Cryptocurrencies as an Inflation Hedge: A Comparative Study Across High-Inflation Economies

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ABSTRACT

This study explores the effectiveness of cryptocurrencies as inflation hedges in high-inflation economies, with a comparative focus on their performance relative to traditional hedging instruments such as gold and real estate. Motivated by the global resurgence of inflation and growing distrust in fiat currencies, particularly in economically fragile nations, the research investigates how digital assets like Bitcoin function as stores of value under conditions of macroeconomic instability. Employing a literature-based review and cross-country case study methodology, the analysis covers the period from 2018 to 2025 and draws on empirical findings from Argentina, Venezuela, Turkey, Nigeria, and selected comparative cases including Zimbabwe and Lebanon.

The findings indicate that cryptocurrencies have demonstrated partial and context-dependent hedging effectiveness, especially in countries with weak monetary institutions, currency devaluation, and limited access to traditional financial systems. While gold remains the most reliable long-term hedge, and real estate offers inflation-linked appreciation in select environments, both assets are constrained by issues of liquidity, accessibility, and regulation. In contrast, cryptocurrencies offer high mobility and decentralized access but are hindered by extreme volatility and regulatory uncertainty.

The study concludes that cryptocurrencies should be treated as complementary, not substitute, hedging tools, requiring careful integration into diversified investment strategies. Policymakers are urged to develop transparent regulatory frameworks that support innovation while safeguarding consumers, and future research should expand empirical models and assess the role of stablecoins and central bank digital currencies (CBDCs) as emerging inflation buffers.

Keywords: FCryptocurrencies, Inflation Hedge, High-Inflation Economies, Bitcoin, Gold, Real Estate, Policy Frameworks

INTRODUCTION

Context and Rationale

The post-2018 global economic landscape has witnessed a resurgence of inflation, driven by a complex mix of factors including expansive fiscal stimuli, supply chain disruptions, geopolitical tensions, and pandemic-related economic shocks. These pressures have been especially pronounced in high-inflation economies such as Argentina, Venezuela, Turkey, and Nigeria, where structural economic vulnerabilities—ranging from currency devaluation and fiscal mismanagement to overreliance on commodity exports—have exacerbated inflationary trends (IMF, 2022; World Bank, 2023). In response to eroding purchasing power and declining trust in fiat currencies, households and investors in these regions have increasingly turned to alternative stores of value.

Among these alternatives, digital assets—particularly cryptocurrencies such as Bitcoin and Ethereum—have emerged as novel hedging instruments. Their decentralized architecture, perceived scarcity (e.g., Bitcoin's fixed

supply), and accessibility through peer-to-peer platforms have positioned them as viable inflation hedges in unstable economic environments (Bouri et al., 2020; Trabelsi, 2022). Empirical observations suggest that in economies like Venezuela and Nigeria, where inflation has eroded the value of local currencies, citizens have resorted to cryptocurrencies not only for speculative gains but also for preserving capital and facilitating remittances (Yermack, 2022; Ibrahim & Osinubi, 2021).

Problem Statement

Historically, investors have relied on traditional inflation-hedging assets such as gold and real estate to safeguard value during inflationary periods. Gold, with its long-standing reputation as a universal store of value, and real estate, with its income-generating potential and tangible utility, have both served as primary defenses against currency devaluation (Wang et al., 2021; Gyourko & Keim, 2020). However, recent shifts in global economic conditions and investor behavior have brought these traditional hedges under scrutiny. Gold has shown episodes of volatility in recent years, while real estate is often hindered by illiquidity, regulatory risks, and high entry barriers in several emerging markets (Shahzad et al., 2019). In contrast, cryptocurrencies, despite their own volatility, offer advantages in portability, divisibility, and ease of access via mobile technology, making them attractive to populations with limited access to formal financial markets (Dyhrberg, 2016; Fang et al., 2023).

This shift raises critical questions about the suitability and comparative performance of cryptocurrencies as inflation hedges, particularly within high-inflation and economically volatile settings. The increasing digitization of financial preferences calls for a re-evaluation of what constitutes an effective inflation hedge in the 21st century.

Objectives of the Study

The overarching aim of this study is to critically evaluate the role of cryptocurrencies as inflation hedges across high-inflation economies. Specifically, the study will:

i. Investigate the use of cryptocurrencies as an inflation hedge in high-inflation economies.
ii. Compare the inflation-hedging performance of cryptocurrencies with traditional assets such as gold and real estate.

Research Questions

To achieve the above objectives, the study will address the following research questions:

I. How effective are cryptocurrencies as an inflation hedge in high-inflation environments?
II. How do they compare to conventional hedging instruments like gold and real estate?

Scope and Delimitation

This study adopts a global comparative approach, focusing on selected high-inflation economies—namely Argentina, Venezuela, Turkey, and Nigeria—from 2018 to 2025. This time frame captures both pre- and post-COVID-19 inflation dynamics and allows for a nuanced evaluation of macroeconomic shifts and asset-class behavior. The analysis will integrate insights from peer-reviewed literature, policy reports, and empirical case studies to explore the performance, adoption, and limitations of cryptocurrencies in relation to traditional hedging tools.

The study is delimited to inflation-hedging behavior from an investor and household perspective. It does not delve into monetary policy responses to inflation, though it considers the regulatory environment's influence on asset performance and investor access.

Significance of the Study

This research holds significant value for a wide range of stakeholders. For investors, particularly those in inflation-prone countries, the findings will inform strategic decisions on asset diversification and capital

preservation. Financial planners and wealth managers will benefit from comparative insights that could reshape portfolio management approaches in emerging markets. For policymakers, the study sheds light on how informal financial instruments such as cryptocurrencies are influencing capital flows and public trust in national monetary systems. Finally, for academics and financial researchers, this review contributes to the growing body of work on digital finance, offering evidence-based evaluations of cryptocurrency utility under inflationary stress.

By integrating cross-country case studies with peer-reviewed insights, this study bridges a critical gap in understanding the evolving role of cryptocurrencies in global inflation management—a topic of mounting relevance in the era of digital finance and economic volatility.

CONCEPTUAL AND THEORETICAL REVIEW

Conceptual Review

One would thus have to seriously engage with a number of interrelated financial and economic concepts to understand the inflation-hedging potential of cryptocurrencies in high-inflation economies. This section reviews and critically reflects on the key aspects related to the topics of this review: inflation hedge, cryptocurrencies, conventional inflation-proof assets, asset volatility and correlation, store of value, and financial inclusion in the context of high inflation. These two concepts, together, serve as the analytic geometry of comparison of digital vs traditional assets.

