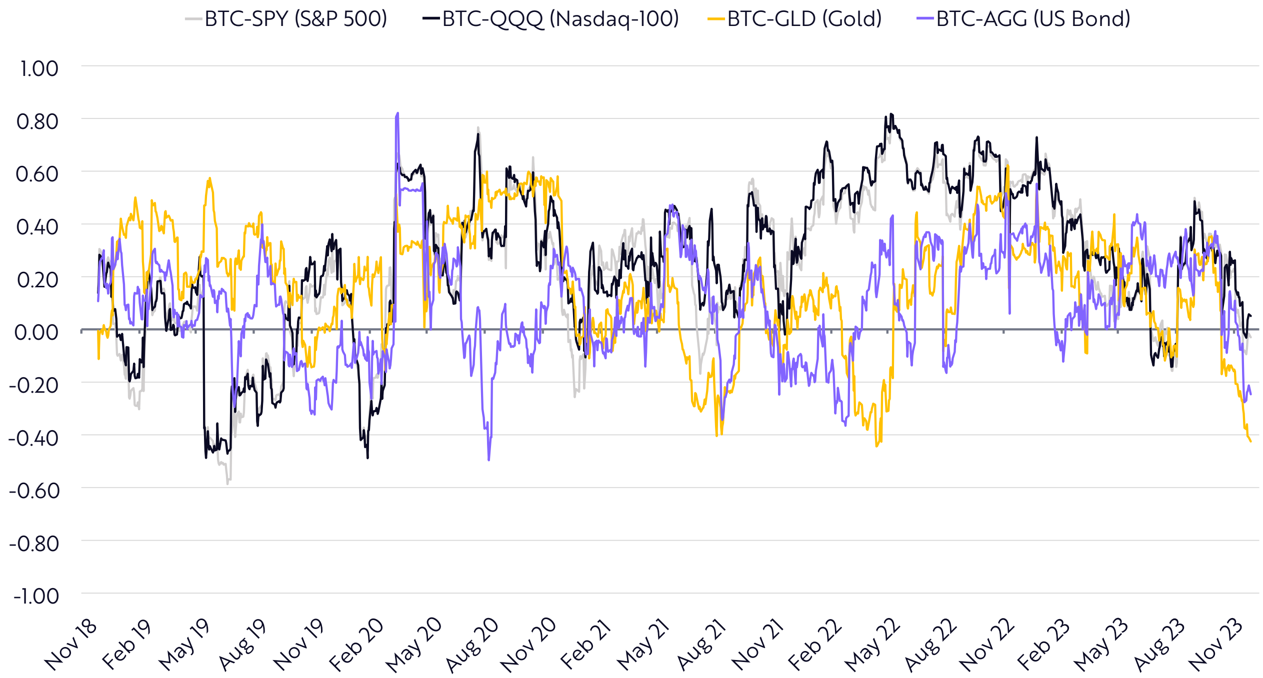
Source: 21Shares Research, Google Finance. Past performance is not indicative of future results. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or digital asset.

The economic case for bitcoin revolves around its fixed supply and increasing utility. As bitcoin becomes more widely used, its limited supply coupled with wider adoption applies upward pressure on its price, offering investors the opportunity for rapid growth.

Diversification

Historically, bitcoin has exhibited a relatively low correlation to traditional asset classes like stocks and bonds. This low correlation is key for delivering the potential benefits of portfolio diversification. While stocks and bonds often move in opposite directions, adding bitcoin to a portfolio introduces an asset that behaves independently of traditional investments, potentially resulting in a more stable overall portfolio.

30-Day Rolling Correlation Between BTC and Other Asset Classes
(Nov 27, 2018- Nov 27-2023)



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As of November 27, 2023, bitcoin's 30-day rolling correlation with U.S. stocks[3] has significantly decreased from about 0.60 to nearly zero. Additionally, its correlation with U.S. bonds[4] (AGG) and gold[5] (GLD) has also reduced from around 0.21 and 0.39, respectively, to negative figures. This indicates bitcoin's distinct value drivers and its effectiveness as a potential portfolio diversifier.[6]

Store of Value

Considering the long-term depreciation of fiat currencies like the US dollar, bitcoin presents an effective alternative for storing value. Since 1971, the purchasing power of the US dollar has diminished by 86.3%. While this spans several decades, it's notable that since the year 2000 alone, the dollar has lost 43.15% of its value, making it less appealing for long-term value preservation[7]. In contrast, bitcoin's limited supply and growing adoption position it as a long term store of value.

