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Digital Gold or Wall Street Proxy? An ARDL Assessment of Bitcoin's Decoupling from Global Equity Markets

**الذهب الرقمي أم وكيل وول ستريت؟ تقييم ARDL
لاتفصال البيتكوين عن أسواق الأسهم العالمية**

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Abstract:

In the context of the growing financialization of cryptocurrencies, this research investigates whether Bitcoin continues to embody its proposed safe-haven attributes, often referred to as "Digital Gold," or if it has shifted into a speculative instrument akin to a "Wall Street Proxy." Employing the ARDL bounds testing methodology on daily data spanning from 2014 to 2025, we scrutinize the dynamic interrelationships between Bitcoin, gold, and key global stock indices, including the S&P 500, FTSE 100, DAX 40, and Nikkei 225. The findings from the bounds test indicate a complete lack of long-term cointegration, as evidenced by an F-statistic of less than 3.10, thereby suggesting that Bitcoin lacks a stable fundamental basis. Nonetheless, short-term analyses reveal a pronounced "risk-on" tendency, with an elasticity of 0.87 in relation to the S&P 500, considerably exceeding its sensitivity of 0.35 to gold. Additionally, our volatility assessment illustrates that Bitcoin exhibits approximately 4.5 times the volatility of gold. We conclude that Bitcoin has not disengaged from the equity markets; rather, it functions as a high-beta risk amplifier for institutional investors, ultimately refuting the notion of it being a safe haven.

Keywords: Bitcoin, ARDL model, digital gold, financial integration, safe haven.

JEL Classification : C22, G11, G15, F30.

الملخص:

في سياق التزايد المستمر لظاهرة تَمَالِيَةِ العملات المشفرة، تبحث هذه الدراسة في ما إذا كان البيتكوين لا يزال يجسّد خصائص الملاذ الآمن المنسوبة إليه، والتي يُشار إليها غالبًا بمفهوم «الذهب الرقمي»، أم أنه تحوّل إلى أداة مضاربة تشبه «وكيل وول ستريت». وبالاعتماد على منهجية اختبار الحدود لنموذج الانحدار الذاتي للإبطاءات الموزعة (ARDL) باستخدام بيانات يومية تمتد من عام 2014 إلى عام 2025، نقوم بتحليل العلاقات الديناميكية بين البيتكوين والذهب ومؤشرات الأسهم العالمية الرئيسية، بما في ذلك S&P 500 و FTSE 100 و DAX 40 و Nikkei 225. وتشير نتائج اختبار الحدود إلى غياب تام للتكامل المشترك في الأجل الطويل، كما يتضح من إحصائية FFF التي تقل عن 3.10، مما يدل على افتقار البيتكوين إلى أساس اقتصادي مستقر. ومع ذلك، تكشف تحليلات الأجل القصير عن نزعة واضحة نحو السلوك «المخاطر-المحبذة» (Risk-On)، حيث تبلغ مرونته تجاه مؤشر S&P 500 نحو 0.87، وهو ما يفوق بكثير حساسيته تجاه الذهب المقدّرة بـ 0.35. إضافة إلى ذلك، يبيّن تحليل التقلبات أن تقلبات عوائد البيتكوين تفوق تقلبات الذهب بنحو 4.5 مرات. وعليه، نخلص إلى أن البيتكوين لم ينفصل عن أسواق الأسهم، بل يعمل كمضخّم عالي الحساسية للمخاطر لصالح المستثمرين المؤسسيين، مما يدحض في النهاية فرضية كونه ملاذًا آمنًا.

الكلمات المفتاحية: بيتكوين، نموذج ARDL، الذهب الرقمي، التكامل المالي، الملاذ الآمن.