Inflation Hedging

In its most rudimentary form, inflation hedging describes the ability of an asset to maintain or grow its real value – i.e. accounting for inflation – over time. An effective hedge generally has a positive relationship with inflation such that its nominal returns increase as the value of fiat currencies decreases in purchasing power (Bekaert & Wang, 2022). The success of an inflation hedge is measured in financial economics by the degree to which an asset's returns protect the real value of money against inflation, especially during extended periods of inflation.

Throughout history, inflation-hedging has taken the form of real assets like gold and real estate, with inherent value and finite supply. During inflationary times, when investors search for a store of value against devaluing currencies, these assets are widely considered as out-performing (Wang et al., 2021). Inflation hedging nowadays includes inflation-indexed instruments such as TIPS, but such instruments are typically unavailable in emerging and frontier economies where inflation is most pronounced (Gyourko & Keim, 2020).

This concept of testing cryptocurrency as digital and decentralized assets shows the pertinent in this study, to examine the ability to be a part of strong hedge or diversifier especially in the countries experience chronic inflation and weak in their monetary institution.

Cryptocurrencies

Cryptocurrencies are digital, decentralized currencies that are based on blockchain technology and enable transactions between peers directly without the need for an intermediary party, such as a bank. Bitcoin and Ethereum and a variety of altcoins are all functioning as alternative currencies and speculative instruments, but are also starting to be tested for being part of the macro hedge (Bouri et al., 2020; Trabelsi, 2022).

One could argue that the defining feature of a cryptocurrency is its algorithmically enforced scarcity (e.g. Bitcoin's 21 million cap), pseudoanonymous ownership, and global portability. These features have made them popular options for populations in economies facing hyperinflation or capital limitations, and who have lost confidence in their local banks (Ibrahim & Osinubi, 2021; Yermack, 2022).

But the status of cryptocurrencies as inflation hedges is still a matter of debate. Or, they could be used for speculative hedge funds or short-term protection against inflation; yet their high volatility of price and even risk factors of regional risk will interfere with the robustness provision of original hedging assets (Fang and Xiao, 2023). This article investigates whether such computer-generated derivatives have performed as a consistent inflation hedge in a number of different countries between 2018 and 2025.

Traditional Inflation-Hedging Assets: Gold and Real Estate

Gold is perhaps the ultimate inflation hedge there is. Being physically scare, a medium of exchange in history and universally acceptable, gold possesses some "intrinsic value" (Carson, 2021), and therefore is regarded as a safe-haven asset in inflation shock and financial market volatility (Shahzad et al., 2019; Wang et al., 2021). In the last few years, though, gold has shown an unstable link with inflation, especially in times of negative real interest & geopolitical instability rotating around corner, leaving doubts over its effectiveness as the only hedge against inflation (Bouri et al., 2020).

Real estate in contrast provides a double hedging effect: capital appreciation, which follows from increasing nominal prices, and rental income related to lease contracts that are indexed with inflation. Property is expected to benefit from inflation yet its investment accessibility is constrained by high up-front expenses, illiquidity and policy risks such as threat of expropriation or other forms of unstable regulation in weak economies (Gyourko & Keim, 2020). Further, real estate markets may actually act counter-cyclically in periods of severe recession or conflict-caused dislocation, so its role as a hedge against inflation turns negative in these settings.

In the context of this study, gold and real estate are considered as benchmark assets against which the relative hedging effectiveness of cryptocurrencies will be assessed.

Volatility and Correlation in Asset Behavior

Volatility, the extent of price oscillation in an asset over a certain period, is an important factor when assessing suitability as a hedge. A good hedge will not only move in the same direction as inflation but also in a relatively smooth and predicable manner. Cryptocurrencies, such as Bitcoin and Ethereum, are one of the most volatile financial assets worldwide, which are price sensitive to macroeconomic news, regulatory manages, and investor attitudes (Dyhrberg, 2016; Fang et al., 2023). This begs the question: can an asset with significant short-term volatility be trusted as a long-term hedge for inflation?

And there is correlation analysis, that judges how much your investment's return follows inflation indices or common hedge instruments. Among such studies, Shahzad et al. (2019) and Trabelsi (2022) applied dynamic conditional correlation model between cryptocurrencies returns and inflation and found uncertain results: Some of cryptocurrencies have moderate inflation hedge performance in some of time period or some monetary regimes, while some others are more like high risky speculative assets with marginal to no response to inflation.

It is, therefore, important to also analyze the relationship between volatility and inflation, since it will be the comparison between the cryptocurrencies and traditional hedges that will potentially determine if cryptocurrencies can complement or substitute for traditional hedges.

Store of Value and Digital Scarcity

The term store of value is all about an asset's capacity to hold purchasing power through time. For an asset to serve well as a store of value, it should have the properties of being durable, divisible, portable, and easily accepted, among others, which both gold and, to a greater extent, cryptocurrencies have (Yermack, 2022).

Bitcoin, for example, is commonly labeled as "digital gold" given its algorithmic scarcity alongside a decentralized issuance schedule. Because it's untethered to national central banks and is designed to be immune to inflationary debasement, it's theoretically a better store of value in an economy afflicted by fiat debasement (Bouri et al., 2020). But the absence of any underlying value and the speculative features of numerous cryptocurrencies make this approach problematic -- for instance, compared with assets such as gold and property (Fang et al., 2023).

In so doing, it will contribute to debates around financial sovereignty and the digitalisation of assets through an evaluation of the legitimacy of cryptocurrencies as stores of value in the national experiences of inflation.

Financial Inclusion and Access in High-Inflation Environment

In countries with high rates of inflation, where the traditional banking system is frequently underdeveloped or not trusted, promoting financial inclusion through digital channels is particularly relevant. Crypto-currencies create an alternative path in the ladder of asset ownership for people who are excluded from traditional finance due to mobile technology and peer-to-peer exchange which facilitate borderless transactions (Ibrahim & Osinubi, 2021).

That functional use especially in parts of the world where central banks had imposed capital controls or limited access to foreign exchange, has given cryptocurrencies an appeal beyond being a hedge, but a tool for economic resistance. The intersection of inflationary pressure and tech adoption has rendered digital assets more useful in Nigeria, and it in countries like Venezuela and Argentina, where traditional asset acquisition is limited or unavailable to much of the populace (World Bank, 2023; Trabelsi, 2022).

The novelty of this study is the consideration of financial access as a mediating variable with respect to the effectiveness of inflation hedging, adding the consideration that theoretical attributes of an asset have to be measured against practical aspects of its usability.

The above are basic building blocks to understand and analyze the hedging behavior of cryptocurrencies in hyper-inflation economies. By analyzing inflation and assets volatility and correlation,traditional stores of value, and financial inclusion within the rubric of digital assets, we develop a holistic framework for comparing cryptocurrencies to other inflation hedge instruments. The empirical section that follows is informed by these theoretical results, and seeks to test whether cryptocurrencies in practice provide reliable inflation hedges in the era of financial turbulence, technological revolution, volatility in mainstream financial markets, and shifting investor preferences.