3 *The Invesco QQQ Trust Series and the SPDR S&P 500 ETF Trust were used to represent the Nasdaq 100 and S&P 500 indexes*
4 *US Bond are represented by AGG – The iSharesCore U.S. Aggregate Bond ETF, which seeks to track theinvestment results of an index composed of the totalU.S. investment-grade bond market.*
5 *Gold is represented by GLD – The SPDR Gold SharesETF that seeks to track the investment results of an indextracking the price of gold bullion.*
6 *21Shares Research, Data from Yahoo Finance (Nov 27, 2018 - Nov 27, 2023)*
7 *Minneapolis Fed using CPI(-U) or Consumer Price Index for all Urban Consumers.*
**An estimate for 2023 data is based on the change in the CPI from third quarter 2022 to third quarter 2023.*

Year Start	Year End	Amount	Loss of Purchasing Power
1971	2023	$1.00	86.63%
1983	2023	$1.00	66.99%
2000	2023	$1.00	43.15%

**21Shares Research*

Efficient Portfolio Management

As shown in detail in the following section, the Sharpe ratio—a measure of return per unit of risk—confirms bitcoin's ability to enhance portfolio efficiency. Adding bitcoin to a portfolio may allow investors to improve their portfolio's Sharpe ratio.

ARK Invest believes bitcoin's long-term opportunity is strengthening. bitcoin's volatility has obscured its long-term returns. Despite five drawdowns greater than 75% since its inception in 2009, bitcoin has delivered positive annualized returns over 3-, 4-, and 5-year time horizons.[8] Its network fundamentals have strengthened and its holder base has become more long-term focused. Contagion caused by centralized counterparties has elevated bitcoin's value propositions: decentralization, auditability, and transparency. We believe the price of one bitcoin will continue to increase given the strengthened aforementioned fundamentals, and because of increased institutional adoption.[9]

How Does This Instrument Work in a Portfolio?

In optimizing the trade off between risk and expected return, the Sharpe Ratio is a key metric for evaluating investment strategies. A modest allocation to bitcoin in a traditional portfolio may enhance this efficiency ratio, potentially resulting in an improved balance between potential upside and risk.

8 *As of December 31, 2022*
9 *Forecasts are inherently limited and cannot be relied upon. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Past performance is not indicative of future results.*

Bitcoin - 5% BTC allocation to a simple growth portfolio
(60% US Equity, 40% US Bond)

Performance	**Benchmark** 60 Equity (SPT) 40 Bond (AGG) Monthly Balance, No BTC	**Monthly Rebalance 5% BTC**	**Quarterly Rebalance 5% BTC**	**Annual Rebalance 5% BTC**
Start Date	12/31/2014	12/31/2014	12/31/2014	12/31/2014
End Date	9/15/2023	9/15/2023	9/15/2023	9/15/2023
Cumulative Return	153.50%	211.15%	236.68%	312.65%
Annualized Return	6.09%	10.87%	12.63%	17.04%
Annualized Volatility	13.51%	13.64%	13.95%	16.50%
Sharpe Ratio	0.45	0.80	0.91	1.03
Sortino Ratio	0.70	1.15	1.31	1.59

Source: 21Shares Research. Data from Yahoo Finance. The performance information provided is hypothetical and meant to illustrate the potential historical performance of a portfolio composed of 60% equity and 40% bonds, and a portfolio composed of 55% equity, 35% bonds and 5% bitcoin rebalanced at different intervals. There can be no assurance that the performance shown would have been achieved during the period presented and is not indicative of future performance. Equities are represented by the S&P 500 Index; Bonds are represented by the Bloomberg U.S. Aggregate Bond Index; and bitcoin performance is based on the price of 1 bitcoin.