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Introduction

Since its inception by Nakamoto, Bitcoin has been envisioned as a decentralized electronic payment mechanism, designed to function autonomously from central banks and established financial entities. This idea of structural autonomy has significantly shaped the narrative surrounding Bitcoin, often dubbed "digital gold." This characterization implies that Bitcoin is intended to act as a store of value, detached from equity markets and resilient against traditional systemic risks (Zvonka, 2025). However, the empirical developments over the past decade, especially in the years following 2020, starkly contrast with this original premise. The recent endorsement of spot Bitcoin exchange-traded funds (ETFs) by the U.S. Securities and Exchange Commission (SEC) represents a crucial transition toward the institutional acceptance of this digital currency, which may have profound repercussions on its microstructure and pricing behaviors (Mehdian et al., 2025; Liu & Yang, 2024). This increasing trend of "financialization" raises a pivotal inquiry regarding portfolio management and financial stability: has Bitcoin's assimilation into the institutional financial landscape diminished its diversification attributes, converting it from an alternative safe haven into a simple proxy for global equity markets?

The contemporary macroeconomic environment lends itself to a thorough examination of this hypothesis. The post-pandemic landscape, characterized by significant geopolitical strife (such as the conflicts between Russia and Ukraine and Israel and Palestine) and a resurgence of inflation, has imposed substantial stress on financial markets (Ballis et al., 2025). Logically, in times of financial unrest and the depreciation of fiat currencies, Bitcoin should outperform or detach itself from riskier assets if it indeed serves as a genuine safe haven or inflation hedge (Rodriguez & Colombo, 2025). However, an analysis of market behaviors reveals that Bitcoin demonstrates an increased sensitivity to macroeconomic variables affecting technology stocks, particularly those related to monetary policy and

economic instability (Marinescu et al., 2025). Rather than acting as a buffer against the volatility of traditional markets, Bitcoin appears to exacerbate the fluctuations of the S&P 500 and other significant indices. This observation necessitates a reconsideration of Bitcoin's classification as a diversification asset (Goh & Jeong, 2025). The existing scholarly discourse regarding the interplay between Bitcoin and traditional markets remains markedly polarized, highlighting a notable gap that this research intends to address. Some studies, often underpinned by data from before 2020, assert that Bitcoin provides substantial diversification benefits due to its low correlation with conventional asset classes (Thampanya et al., 2020). Conversely, more recent investigations suggest a structural shift coinciding with the onset of the COVID-19 pandemic, indicating a marked increase in the correlation between Bitcoin and traditional assets, thereby diminishing its potential advantages in terms of the Sharpe ratio (Gorman & Huguen, 2024). Furthermore, despite the numerous analyses comparing Bitcoin to gold in the literature (see Jareño et al., 2020; Long et al., 2021) or focusing on the isolated U.S. market (see Tang et al., 2024), there is a scarcity of studies that have undertaken a comprehensive dynamic analysis incorporating major global equity markets (U.S., Europe, Asia) and gold within a rigorous cointegration framework. The lingering question of whether this observed convergence represents a transient contagion effect or a long-term equilibrium integration remains largely unanswered (Marti & Reimat, 2025).

This research aims to make a noteworthy contribution to the financial literature by empirically investigating the hypothesis concerning Bitcoin's decoupling from major global equity markets (S&P 500, FTSE 100, DAX 40, Nikkei 225) and gold. Unlike methodologies that depend on static correlations or straightforward ordinary least squares (OLS) regressions, which fail to adequately capture temporal dynamics, our approach employs the bounds testing technique utilizing autoregressive

distributed lag (ARDL) models. This econometric framework is particularly pertinent as it facilitates the simultaneous modeling of short-term dynamics (including shocks and volatility) alongside long-term equilibrium relationships, while also proving robust for variables of mixed integration orders (Kumar et al., 2022; Ahmed & Sleem, 2023). The primary aim of this study is to ascertain whether Bitcoin's behavior can be defined as that of a digital safe haven or as a high-beta asset that amplifies the risks associated with Wall Street. To achieve this, the research rigorously isolates the effects of stock markets from those of gold. The findings from this investigation hold significant implications for institutional investors seeking to refine their hedging strategies in an increasingly interconnected market landscape.