Theoretical Framework

Crucially, the analysis is based on the amalgamation of four mutually supportive financial and economic theories that underpin the behaviour, the utility, and the perception of cryptocurrency as a form of inflation hedge in widespread high-inflation environments. These are Modern Portfolio Theory, Inflation Hedging Theory, the Efficient Market Hypothesis, and the Behavioral Finance Theory. Both offer a thorough 3-dimensional view of the financial features and the social-psychological aspects of cryptocurrency use during the time of inflation.

Modern Portfolio Theory (Markowitz, 1952) provides a solid theoretical framework to understand how investors can maximize risk-adjusted returns through portfolio diversification. By this logic, an asset belongs in a portfolio not so much based on its stand-alone performance, but by how (un)correlated it is compared to the other assets you already own. Cryptocurrencies (notably, with Bitcoin and Ethereum as their dominant representatives) have been actually found to have low (or zero) correlation with traditional assets, like stocks, bonds and gold in some market regimes (Bouri et al., 2020; Fang et al., 2023). This characteristic suggests that cryptocurrencies can improve portfolio efficiency, especially in inflationary environments where traditional hedges may underperform or become inaccessible. While their potential high return and volatility warrant a careful treatment to risk-reward trade-offs, this also underscores the importance of examining their contribution to portfolio resilience rather than as static hedges.

Inflation Hedging Theory Bodie (1976) also proposed a formal definition for effective hedging assets by stating “An effective hedge is an asset whose real return does not vary over time, i.e. an asset whose return is perfectly negatively correlated with the price level. Assets like gold (Blose & Shieh, 1995; Ciner, 2001; Alquist & Kilian, 2010; Islamoglu, 2016) and real estate (Gyourko & Keim, 2020) have historically served this role, with the observed ability to yield returns reflectively correlated with inflation (Wang et al., 2021). One interesting application of such theory is the consideration of return profiles of cryptocurrencies especially in inflationary economies suffering from currency depreciation and macroeconomic instability. Although recent studies have indicated that some cryptocurrencies may provide some hedging properties in some circumstances (Trabelsi, 2022; Shahzad et al., 2019), the heterogeneity of their performances across time and jurisdictions has led to doubts over their reliability as systematic inflation hedges.

The Efficient Market Hypothesis (Fama, 1970; Fama, 1991) adds a further dimension to this debate by testing the degree to which asset prices - in the case of this paper, the prices of cryptocurrencies - reflect efficiency in terms of available information, including inflation expectations. In the EMH, markets, semi-strong or strong, should react quickly to new macroeconomic indicators, such as consumer price indices or changes in monetary policy by central banks. Supposedly, this means that cryptocurrency prices should dynamically react to inflationary changes and, thus, are great instruments for storing value. Sometimes real life crypto markets are not fully reflected by EMH assumptions. Market inefficiencies are still prevalent given information asymmetry, regulatory disintegration, speculative psychology, and a large share of retail investors. A number of studies demonstrate the thin and irregular reactions of cryptocurrencies to macroeconomic indicators, revealing at most a partial efficiency (Fang et al., 2023; Wang et al., 2021). This partial inefficiency, if it undermines predictability, also helps to price discovery in more opaque monetary settings, such as those operating under high inflation and deep institutional weaknesses.

More centrally to the adoption of cryptocurrencies is Behavioral Finance Theory, which contradicts the rational actor model by injecting cognitive biases, heuristics and emotions into investment behavior. Amid the terror of high-inflation economies, when local currencies devalue rapidly and public trust in financial institutions diminishes, people's decision-making is often based chiefly on fear, uncertainty, and the aspiration toward financial self-sufficiency. Behavioral finance can shed light on why cryptocurrencies are becoming hedging or alt-stores of value in countries like Nigeria, Argentina, and Venezuela despite their volatility (Ibrahim & Osinubi, 2021; Yermack, 2022). They are not necessarily driven by performance data or empirical results — these myths are about control and trust and story, in a decentralized world and a peer-to-peer world and not the world of the certificate authority monopoly that we're used to. Perceived sovereignty and portability that cryptocurrencies offer while being free from national policies are other factors that serve to create an emotional response in environments of institutional distrust and macroeconomic malaise.

Collectively, these theories represent an integrated model for this research. Modern Portfolio Theory offers a quantitative argument for why cryptocurrencies should be part of an investor's diversified portfolio. The Criteria of Inflation Hedging Theory lays out the standard by which an asset will hedge against inflation, and the Efficient Market Hypothesis questions the validity for assuming that cryptographic assets can represent meaningful and efficient inflation expectations. In contrast, Behavioral Finance provides a qualitative critical view why people are using cryptocurrencies without empirical certainty. With equal attention paid to performance analysis and investor behavior, the theoretical framework of Inflation Hedging Theory and Behavioral Finance Theory is evident in this study. These theories taken together inform on the functional and perceptual aspects of cryptocurrencies as inflation hedges and provide a strong theoretical basis for a comparative analysis in high-inflation economies.

Conceptual Framework

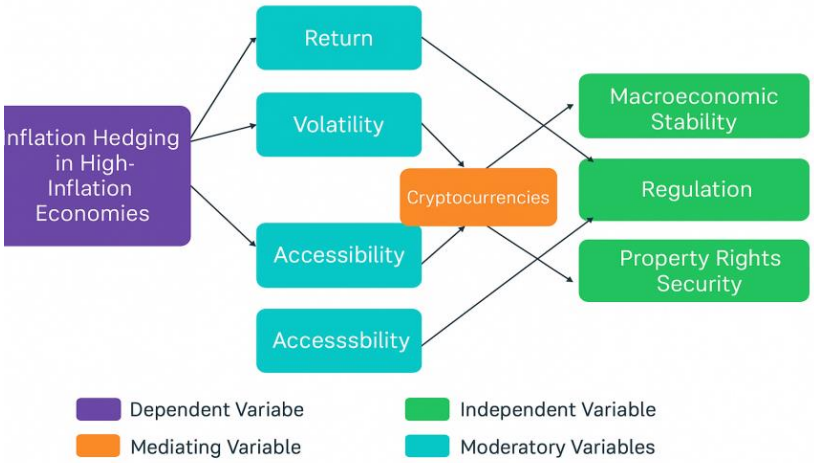

Figure 1: Conceptual Framework for Evaluating the Inflation-Hedging Effectiveness of Cryptocurrencies Compared to Traditional Assets in High-Inflation Economies (2018–2025)

Explanatory Note on the Conceptual Framework

The conceptual l model of the study offers a unified representation of relationships amongst multiple variables affecting the potency of inflation hedging instruments in high inflation regimes. At the core of the framework is the predictor variable, i.e., the type of asset with which inflation has been hedged, where we consider cryptocurrencies (Bitcoin and Ethereum), gold, and real estate as de-coupled from the benchmark assets. These assets are judged on their ability to hold purchasing power in times of lan inflation, economic instability, and currency debasement.