When considering bitcoin's role in a portfolio, it's essential to focus on how it influences the overall risk-return profile. Integrating a 5% allocation of bitcoin into a standard 60/40 stock/bond portfolio has the potential to enhance overall performance while only marginally increasing expected volatility[10]. This strategic inclusion may lead to a more favorable Sharpe Ratio, indicating a more efficient use of risk.

Introducing A Toolkit for Gaining Exposure to the Digital Asset Opportunity

As we have explored the multifaceted potential advantages of incorporating digital assets into investment portfolios, the next step is to empower investors with the right tools to potentially capitalize on these opportunities. Recognizing the transformative potential of digital assets, we have combined 21Shares crypto native expertise with ARK's heritage in disruptive technologies to deliver a toolkit for investors: the ARK 21Shares Digital Asset Suite.

The ARK 21Shares Digital Asset ETF Suite aims to provide investors with comprehensive exposure to the crypto asset class based on their risk tolerance and investment objectives. These products offer investors a robust set of options for introducing exposure to digital assets into a portfolio. ARK and 21Shares recognize that digital assets are a broad and vast asset class that investors will use to achieve a range of objectives.

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How should investors and advisors think about the ARK 21Shares Digital Asset ETF Suite?

Today's investors have a myriad of tools and expertise at their disposal to navigate the evolving landscape of opportunities. The role of 21Shares is to provide a set of tools tailored to meet various investment needs, providing tactical, strategic, and direct exposure vehicles.

Simplify Digital Asset Integration

Core Exposures:

For those seeking to tap into the potential diversification benefits of digital assets, our core exposures present a simple and regulated option. These solutions provide direct exposure to prominent "blue chip" digital assets while reducing the complexities and risks associated with holding the assets directly.

The ARK 21Shares Digital Asset ETF Suite Core exposure products provide pure-play exposure to digital assets, allowing investors to easily and securely gain exposure to the most established digital assets in the asset class, whether to put on a tactical allocation or as part of a long-term strategic allocation.

ARKB, the ARK 21Shares Bitcoin ETF, provides direct, regulated exposure to bitcoin. As shown earlier, modest allocations to "blue chip" digital assets such as bitcoin can potentially enhance a traditional portfolio's expected risk adjusted returns. The assets are kept in cold storage by an institutional-grade custodian, offering greater protection than custody options available to individual investors.

Bitcoin cold storage refers to the practice of keeping bitcoins in a secure offline environment to safeguard them from potential online threats of hacking and theft. Keeping bitcoin holdings entirely offline or "in the cold"limits the opportunity for potential attack vectors to compromise funds.

Exposure Type	Description	Product Name	Spot/Futures*
Core Exposures	Direct, regulated exposure to BTC kept in cold storage by an institutional-grade custodian, offering greater protection than custody options available to individual investors	ARKB: ARK 21Shares Bitcoin ETF	Spot

Overlay Exposures

For investors who want to go beyond simple diversification and potentially benefit from the growth of the emerging digital economy, our overlay exposure options apply a more active strategy designed to outperform “buy-and-hold”.

By blending digital assets with a mix of other investment instruments and leveraging both quantitative models and in-depth fundamental research, these funds strive to deliver superior returns. These products allow investors to tap into the combined expertise of ARK and 21Shares in investing in disruptive innovation and managing crypto portfolios.

What are the differences between futures ETFs vs spot ETFs?

Futures contracts, with their distinct features and technical factors, are strategic tools for seeking to achieve specific investment outcomes and optimizing fund performance. They are especially useful for sophisticated, active strategies and can potentially outperform in volatile markets.

Spot is a simpler instrument to understand and may therefore appeal to a wider range of investors. The ARK 21Shares Digital Asset ETF Suite is designed to be both active and flexible.

Is there room in the market for both futures ETFs and spot ETFs?

Digital asset adoption is in its early stages, and the launch of spot bitcoin ETF products in the United States may become a regulatory gateway for other digital assets, presenting the opportunity for individual investors to have regulated access to the wider digital asset ecosystem. Both spot and futures ETFs have their distinct potential advantages, and we foresee a market for both strategies.