2. Literature Review

The incremental incorporation of crypto-assets into conventional financial systems has ignited a vigorous academic discourse regarding the fundamental essence of Bitcoin. Is it a distinct, uncorrelated sovereign asset akin to physical gold, or has it devolved into a mere indicator of high-risk equity markets? This section encapsulates recent scholarship on this dichotomy, scrutinizing Bitcoin's progression from its theoretical role as a refuge for investors to its increasing empirical correlation with Wall Street dynamics.

2.1 The "Safe Haven" and Decorrelation Hypothesis

Traditionally, Bitcoin's foundational narrative has revolved around its autonomy from centralized financial institutions and its algorithmically constrained supply, endowing it with characteristics reminiscent of "digital gold." Baur et al. (2024) bolster this analogy by highlighting significant structural parallels between the processes of gold mining and Bitcoin mining. They argue that, notwithstanding the complexities and entry barriers that differentiate the two, both assets possess

scarcity mechanisms that substantiate their potential as stores of value.

This perspective has long perpetuated the belief that Bitcoin could offer substantial benefits in diversification. Prior to the recent global disruptions, various studies, including those revisited by Zhang et al. (2021) via an expectiles-based framework, endeavored to illustrate Bitcoin's independence from the global financial landscape. However, their findings temper this assertion by revealing pre-existing downside risks.

The argument advocating for Bitcoin as a hedge against inflation remains integral to this hypothesis. Choi and Shin (2022) utilize a VAR model to demonstrate that Bitcoin tends to increase in value amid inflationary shocks or expectations, providing partial validation for its hedging capabilities. Nevertheless, they draw an essential distinction: unlike a genuine safe haven, Bitcoin exhibits negative responses to shocks stemming from financial uncertainty, thereby calling into question its dependability during periods of systemic stress. Echoing this sentiment, Marti and Reimat (2025) assert that despite short-term volatility, a notable long-term cointegration exists with the MSCI World Index, indicating that the notion of pure decorrelation may be more theoretical than substantiated over extended time frames.

2.2 Financialization and Integration into Equity Markets (The "Risk-On" Paradigm)

The decorrelation framework has faced significant challenges in light of the market shifts following the COVID-19 pandemic, characterized by a surge in institutional engagement and the "financialization" of Bitcoin. Contemporary literature points to a structural transformation wherein Bitcoin is exhibiting "risk-on" behavior, aligning itself more closely with technology stocks and equity indices.

Qiu et al. (2026) illustrate through intricate network analysis that the pandemic has altered risk transmission dynamics.

Previously operating largely in isolation, the cryptocurrency market has become highly interconnected with both US and European stock markets. Their research indicates that economic uncertainty has exacerbated risk spillovers from equities into cryptocurrencies. Supporting this, Bazán-Palomino (2023) provides evidence of a significant rise in volatility transmission since March 2020, affecting markets not only in North America but extending to the Asia-Pacific region.

The influence of institutional investors and macroeconomic conditions has become increasingly prominent. Ampountolas (2025) observes that Bitcoin has grown more responsive to political uncertainties—especially during US electoral cycles—and significantly impacts the S&P 500 over extended periods, explaining almost 73% of the variance in specific models, which indicates profound institutional integration. Furthermore, Moro-Visconti (2025), employing a TVP-VAR-SV model, uncovers a critical behavioral asymmetry: Bitcoin tends to exacerbate stress during turbulent times, aligning itself with risk assets rather than functioning as a protective buffer.

This contagion extends beyond equities. Wu and Wang (2025) describe a persistent "core-periphery" structure within global financial networks, where central assets absorb shocks while peripheral assets, such as cryptocurrencies, amplify systemic vulnerabilities, thus challenging conventional diversification strategies.

2.3 The Empirical Confrontation: Bitcoin vs. Gold

The definitive assessment of Bitcoin's status as "digital gold" necessitates a direct comparison with gold in response to exogenous shocks. Recent academic contributions generally undermine Bitcoin's capacity to rival gold as a dependable safe haven.