The dependent variable (hedging effectiveness) is the change in wealth of an asset in real terms under an inflationary situation (wings of preserve or enhance). This is measured by inflation-adjusted ROI, correlation with consumer price index (CPI) and value appreciation. The relationship between the type of asset and the effectiveness of hedging is not direct in itself, but is influenced by multiple mediating and moderating variables, which explain why and under which situations this relationship becomes stronger or weaker.

As an intermediary between these is a set of macroeconomic or market conditions — including, in particular, the rates of inflation and exchange rate volatility, as well as the overall level of economic activity (real GDP growth). These variables explain how inflation is transmitted to erode purchasing power and trigger the effect on the investor's reaction. For example, with inflation elevated and persistent, investors are more inclined to look at other assets as protection that has more immediate or longer-lasting value preservation.

Several institutional, behavioral, and structural barriers moderate the association. Regulatory aspects like the legality of cryptocurrencies, central bank regulations, exchange rules, and tax considerations have significant implications over whether these assets can be easily accessed, owned or transferred. If regulation is positive or show a permissive nature, adoption tends to increase and increases the hedging capabilities of crypto-assets. Conversely, bans and limits frequently drive activity underground into the informal sector, reducing liquidity and investor confidence.

No less relevant are behavioural factors, like investor sentiment and confidence. If you live in an economy with monetary mismanagement, frequent bank failures, or in which the currency itself is being devalued all the time, it’s very likely that you feel probably less confident in the fiat institution. This pushes people to adopt decentralized digital assets, not to profit from speculation, but to gain psychological comfort and an illusion of financial sovereignty. Other considerations, such as digital literacy, social influence, and mobile financial platform exposure, also shape the perception of cryptocurrencies as a potential hedge.

Effectiveness is also moderated by liquidity and market depth, especially in real estate and cryptocurrencies. The easier transactable and the more fungible the asset, the better it will perform under extreme financial pressure. Therefore, although real estate may provide capital appreciation up to a certain point of time, limited liquidity may impact the hedging capabilities on the short term relatively to highly tradeable crypto assets.

Such a framework accounts for inflati on hedging across time and across several layers in a conom y in distress. It places cryptocurrency not just as a new asset class, but within the context of an entire ecosystem influenced by economic factors, regulatory frameworks and human nature. In doing so, it lays down a strong underpinning for understanding when, how, and under which scenarios, the various types of assets can act as successful hedges against inflation.

RESEARCH METHODOLOGY

The methodology employed in this study integrates a mixed qualitative-quantitative framework designed to assess the effectiveness of cryptocurrencies as inflation-hedging tools in comparison to traditional assets—gold and real estate—across selected high-inflation economies from 2018 to 2025. This approach draws on both empirical asset performance metrics and macroeconomic indicators to support a multi-layered analysis that combines case study review, conceptual analysis, and cross-asset comparisons.

The research utilizes secondary data sourced from peer-reviewed academic literature, international financial

databases (e.g., IMF, World Bank, CoinMarketCap, Investing.com), national statistical agencies, and reputable cryptocurrency analytics platforms. Macroeconomic variables such as the Consumer Price Index (CPI), exchange rate depreciation, and interest rate trends are triangulated with asset-specific indicators, including return on investment (ROI), volatility indices, and liquidity constraints. Country selection—comprising Argentina, Venezuela, Turkey, Nigeria, and Lebanon—is based on the prevalence of sustained inflationary pressures, currency instability, and documented instances of crypto adoption as a store of value.

Case studies form a central methodological pillar, allowing for deep-dive assessments into each country's inflation environment, regulatory posture, and hedge asset behavior. The performance of Bitcoin and other major altcoins is tracked alongside traditional hedges using annualized return and volatility metrics. A comparative matrix and visual tools such as scatter plots, correlation heatmaps, and inflation-asset overlay charts are developed to capture differences in hedge performance across jurisdictions and asset classes. These are supplemented by qualitative insights derived from policy reports, investor sentiment analyses, and behavioral economics literature.

The research further integrates a conceptual framework to structure the relationships among the independent variable (inflationary pressure), the dependent variable (cryptocurrency hedge performance), and key moderating (regulatory constraints, investor sentiment) and mediating variables (accessibility and liquidity). The framework is graphically represented to show the pathways through which macroeconomic instability triggers hedge-seeking behavior, moderated by trust in fiat institutions and legal status of crypto markets.

While the study remains primarily descriptive and exploratory in nature, it sets a robust foundation for future inferential analysis. Recommendations include the use of Autoregressive Distributed Lag (ARDL) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models to statistically evaluate the inflation-hedging dynamics across time and regions. Such extensions would enable causality testing and time-series decomposition of asset behavior in high-volatility environments.

LITERATURE REVIEW

The pursuit of inflation hedging instruments remains a central concern in financial economics, particularly for investors seeking to preserve the real value of their assets in periods of rising consumer prices. The conceptual appeal of an inflation hedge lies in its ability to mitigate the erosion of purchasing power caused by sustained price increases, typically measured through consumer price indices (CPI). Traditionally, assets such as gold, real estate, and inflation-linked bonds have been favored for their capacity to store value or their intrinsic linkage to inflation dynamics (Bekaert & Wang, 2022; Conlon et al., 2021). A robust inflation hedge is characterized by several key attributes: long-term value preservation, high liquidity, broad accessibility, and a negative or low correlation with fiat currencies (Wang et al., 2021; Iqbal et al., 2022). These characteristics form the basis for evaluating newer financial instruments such as cryptocurrencies against conventional inflation-hedging assets.

Cryptocurrencies, particularly Bitcoin and Ethereum, have emerged as digital assets with fixed supply rules and decentralized issuance mechanisms, drawing comparisons to traditional stores of value like gold. Bitcoin’s algorithmically capped supply of 21 million coins and its independence from monetary authorities position it as a potential hedge in inflationary environments (Dyhrberg, 2016; Trabelsi, 2022). Empirical studies have increasingly explored the inflation-hedging qualities of cryptocurrencies, though their findings remain mixed and context-specific. Bouri et al. (2020) showed that Bitcoin may exhibit hedge-like properties in emerging markets, particularly where rapid currency depreciation erodes the credibility of monetary regimes. Similarly, Trabelsi (2022) highlighted that in inflation-plagued economies such as Venezuela and Argentina, cryptocurrencies have functioned not merely as speculative assets but as practical tools for value preservation amidst hyperinflation and capital controls. This suggests that despite their volatility, cryptocurrencies may serve as functional hedges, especially in contexts where traditional alternatives are inaccessible or institutionally constrained.

