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Analysis of Bitcoin as a Safe Haven During the COVID-19 Pandemic

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Abstract. This review aims to present the evidence on the safe haven role of Bitcoin during the COVID-19 pandemic and examine whether it offered protection during the severe stress on the financial markets. The overwhelming conclusion in the literature is that Bitcoin was not a stable, universal safe haven asset—Bitcoin's high volatility and tendency to co-move with risky assets limited its ability to preserve capital during the sharpest market disruptions. Meanwhile, several studies highlight periods of protection that were relatively short, market-specific, or horizon-specific, suggesting that Bitcoin has occasionally been a weak or conditional safe haven. Overall, the evidence supports classifying Bitcoin more consistently as a hedge or portfolio diversifier than as a dependable crisis shelter. Differences across studies are largely associated with the crisis window, benchmark asset or market, data frequency, investment horizon, definition of a safe haven, and econometric method. The review therefore reconciles apparently conflicting findings by showing that Bitcoin's defensive role during COVID-19 was conditional rather than stable.

Keywords: Bitcoin, safe haven, COVID-19

1. Introduction

The COVID-19 pandemic created unprecedented financial uncertainty as restrictions on economic activity, disruptions to international trade, weakened business confidence, and widespread demand for liquidity affected markets simultaneously. Equity markets fell sharply in early 2020, prompting investors to reassess the risks associated with both traditional and alternative assets. The crisis therefore provided an important real-world test of Bitcoin, which had increasingly been described as "digital gold" because of its finite supply and its capacity to operate outside traditional financial systems. However, Bitcoin's performance during the crisis raised doubts about this claim. Conlon and McGee [1] found that during the 2019–2020 crisis, adding Bitcoin to an S&P 500 portfolio increased the portfolio's 1% Value at Risk (VaR) by 13.6%. Bitcoin also experienced a maximum one-day loss of 47.06%, showing that it was strongly affected by market stress. This made the COVID-19 pandemic an important period for examining whether Bitcoin could still preserve value when risky assets were falling sharply.

The studies of Bitcoin in the time of COVID-19 can be categorized into three major categories. The first group concludes that Bitcoin did not meet strong safe-haven criteria because Bitcoin became more closely connected with risky assets during periods of extreme market stress [1-3]. The

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second group finds that Bitcoin only showed safe-haven properties in certain markets, at particular data frequencies, or over specific investment periods [4-6]. The third group suggests that its protection was weak or only appeared at certain stages of the pandemic [7]. These different findings may be explained by differences in crisis periods, reference markets, investment horizons, data frequencies, definitions of a safe haven, and econometric methods. As a result, there is still no consistent conclusion about Bitcoin's safe-haven role. Therefore, this review compares the conflicting findings and examines the conditions under which Bitcoin's protective effect may become stronger or weaker.

This review focuses on four related areas: the development of methods used to assess Bitcoin's safe-haven properties; findings from the COVID-19 crisis; investment and financing conditions related to Bitcoin's defensive performance; and methodological differences that may explain the mixed results. The evidence shows that Bitcoin was not a stable or universally reliable safe-haven asset during the pandemic. It acted more consistently as a hedge or portfolio diversifier, although it provided weak or short-term protection under certain market conditions and investment horizons. By examining when Bitcoin's protective effect became stronger or weaker, this review helps explain the conflicting findings and shows when Bitcoin may or may not preserve capital during periods of market stress.

2. Evidence on Bitcoin's safe-haven role during COVID-19

2.1. Studies questioning Bitcoin's safe-haven role

But the data from the COVID-19 crisis does not support considering Bitcoin as a stable safe haven. In most markets worldwide, Bitcoin and Ethereum did not provide protection to investors, except in limited cases at the country level [8]. Conlon and McGee [1] also reported that Bitcoin increased the downside risk of portfolios during the COVID-19 bear market, implying that Bitcoin did not offer effective crisis protection.