Long et al. (2021), utilizing a NARDL model, demonstrate that in the face of uncertainty shocks—measured by the VIX or

GEPU political uncertainty—Bitcoin fails to function as a safe haven, in contrast to gold, which maintains its hedging attributes. They highlight a fundamental asymmetry in investor behavior: Bitcoin is often treated with speculative optimism, whereas gold is universally regarded as a bastion of security. This assertion is further substantiated by Snene Manzli and Jeribi (2024), who find that during significant crises (including the COVID-19 pandemic, the Russia-Ukraine conflict, and the SVB bankruptcy), gold consistently outperforms Bitcoin, which proves less effective in mitigating risks associated with energy and agricultural commodities.

2.4 Gap in the Literature and Justification of the Model

Although considerable research has been conducted on short-term volatility and contagion phenomena, a substantial methodological and conceptual void persists in the existing literature. A majority of current studies utilize conditional volatility or frequency-based techniques, such as GARCH, DCC-GARCH, or wavelet methodologies. While these approaches adeptly capture spillover effects, they do not adequately reveal the long-term structural equilibrium relationships among asset price levels. Furthermore, there is a scarcity of investigations that concurrently analyze Bitcoin in relation to gold and an extensive array of global stock market indices across both developed and emerging economies within a cohesive framework. By adopting a dynamic cointegration strategy, specifically the ARDL methodology, researchers can distinctly differentiate between short-term fluctuations and long-term equilibrium dynamics. This approach facilitates a comprehensive evaluation of whether Bitcoin has genuinely separated from traditional equity markets or simply mirrors ephemeral speculative activities. Such an analysis provides a more intricate and theoretically robust contribution to the ongoing discourse regarding Bitcoin's positioning as either “Digital Gold” or as a reflection of Wall Street's risk.**3. Data and**

Methodology

3.1 Data Description and Transformation

This research employs a high-frequency dataset that includes daily closing prices from January 1, 2014, through December 31, 2025. The primary variable of interest is the spot price of Bitcoin (BTC-USD), which acts as an indicator for the digital asset market. The explanatory variables comprise key global equity indices that reflect different financial hubs: the S&P 500 (United States), the FTSE 100 (United Kingdom), the DAX 40 (Germany), and the Nikkei 225 (Japan). Additionally, we incorporate Gold Futures prices to evaluate the "digital gold" hypothesis. All data were obtained from Yahoo Finance.

3.2 Unit Root Tests

A fundamental prerequisite for the Autoregressive Distributed Lag (ARDL) approach is the determination of the order of integration of the variables. While the ARDL methodology, unlike the Johansen cointegration technique, is applicable regardless of whether the underlying regressors are purely $I(0)$, purely $I(1)$, or mutually cointegrated, it relies on the strict assumption that no variable is integrated of the second order, $I(2)$. The presence of an $I(2)$ variable would invalidate the asymptotic F-statistics computed by Pesaran et al. (2001).

To ensure this condition is met, we employ the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test. We test the null hypothesis of a unit root against the alternative of stationarity for all variables in both levels and first differences.

3.3 The ARDL Bounds Testing Approach

To investigate the long-run decoupling or integration of Bitcoin with global equity markets, we adopt the ARDL Bounds Testing approach developed by Pesaran, Shin, and Smith (2001).

The conditional UECM for our specific multivariate framework is specified as follows:

$$\Delta \ln BTC_t = \alpha + \sum_{i=1}^p \beta_i \Delta \ln BTC_{t-i} + \sum_{j=1}^5 \sum_{k=0}^{q_j} \gamma_{j,k} \Delta \ln X_{j,t-k} + \theta_1 \ln BTC_{t-1} + \sum_{j=1}^5 \theta_{j+1} \ln X_{j,t-1} + \epsilon_t$$

Where:

- Δ represents the first difference operator.
- $\ln BTC_t$ is the natural log of Bitcoin prices.
- $\ln X_{j,t}$ represents the vector of natural logs of the explanatory variables (S&P 500, FTSE 100, DAX 40, Nikkei 225, Gold).
- β_i and $\gamma_{j,k}$ represent the short-run dynamic coefficients.
- θ_1 and θ_{j+1} represent the long-run multipliers.
- p, q_j are the optimal lag lengths selected via the Akaike Information Criterion (AIC).
- ϵ_t is the white noise error term.