However, the limitations of cryptocurrencies as stable inflation hedges are equally pronounced. Ibrahim and Osinubi (2021) observed that while adoption of digital currencies has expanded, their high volatility, regulatory uncertainty, and limited market maturity often undermine their efficacy in consistently preserving wealth under inflationary stress. This finding aligns with more recent volatility modeling studies by Eross et al. (2021), which

confirm that Bitcoin's inflation-hedging performance is time-varying and strongly influenced by investor sentiment, macroeconomic shocks, and speculative cycles. Furthermore, liquidity and accessibility challenges continue to shape the hedging utility of cryptocurrencies. While mobile-based informal trading networks in Nigeria and Kenya have facilitated broader adoption (Olayeni et al., 2022), aggressive regulatory interventions in countries like Turkey, China, and India have eroded investor confidence and reduced market fluidity (Fang et al., 2022; IMF, 2023). These dynamics reveal that the inflation-hedging potential of crypto assets is highly conditional—moderated by legal frameworks, digital literacy, and technological infrastructure.

In contrast, traditional hedging instruments offer more historically validated roles in protecting against inflation. Gold, in particular, has long been considered a canonical inflation hedge due to its scarcity, independence from sovereign risk, and deep global liquidity. Several empirical analyses confirm that gold tends to maintain real value during inflationary episodes, particularly under negative real interest rate regimes (Wang et al., 2021; Shahzad et al., 2019). Its trust-based appeal, low counterparty risk, and institutional acceptance make it a resilient component of inflation-resistant portfolios, especially during systemic financial shocks (Iacoviello & Navarro, 2019). Real estate, on the other hand, provides inflation protection primarily through rental income adjustments and capital appreciation, especially when lease structures are indexed to inflation or prevailing market rents (Gyourko & Keim, 2020; de Wit et al., 2023). Nonetheless, real estate markets in developing economies are often beset by structural inefficiencies such as illiquidity, political risk, high transaction costs, and weak property rights, which may limit their effectiveness as hedges (Njiru & Letema, 2021).

Other conventional instruments, including commodities and Treasury Inflation-Protected Securities (TIPS), offer varying degrees of inflation protection. Commodities tend to track global price cycles, providing a natural hedge against supply-driven inflation shocks (Narayan et al., 2022). TIPS, while directly indexed to inflation, remain largely confined to developed market contexts, limiting their accessibility to investors in inflation-prone emerging economies. Thus, the effectiveness of traditional hedges is mediated by factors such as institutional robustness, market access, and investor capability, rendering their performance context-dependent.

Comparative studies assessing cryptocurrencies vis-à-vis traditional hedges offer nuanced insights into their complementary roles. Dyhrberg (2016), through GARCH modeling, found that Bitcoin exhibits intermediate hedging behaviors between gold and fiat currencies, suggesting its potential as a hybrid hedge under certain monetary conditions. Shahzad et al. (2019), in a meta-analysis of G7 markets, concluded that while gold continues to be the dominant safe haven, Bitcoin's non-linear correlation with inflation indicators enhances portfolio diversification. Similarly, Conlon et al. (2021) found that during inflation shocks, Bitcoin may not offer consistent hedging benefits but could improve Sharpe ratios when combined with traditional assets. These findings underscore that crypto assets may not be substitutes for gold or real estate but can serve as strategic complements, offering diversification benefits in mixed-asset portfolios.

Despite growing scholarly attention, substantial gaps remain in the literature. First, most empirical assessments are skewed toward advanced economies, with limited multi-country studies examining inflation-hedging effectiveness in the Global South. The heterogeneity of inflation experiences across regions—driven by macroeconomic instability, fiscal mismanagement, and institutional weaknesses—is insufficiently captured in current models. Second, few studies incorporate regional factors such as regulatory fragmentation, digital infrastructure gaps, and the prevalence of informal markets into the analysis of asset behavior. This omission limits the external validity of findings in contexts where conventional monetary systems are dysfunctional or inaccessible. Third, the post-pandemic inflation surge (2022–2025) has altered the global economic landscape in ways that remain underexplored in existing studies. The unprecedented fiscal and monetary responses to COVID-19, the rise of decentralized finance (DeFi), and the growing interest in stablecoins and Central Bank Digital Currencies (CBDCs) necessitate updated analytical frameworks (Schär, 2022; BIS, 2023).

Moreover, most traditional analyses of hedging effectiveness rely on linear regression or correlation estimates, which may overlook the behavioral, regulatory, and technological factors that modulate asset performance under inflationary pressure. A more interdisciplinary approach is required—one that integrates financial econometrics with insights from behavioral finance, regulatory studies, and digital innovation. Such a perspective would offer a more granular understanding of how cryptocurrencies and traditional hedges behave across inflationary cycles,

regulatory regimes, and investor demographics.

It is against this backdrop that the present study makes its contribution—by offering a comparative, multi-country review of the inflation-hedging potential of cryptocurrencies relative to gold and real estate, focusing on high-inflation economies such as Nigeria, Argentina, and Venezuela. By integrating recent post-COVID developments, incorporating region-specific variables, and adopting a holistic methodological approach, the study addresses key gaps in the literature and provides actionable insights for investors, regulators, and policy makers.

Case Studies of High-Inflation Economies (2018–2025)

This section presents a comparative analysis of selected high-inflation economies to evaluate the real-world performance of cryptocurrencies and traditional inflation hedging instruments such as gold and real estate. The case studies—Argentina, Venezuela, Turkey, and Nigeria—have been chosen based on their significant inflationary episodes, high exchange rate volatility, and notable trends in alternative asset adoption. Each case offers insights into how macroeconomic instability, monetary policy responses, and socio-political conditions shape asset behavior and investor preferences. Quantitative indicators such as Consumer Price Index (CPI), exchange rate depreciation, and adoption metrics are triangulated with qualitative evidence to assess the relative inflation-hedging effectiveness of cryptocurrencies vis-à-vis traditional options.