Other research has also found similar results. Kristoufek [2] raised doubts about whether Bitcoin was a safe haven during the COVID-19 pandemic, and Wen et al. [3] concluded that gold showed more consistent safe-haven properties under extreme market conditions. Taken together, these studies show that Bitcoin was not a reliable safe haven during the most severe periods of market stress and did not meet strong safe-haven criteria during the COVID-19 crisis.

2.2. Studies supporting Bitcoin's safe-haven role

However, some studies identified safe-haven protection from Bitcoin during some market conditions and investment horizons. Mariana et al. [6] employed a dynamic conditional correlation model and found that both Bitcoin and Ethereum had short-term safe-haven properties with the S&P 500, but with significant volatility. Diniz-Maganini et al. [4] using intraday data, detected that Bitcoin's safe-haven effect was more pronounced in longer horizons.

Conlon et al. [9] discovered Bitcoin had weak safe-haven qualities against U.S dollar risks in the short term and served as a safe haven when facing big losses in the long term. These studies, put together, indicate that Bitcoin could offer protection in a specific market, time, or investment window, but not necessarily in all settings.

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2.3. Conditional or mixed evidence

A third strand of research indicates that Bitcoin only acts as a safe haven under certain conditions. Chemkha et al. [10] employed an asymmetric dynamic conditional correlation model and concluded that Bitcoin could hedge portfolio risk but failed to provide effective protection during the crisis. Their results indicate that the Bitcoin may offer hedging benefits without acting as a safe haven.

Other studies also show that the safe haven of Bitcoin is sensitive to the choice of benchmark market, the crisis regime and the investment horizon. The difference between short and long frequencies were identified by Kumar and Padakandla [5]. Feder-Sempach et al. [11] found that the safe-haven role of Bitcoin varied across stock markets and types of crises. Similarly, Riahi et al. [12] found that Bitcoin could switch among its hedge, diversifier, and safe haven functions depending on the benchmark and crisis regime.

In sum, Bitcoin cannot simply be classified as either a safe haven or a non-safe haven. Its role varies with the market, investment horizon, crisis window, and degree of stress. Bitcoin is therefore more consistently characterized as a hedge or portfolio diversifier, with weak or temporary safe-haven properties under specific conditions.

3. Market conditions associated with Bitcoin's safe-haven performance

Several factors are linked to Bitcoin's performance as a safe haven, including market volatility, the type of shock, the investment horizon, and the benchmark market. Bitcoin did have some hedging properties, but the considerable price volatility it experienced during the pandemic period weakened its role as a safe haven [10].

Bitcoin also responded differently to different shocks and benchmark markets. Findings vary across equity losses, currency risk, inflation, and other forms of financial uncertainty, indicating that Bitcoin does not provide universal protection against all types of market stress. Results also differ across short- and long-term frequencies, and the safe-haven role may become more or less evident depending on the investment horizon [5].

Gold generally exhibited greater stability under extreme market conditions [3]. This evidence helps explain why the literature reaches different conclusions: Bitcoin's safe-haven performance is not stable but varies with the market examined, the type of stress, the investment horizon, and the method used to test safe-haven behavior.

4. Investment and financing conditions associated with Bitcoin's safe-haven performance

4.1. Investment flows, institutional participation, and liquidity

Investment flows, institutional participation, and liquidity may help explain changes in the observed relationship between Bitcoin and traditional assets. However, the reviewed studies do not establish these channels as direct determinants of Bitcoin's safe-haven performance. Greater participation may increase liquidity, while rising institutional ownership may make Bitcoin more responsive to portfolio rebalancing and equity-market conditions. During periods of stress, investors may sell Bitcoin to raise cash rather than buy it for protection, increasing co-movement across markets. This interpretation is consistent with evidence that Bitcoin behaved more often as a diversifier than as a safe haven and that its protective role varied across crisis horizons [12, 13].