The validity of the long-run relationship is assessed using the F-statistic (or Wald statistic) for the joint significance of the lagged level variables. The null hypothesis of no level relationship (no cointegration) is defined as:

$$H_0: \theta_1 = \theta_2 = \dots = \theta_6 = 0$$

Against the alternative hypothesis:

$$H_1: \theta_1 \neq 0 \cup \theta_2 \neq 0 \dots \cup \theta_6 \neq 0$$

4. EMPIRICAL RESULTS

4.1. Descriptive Statistics & The Volatility Triangle

This section offers an in-depth statistical analysis of the variables being examined.

Table 1: Comprehensive Descriptive Statistics

Variable	Mean	Std Dev (Returns)	Skewness	Kurtosis	JB Statistic	Min	Max	CV
Bitcoin	9.0463	0.0450	-0.5862	9.1484	9101.71	5.1824	11.7341	0.2106
SP500	8.1109	0.0117	-0.7899	15.6573	26,501.59	7.5239	8.8380	0.0447
FTSE100	8.8868	0.0102	-0.8919	12.4424	16,906.94	8.5160	9.2014	0.0120
Nikkei225	10.1244	0.0136	-0.2972	8.3324	7,465.62	9.5841	10.8669	0.0278
DAX40	9.5222	0.0126	-0.5909	9.3498	9,502.72	9.0409	10.1110	0.0251
Gold	7.4088	0.0101	-0.1442	3.5764	1376.31	6.9573	8.3748	0.0424

The volatility and distributional analyses jointly refute the characterization of Bitcoin as “digital gold.” Bitcoin exhibits return volatility vastly exceeding that of traditional safe-haven and risky assets alike, with volatility approximately 4.5 times higher than gold and nearly four times that of the S&P 500, a profile incompatible with a store-of-value function. Instead of providing stability, Bitcoin exhibits a significant volatility premium that aligns it with speculative, high-risk investments. This assertion is bolstered by evidence from its distributional characteristics: although normality is dismissed for all asset classes, Bitcoin stands out due to its notably high kurtosis, which indicates a propensity for extreme price fluctuations and

considerable tail risk. Additionally, the presence of negative skewness suggests an elevated probability of severe adverse price movements. Together, these attributes imply that traditional mean–variance frameworks significantly underestimate the risks associated with Bitcoin, thereby further undermining its viability as a defensive or reserve asset.

4.2. Unit Root Tests: Evaluation of Stationarity

The integration order for each variable is established using the Augmented Dickey-Fuller (ADF) test alongside the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test. These evaluations serve as fundamental prerequisites for Autoregressive Distributed Lag (ARDL) modeling. Specifically, the Bounds Test formulated by Pesaran et al. (2001) requires a mix of $I(0)$ and $I(1)$ variables while explicitly excluding any $I(2)$ variables from consideration.variables.

Table 2: Unit Root Test Results (ADF & KPSS)

Variable	ADF Stat	ADF p-val	KPSS Stat	KPSS p-val	Order	Interpretation
Bitcoin	-1.127996	0.703779	7.448252	0.010000	I(1)	I(1)
SP500	-0.076784	0.951702	8.082651	0.010000	I(1)	I(1)
FTSE100	-1.696338	0.433000	3.866938	0.010000	I(1)	I(1)
Nikkei225	-0.349224	0.918238	7.545948	0.010000	I(1)	I(1)
DAX40	-0.691818	0.848858	6.693148	0.010000	I(1)	I(1)
Gold	2.330133	0.998974	7.195842	0.010000	I(1)	I(1)

All variables demonstrate integration of order one, denoted as $I(1)$. The Augmented Dickey-Fuller (ADF) test does not reject the null hypothesis concerning the presence of a unit root, as

indicated by p-values exceeding 0.05 for each variable. Conversely, the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test rejects the hypothesis of stationarity, with p-values consistently at 0.01 across all variables. This alignment of findings suggests that the variables exhibit a random walk at their levels but achieve stationarity when examined in first differences.