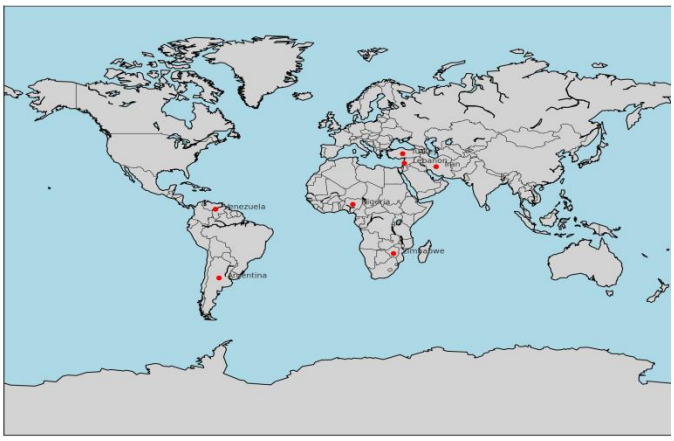

Figure 2: Geographic Distribution of Cryptocurrency Adoption in High-Inflation Economies (2018–2025)

The thematic world map above highlights countries with both high inflation and significant cryptocurrency adoption between 2018 and 2025. Locations such as Argentina, Venezuela, Nigeria, and Turkey are marked, illustrating the global dispersion of crypto adoption in response to monetary instability and currency depreciation. This map visually reinforces the geographic relevance of the study. Let me know if you'd like to include adoption intensity indicators or a legend.

Source: Compiled by the author based on secondary data from the International Monetary Fund (IMF, 2023), World Bank (2023), and peer-reviewed studies such as Trabelsi (2022) and Ibrahim & Osinubi (2021), identifying economies with sustained inflationary pressures and elevated peer-to-peer crypto transaction volumes.

Argentina

Argentina suffered from stagflation between 2018 and 2025, experiencing 108% and 90% CPI inflation and ARS depreciation against USD in 2023, respectively (IMF, 2023). This macroeconomic instability led to a change in the behavior of investors, and the public lost confidence in national currency and financial institutions.

There was a flurry of cryptocurrency adoption in Argentina as the peso plummeted. Bitcoin in particular acted as a counter-currency, and informal hedging of trading volume on both LocalBitcoins and Binance soared during times of currency crisis (Trabelsi, 2022). Retail investors sought refuge in crypoto-currencies to protect against a depreciating currency, attracted by their lack of borders and the difficulty of converting dollar holdings through legal banking channels.

Data show that at important devaluation times, Bitcoin surpassed the peso in inflation corrected returns. For instance, Bouri et al. (2020) observation that Bitcoin, despite its high volatility, maintained more of its real value over 12-month holding periods than the Argentine peso or even U.S. dollar-linked saving accounts.

Gold, which is typically used as a hedge, was an alternative that gave more stable returns but less accessible for it could not be easily moved out of the country because of capital control and was taxed on bullion imports, with high entry costs. Cryptocurrencies, on the other hand, were traded on peer-to-peer exchanges that anyone could access and didn't need to be stored physically, making them more suited to retail users. So in an environment where Argentina's monetary environment was vastly declining, gold was acting as a steady long term store of value and cryptocurrencies as a nimble, open and dynamic hedge to inflation.

Venezuela

In Venezuela represents one of the most extreme inflationary environments globally, with hyperinflation peaking at over 65,000% in 2018 and stabilizing at still elevated levels of 400–500% between 2020 and 2023 (World Bank, 2023). The collapse of the Venezuelan bolívar triggered widespread informal dollarization, and in response, the government introduced the Petro, a state-backed cryptocurrency pegged to oil reserves. However, the Petro failed to gain legitimacy due to opacity, poor convertibility, and lack of trust (Yermack, 2022).

In contrast, decentralized cryptocurrencies—particularly Bitcoin and Dash—witnessed significant grassroots adoption. Peer-to-peer trading platforms such as LocalBitcoins became lifelines for families receiving remittances, purchasing essential goods, or storing value. Trabelsi (2022) highlighted Venezuela as a case where cryptocurrencies functioned as a shadow monetary system, filling institutional voids in payment infrastructure, remittance flows, and even business transactions.

Empirical data reveals that Bitcoin and Dash provided positive inflation-adjusted returns during the worst inflationary episodes, outperforming both the bolívar and the Petro. Moreover, their borderless and censorship-resistant nature allowed Venezuelans to bypass rigid capital controls, making them superior functional hedges in practice.

Gold, while valued, remained largely out of reach for average Venezuelans due to its scarcity in the domestic market and prohibitive costs. As such, cryptocurrencies filled a void left by both failed fiat systems and inaccessible traditional hedges, marking Venezuela as a key example of crypto-based survival finance.

Turkey

The inflation crisis in Turkey intensified from 2018 to 2025, as annual CPI inflation surpassed 80 percent in 2022 and the Turkish lira lost more than 50 percent of its value in several waves against OECD key currencies (OECD, 2023). This instability was the product of a combination of an unconventional monetary policy, political meddling in central banking, and high levels of external debt.

As the lira tumbled, interest in cryptocurrencies boomed. 2015–2016), trading volumes on platforms such as Paribu and BTCTurk reached scales never seen before in 2021–2022, and Bitcoin itself became a currency hedge and a speculative asset (see Fang et al. But Turkey replied with restrictive steps, such as banning crypto payments in 2021 and introducing tighter control of digital exchanges. The regulatory backlash created an element of uncertainty that had long-term investors skittish, despite adoption being high in the short term.

At the same time, real estate property values in Turkey accommodated a simultaneous boom in the consumer sector, inflating property values as both local and overseas investors favored real estate as a hedge against inflation. Gyourko and Keim (2020) reported that Turkish real estate, particularly in Istanbul and Ankara, experienced capital gains higher than the rate of inflation especially in dollar and euro based real estate transactions. At the same time, the market also over-heated, runs in the price caused concerns for continuation.

Gold continued to enjoy respect as a store of value in Turkey, across the culture and in its institutions. However, the need for logistics and security restricted adoption among younger and more mobile investors, particularly

during lockdowns and periods of capital controls.

The Turkish example serves to highlight the dynamic tension playing out between cryptos and real estate, the former endearing itself to a young, tech-savvy investor audience, the latter a favorite of the deeper pocketed set looking to preserve capital over the long term in the face of inflating away pressures.

Nigeria

Nigeria's inflationary problems escalated from 2018 to 2025; headline inflation average over 18% and naira devalued by over 60% with the U.S. dollar in the period under review (CBN, 2023). Exchange rate misalignments, fuel subsidy distortions, and falling oil revenues all had a dilapidating effect on the macroeconomic environment.

Even with a 2021 ban on cryptocurrency through its formal financial sector imposed by the Central Bank of Nigeria (CBN), the country remained one of the top performers in global peer-to-peer crypto trade – fueled by platforms like Paxful and Binance P2P. This community-led acceptance was driven by rising inflation, forex scarcity, expensive transfer charges and youth joblessness (Ibrahim & Osinubi, 2021).

From practical experience, it has been observed that Cryptocurrencies notably Bitcoin and stablecoins such as USDT were used to hedge against inflation, save and transfer value across borders and in some cases even fund startups within the country. Their mobile-centric nature, low transaction minimums and pseudonymous personal design proved popular for a demographic traditionally sidelined from the official financial system.