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4.2. Financing conditions, leverage, and cross-market transmission

Funding liquidity, deleveraging, and margin pressure may also help explain Bitcoin's behavior during periods of market stress. When losses are widespread, asset correlations can rise as tighter financing conditions trigger liquidation across multiple markets. During the COVID-19 bear market, Bitcoin did not provide consistent crisis protection and was associated with greater portfolio downside risk [1]. Conditional models likewise show that hedging benefits can coexist with failure to serve as a safe haven when volatility and asymmetric dependence are high. These findings indicate an association between financing stress and weaker defensive performance, but they do not establish that changes in liquidity or leverage directly caused Bitcoin's safe-haven properties to strengthen or weaken.

5. Interpreting the COVID-19 evidence: trends and challenges

5.1. A state-dependent interpretation

The COVID-19 literature indicates that Bitcoin's defensive role is state-dependent rather than continuously present. Diversification benefits do not necessarily translate into protection during the most severe market downturns [12]. Evidence of conditional safe-haven behavior across different levels and forms of market stress therefore suggests that Bitcoin should be evaluated in relation to market conditions, market indicators, and holding periods, rather than assigned a fixed safe-haven label [14].

5.2. Why results differ across studies

Limited methodological comparability is the main obstacle to reconciling the COVID-19 evidence. Studies use different pandemic windows, data frequencies, benchmark assets, definitions of extreme losses, and econometric methods; as a result, apparently conflicting findings may each be internally valid within their respective designs. The relationship between Bitcoin and traditional assets may also evolve as participation in the cryptocurrency market and its integration with traditional markets change. Much of the apparent inconsistency therefore reflects differences in the markets, horizons, and safe-haven thresholds examined.

6. Recommended responses

To improve comparability, future research should adopt clearer and more consistent definitions of weak and strong safe-haven assets. Studies should also report their crisis windows, benchmark markets, data frequencies, investment horizons, and econometric methods explicitly. Greater transparency would make it easier to determine whether conflicting findings reflect genuine market differences or differences in research design.

Investors and portfolio managers should therefore avoid treating Bitcoin as a stable or universal safe haven. Its role should be evaluated in relation to market volatility, liquidity conditions, benchmark assets, and holding periods. Because Bitcoin may act as a hedge or diversifier in some circumstances yet fail to preserve capital during severe market stress, portfolio exposure should be adjusted as market conditions change.

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7. Discussion

7.1. Is Bitcoin a stable safe haven

No. Evidence from the COVID-19 period does not support classifying Bitcoin as a stable or universal safe haven. Its high volatility, large drawdowns, and co-movement with risky assets limited its ability to preserve capital during the most severe periods of pandemic-driven financial stress [1, 3].

7.2. Hedge, diversifier, or conditional safe haven

Bitcoin is better characterized as a hedge or portfolio diversifier with limited safe-haven properties. Although some studies found protection over specific periods, in particular markets, or across certain investment horizons, these effects were short-lived and did not constitute reliable crisis insurance during the pandemic [4, 6, 12].

7.3. Why are the results inconsistent across the literature

The literature reaches different conclusions because studies do not test the same safe-haven proposition. Findings depend on the COVID-19 sample window, the choice of benchmark market or asset, data frequency, investment horizon, definitions of weak and strong safe-haven behavior, and the econometric method. Results may also vary with volatility, liquidity, market integration, and the severity of market stress. The mixed evidence therefore indicates that Bitcoin's safe-haven performance is conditional and sensitive to research design, rather than supporting a simple classification as either a safe haven or a non-safe haven.

8. Conclusion

Overall, the literature indicates that Bitcoin was neither a stable nor a universal safe haven during the COVID-19 crisis. It functioned most consistently as a portfolio diversifier and provided only temporary or conditional protection in certain markets and over particular investment horizons. Its defensive performance was also associated with market volatility, liquidity, leverage, funding conditions, and institutional participation, although the reviewed studies do not establish these factors as direct causes. Bitcoin's safe-haven role should therefore be evaluated in relation to specific market conditions, crisis periods, and investment horizons rather than treated as a stable characteristic.

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