Futures ETFs, despite their higher fees, can become attractive in specific market scenarios. For example, if trading volumes for futures contracts are greater than the trading volume of spot crypto, futures may have a liquidity edge that may offer performance advantages.

Ultimately, like many other investment decisions, the choice between futures and spot ETFs depends on an investor’s goals and market analysis. Many investors may find it useful to explore both assets for their distinct objectives.

Conclusion: Embracing the Digital Asset Frontier in Investment Portfolios

The evolving world of digital assets may present a compelling opportunity for diversification and growth while enhancing efficiency in traditional portfolios.

Our analysis highlights the importance of understanding and integrating digital assets to stay aligned with the rapidly changing financial landscape. ARKB and the ARK 21Shares Digital Asset ETF Suite stand as a testament to this evolution, offering both core and overlay exposure options tailored to various investment objectives.

The integration of digital assets represents not just a shift in investment strategies but a forward-looking approach in seeking to capturing growth and stability in an increasingly digitalized global economy. As we continue to witness the rise of digital assets, their strategic inclusion in portfolios will likely become a standard practice, offering a new dimension to the art of investment management.

Disclosure

The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States.

The Bloomberg US Aggregate Bond Index, or the Agg, is a broad base, market capitalization-weighted bond market index representing intermediate-term investment grade bonds traded in the United States.

The Invesco QQQ Trust, or QQQ, is a passively managed exchange-traded fund based on the Nasdaq-100 Index. The Index includes 100 of the largest domestic and international nonfinancial companies listed on the Nasdaq Stock Market based on market capitalization.

(best known by its ticker symbol, **QQQ**; full fund name **Invesco QQQ Trust, Series 1**), is an exchange-traded fund, created by Invesco PowerShares.

Investing involves risk, including the possible loss of principal. There is no assurance that the Trust will generate a profit for investors. The Trust may not be suitable for all investors.

The Trust is not an investment company registered under the Investment Company Act of 1940 or a commodity pool for purposes of the Commodity Exchange Act. Shares of the Trust are not subject to the same regulatory requirements as mutual funds. These investments are not suitable for all investors. Trusts focusing on a single asset generally experience greater volatility. There are special risks associated with short selling and margin investing. Please ask your financial advisor for more information about these risks.

Bitcoin is a relatively new asset class, and the market for bitcoin is subject to rapid changes and uncertainty. bitcoin is largely unregulated and bitcoin investments may be more susceptible to fraud and manipulation than more regulated investments. Bitcoin is subject to unique and substantial risks, including significant price volatility and lack of liquidity, and theft. The value of an investment in the Trust could decline significantly and without warning, including to zero.

Bitcoin is subject to rapid price swings, including as a result of actions and statements by influencers and the media, changes in the supply of and demand for bitcoin, and other factors. There is no assurance that bitcoin will maintain its value over the longterm.

Failure by the Trust's Bitcoin Custodian to exercise due care in the safekeeping of the Trust's bitcoin could result in a loss to the Trust. Shareholders cannot be assured that the Bitcoin Custodian will maintain adequate insurance with respect to the bitcoin held by the custodian on behalf of the Trust.

The Trust is not actively managed and will not take any actions to take advantage, or mitigate the impacts, of volatility in the price of bitcoin.

An investment in the Trust is not a direct investment in bitcoin. Investors will also forgo certain rights conferred by owning bitcoin directly.

Shares of the Trust are generally bought and sold at market price (not NAV) and are not individually redeemed from the Trust.

Only Authorized Participants may trade directly with the Trust and only large blocks of Shares called "creation units." Your brokerage commissions will reduce returns.

Shares in the Trust are not FDIC insured and may lose value and have no bank guarantee.

This material must be accompanied or preceded by a prospectus. Carefully consider the Trust's investment objectives, risk factors, and fees and expenses before investing. For further discussion of the risks associated with an investment in the Trust please read the Trust's prospectus.

Foreside Global Services LLC is the marketing agent of the ARK 21Shares Bitcoin ETF.

21Shares US LLC is the investment adviser to the ARK 21Shares ETFs.

21Shares is not affiliated. with Foreside Global Services LLC.

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As sub-adviser to the Funds, ARK Invest provides assistance in the marketing of the Shares.

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