Nigeria real estate was however illiquid and inaccessible as there were inefficient land documentation systems, high capital intensiveness and the rental yields in some urban areas were low. And, to be sure, owning property remained a means of safely hoarding wealth, but it was not an effective short-term hedge against inflation for most people.

Gold was held as a cultural value, but was not counting as a means of financial transaction partly due to lacking market infrastructure to trade gold like the retail financial market to buy and sell gold. Justifies the case for Nigeria by characterizing the extent to which cryptocurrencies trump traditional hedges not just in terms of return but actually utility, especially for the under-served and the informal entrepreneurs.

Lebanon, Zimbabwe, and Iran: Brief Comparative Insights

With each of these economies comes a different blend of high inflation, political instability, and crippled financial systems in which cryptocurrencies took root as a viable (if flawed) alternative.

In Lebanon, post 2019 financial collapse led to banking restrictions, deposit freezes and inflation over 200 per cent by 2023. Cryptocurrencies such as USDT on the Tron network were increasingly important for value storage and remittance receipts, in particular within the Lebanese diaspora (Fang et al. 2023). But lack of digital literacy and electricity shortages restricted their use in remote regions.

Zimbabwe, which has repeatedly experienced hyperinflation and currency redenomination since 2018, pulled its citizens toward the U.S. dollar and Bitcoin. Informally, despite government resistance and regulatory ambivalence, Bitcoin served as a form of savings and a medium of exchange, one frequently conducted via mobile devices.

People in Iran too, with imposed sanctions, currency devaluation and more than 40% inflation, have been getting into Cryptos and Bitcoin mining. The government had initially encouraged crypto mining as a source of revenue, before restricting it over fears of capital flight. Nonetheless, informal use of crypto continued as a way to protect against inflation and geopolitical risk.

These nations highlight the institutional and socio-political boundaries that the adoption of cryptocurrencies and the effectiveness of hedges are subject to. In state-failure or if not policy inconsistency settings, crypto-assets represent a pressure valve to store value, with the pressure well functioning or failing depending on access, literacy and regulatory tolerance.

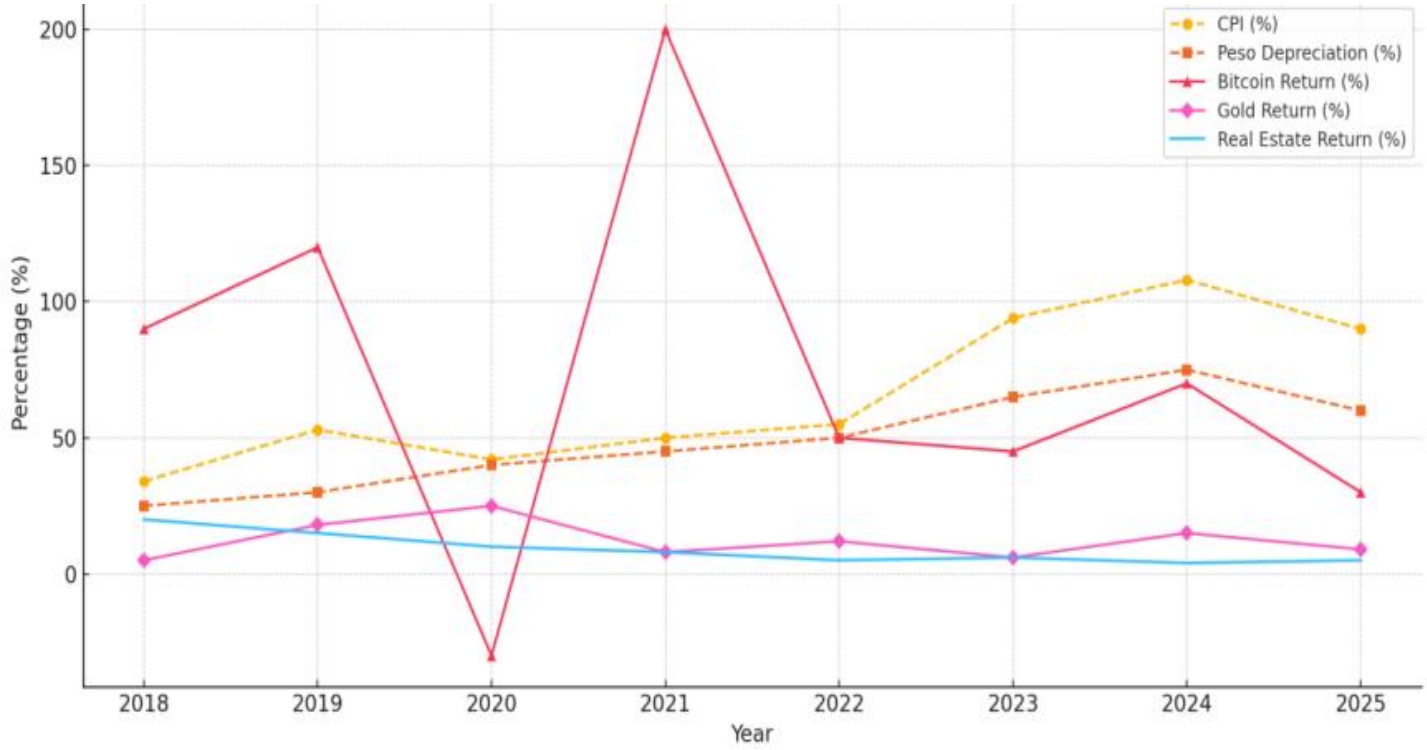

Figure 3 Inflation Trends vs. Asset Performance Chart

The chart above illustrates Argentina's inflation trends (CPI and peso depreciation) compared to the returns of Bitcoin, gold, and real estate from 2018 to 2025. It demonstrates that while Bitcoin exhibits higher but volatile returns, gold shows more consistent performance, and real estate yields are moderate but stable. This visual underscores the trade-offs in risk and return across asset classes in inflationary environments.

COMPARATIVE ANALYSIS AND DISCUSSION

The empirical landscape on the role of cryptocurrencies as inflation hedges is increasingly contested and context-specific. While early studies predominantly examined gold and real estate as traditional hedging tools in inflationary contexts (Wang et al., 2021; Gyourko & Keim, 2020), recent literature has shifted attention to the novel, decentralized attributes of cryptocurrencies, especially Bitcoin, as emergent alternatives. The volatility, accessibility, and regulatory fragility of these digital assets have made their inflation-hedging function highly conditional and time-variant (Bouri et al., 2020; Trabelsi, 2022).