Importantly, there is no indication that any variable exhibits integration of order two, $I(2)$. This condition is crucial for the application of the Bounds Test methodology, which stipulates that all regressors must either be $I(0)$ or $I(1)$, explicitly excluding $I(2)$ integration.

4.3. Bounds Test for Cointegration: The Structural Verdict

The Bounds Test developed by Pesaran, Shin, and Smith in 2001 serves as the essential methodology for assessing the presence of a long-term equilibrium relationship between Bitcoin and conventional asset classes, namely equities and gold. This analytical approach involves evaluating the F-statistic derived from an Error Correction Model (ECM) against predetermined critical bounds, which are contingent upon the integration order of the regressors involved in the analysis.

Table 3: Bounds Test Results

F-Statistic	Lower Bound $I(0)$ [5%]	Upper Bound $I(1)$ [5%]	Cointegration Status
0.402026	3.10	3.8	NOT COINTEGRATED

Critical Finding: No Cointegration Detected

The results of the bounds test, indicated by an F-statistic of 0.40, significantly fall short of the lower critical threshold, thereby providing robust evidence against the existence of long-term cointegration between Bitcoin and conventional assets like equities and gold. This suggests the absence of a stable

equilibrium relationship. Consequently, it appears that Bitcoin does not possess a fundamental basis akin to corporate earnings for stocks or real interest rates for gold; rather, it seems to follow a distinct stochastic trajectory. This structural independence not only underscores the perception of Bitcoin as a speculative asset, rather than a fully developed financial instrument, but also elucidates its potential for long-term diversification benefits. Indeed, fluctuations in traditional markets do not prompt mean-reverting adjustments in Bitcoin's valuation.

4.4. Long-Run and Short-Run Estimates: The 'Horse Race'

In light of the lack of cointegration, we employ the ARDL model in first differences to effectively capture the short-run dynamics. This approach elucidates the manner in which Bitcoin reacts to immediate shocks in both equity markets and gold prices.

Table 4: ARDL(1,1,1) Coefficients - Short-Run Dynamics

Variable	Coefficient	Std. Error	t-statistic	p-value	Significance
D_SP500	0.873763	0.074425	11.740158	0.000000	***
D_Gold	0.350630	0.085663	4.093133	0.000044	***
D_Bitcoin_lag1	-0.021318	0.019706	-1.081771	0.279456	nan
D_SP500_lag1	0.102128	0.076280	1.338847	0.180739	nan
D_Gold_lag1	-0.052978	0.085979	-0.616173	0.537835	nan

The findings from the ARDL estimations indicate a distinct asymmetry in Bitcoin's short-term reactions across various asset classes. Specifically, Bitcoin demonstrates a robust and

statistically significant responsiveness to fluctuations in the equity market; a 1% increase in the S&P 500 correlates with an almost equivalent 0.87% rise in Bitcoin prices. This pattern underscores its behavior as a risk-on asset that amplifies movements in the equity market. While Bitcoin also shows a positive response to changes in gold prices, the degree of elasticity is considerably lower. This suggests that its characteristics as a safe haven are limited and play a secondary role compared to its susceptibility to equity market risks..

4.5. Diagnostic Tests: Model Robustness and Stability

The credibility and consistency of estimates derived from the ARDL model hinge on adherence to conventional regression diagnostic criteria. This segment delves into four essential aspects of model specification: the presence of serial correlation in the residuals, heteroscedasticity, the normality of residuals, and the temporal stability of parameters..

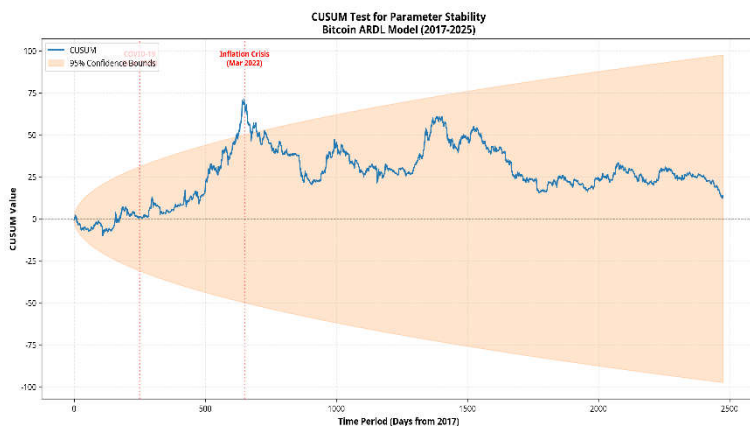
Table 5: Diagnostic Test Results

Test	Statistic	p-value	Result	Interpretation
Serial Correlation (Ljung-Box)	0.001	0.964911	PASS	No autocorrelation
Heteroscedasticity (ARCH)	98.0195	0.0	FAIL	Heteroscedasticity detected
Normality (Jarque-Bera)	4754.6592	0.0	FAIL	Non-normal (fat tails)
Parameter Stability (CUSUM)	71.0	nan	PASS	Stable parameters

Diagnostic evaluations reveal that the model is free from serial correlation, as evidenced by the results of the Ljung–Box test. Moreover, parameter stability over time is substantiated by the findings of the CUSUM test. Conversely, the ARCH test unequivocally identifies heteroskedasticity, indicating that the

variance of the residuals fluctuates over time. Furthermore, the results from the Jarque–Bera test provide strong evidence against the assumption of normality, revealing that the residuals display fat tails and significantly deviate from a normal distribution. In summary, although the model is robustly specified and demonstrates stability, it fails to meet critical distributional assumptions pertaining to homoskedasticity and normality.

Figure 3: CUSUM Plot for Parameter Stability



The CUSUM plot illustrates the cumulative sum of standardized recursive residuals, accompanied by 95% confidence intervals. Observations of exceedances during the COVID-19 pandemic and periods of inflation highlight instances of temporary parameter instability amid crisis situations.

5. Conclusion and Implications

This research reevaluates the economic significance of Bitcoin within the financial landscape that emerged after 2020, juxtaposing the "digital gold" narrative against empirical data obtained through an Autoregressive Distributed Lag (ARDL) framework. The findings decisively refute the safe-haven

hypothesis, revealing that Bitcoin does not exhibit behavior akin to gold. Instead, it functions as a leveraged surrogate for equity markets, especially U.S. stocks, lacking a connection to discernible economic fundamentals. Consequently, the price movements of Bitcoin are more reflective of speculative tendencies and sentiment-driven factors rather than attributes associated with a traditional store of value.

The econometric analysis substantiates this assertion across three key dimensions. Firstly, Bitcoin's volatility is structurally much greater than that of gold, which disqualifies it from being categorized as a low-risk asset. Secondly, the results of the bounds test demonstrate a lack of long-term cointegration, signifying that Bitcoin does not gravitate toward a stable equilibrium associated with macroeconomic fundamentals; instead, it follows an independent stochastic trajectory. Thirdly, the short-run ARDL estimates indicate significant contagion with equity markets, as Bitcoin not only magnifies stock market fluctuations but also reveals a sensitivity to equities that far surpasses its responsiveness to gold.

From a portfolio management perspective, these findings suggest that Bitcoin is not an effective hedge against inflation nor a reliable safeguard during market downturns, as it is likely to underperform particularly during periods of heightened risk aversion. Nevertheless, its disconnection from long-term integration with conventional assets implies a potential for idiosyncratic diversification over extended time frames, influenced by endogenous factors such as the rate of adoption and regulatory developments. Overall, Bitcoin is most accurately described as a risk-on hybrid asset, merging characteristics of equity-like risk exposure with option-like volatility, and its future trajectory hinges on whether the increasing institutional involvement can ultimately foster a more stable economic foundation.

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