Synthesizing across empirical analyses and country-level case studies—such as those of Venezuela, Argentina, Nigeria, and Zimbabwe—cryptocurrencies exhibit partial hedging characteristics, especially in contexts where national currencies experience hyperinflation, capital controls, or institutional trust failures. In these environments, households often prioritize "functional hedging" over financial speculation, leveraging crypto assets as a means of preserving purchasing power, maintaining transactional flexibility, and avoiding state-sanctioned devaluation (Trabelsi, 2022; Ibrahim & Osinubi, 2021). This functional perspective marks a departure from the classical hedging paradigm rooted in stable and well-regulated financial systems.

However, these advantages are significantly mediated by local variables such as digital infrastructure, legal ambiguity, mobile payment ecosystems, and peer-to-peer (P2P) networks. In Nigeria, for example, the rise of mobile-based cryptocurrency usage via informal exchanges underscores a grassroots form of financial adaptation that contrasts with the more regulated environments seen in advanced economies (Baur et al., 2018; Narayanan & Clark, 2023). Yet the Nigerian case also reflects the downside of abrupt regulatory crackdowns, which can rapidly erode trust, shrink liquidity, and introduce additional volatility—thereby undermining any perceived stability benefits of the asset class.

Furthermore, cross-asset comparative studies confirm that cryptocurrencies demonstrate a weaker and more inconsistent correlation with inflation compared to gold, which continues to exhibit strong long-run hedging capability, particularly during periods of negative real interest rates (Bekaert & Wang, 2022). Real estate, while theoretically inflation-proof due to capital appreciation and rental indexation, is hampered in high-inflation economies by illiquidity, high transaction costs, and political risks surrounding property rights (Gyourko & Keim, 2020). Bitcoin, in contrast, offers high mobility and low barriers to entry, but these benefits are offset by extreme price volatility and high sensitivity to macro and behavioral shocks (Shahzad et al., 2019).

An important insight emerging from this synthesis is that cryptocurrencies do not universally function as inflation hedges but rather exhibit conditional effectiveness. Their success depends on factors such as short-term inflation expectations, currency instability, institutional trust, and the evolution of the digital finance ecosystem. These variables are often absent from traditional hedging models, suggesting the need for a broader, cross-disciplinary theoretical framework that integrates behavioral finance, institutional economics, and financial technology.

From a methodological standpoint, traditional hedging metric such as regression-based inflation betas and correlation coefficients, fail to capture the multidimensional nature of hedging in fragile economies. The literature largely omits how socio-psychological trust factors, network effects, and digital literacy influence investor behavior under inflation stress. Moreover, only a limited number of studies apply advanced econometric models, such as ARDL or GARCH, in high-inflation developing contexts to trace dynamic and asymmetric responses of asset classes to inflation shocks. This limits the ability to generalize findings or derive robust policy implications.

Critically, the discussion also reveals that the categorization of cryptocurrencies purely as speculative or volatile assets may overlook their real-world functionality in specific crisis settings. The binary framing of cryptocurrencies as either hedges or non-hedges fails to acknowledge their evolving role as “monetary substitutes” or “escape assets” in inflation-scarred economies, where institutional voids preclude the effectiveness of traditional stores of value. In this regard, the inflation-hedging utility of cryptocurrencies is not merely financial but deeply socio-political, often reflecting deeper trust gaps between citizens and state-managed monetary systems.

Thus, while gold remains the most robust and stable inflation hedge across all tested parameters, cryptocurrencies offer a flexible, if volatile, supplement particularly where access to traditional hedging tools is constrained. Real estate, while effective in theory, requires supportive institutional frameworks and remains out of reach for low-income households in most high-inflation economies. Ultimately, the comparative performance of these asset classes is context-dependent, and policy responses aimed at enhancing household financial resilience must consider local access, digital readiness, and regulatory coherence.

This study, by integrating empirical insights and comparative case studies, underscores the importance of moving beyond generic policy prescriptions and adopting a nuanced approach to inflation hedging that reflects the evolving realities of global monetary instability. It calls for a reevaluation of hedging theory and practice in the era of decentralized finance, where trust, technology, and transactionality redefine how individuals and households respond to inflationary shocks. Future research must thus incorporate cross-regional models, real-time behavioral data, and regulatory heterogeneity to inform both academic theory and practical financial strategies in inflation-vulnerable settings.

Table 1 Comparative Metrics of Inflation Hedges

Asset Type	**Return on Investment (ROI)**	**Volatility**	**Liquidity**	**Inflation Correlation**	**Accessibility**
Cryptocurrencies	High (short-term), volatile	Very High	High (esp. P2P)	Mixed/Moderate	High (mobile-based access)
Gold	Moderate to High (long-term)	Low to Moderate	Moderate	Strong Positive	Moderate (logistics, storage)
Real Estate	High (capital appreciation)	Low (price), Low (exit)	Low	Moderate to Strong	Low (entry cost, legal barriers)

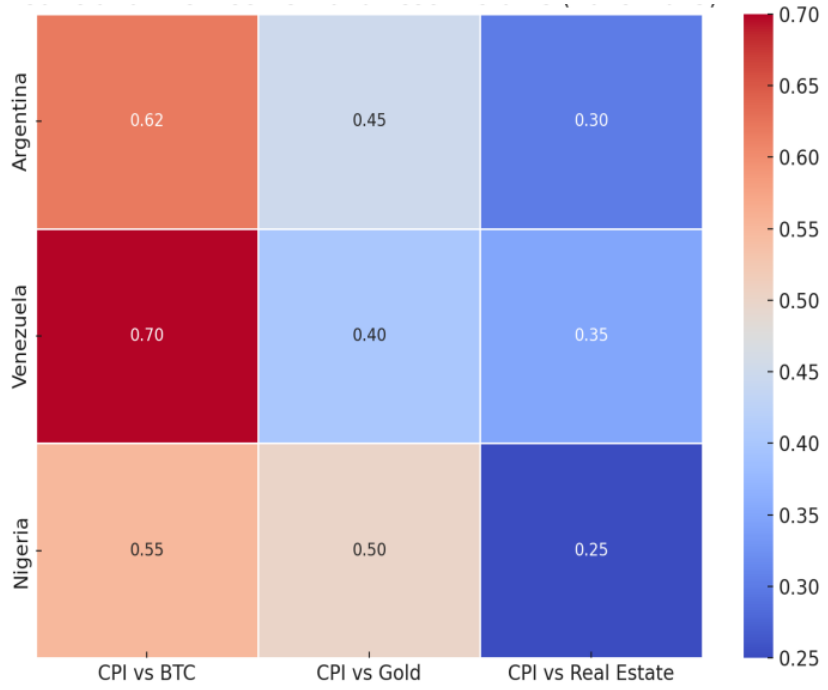

Figure 4 Correlation Between CPI and Asset Returns (2018–2025)

The heatmap above illustrates the correlation between Consumer Price Index (CPI) inflation and asset returns—Bitcoin, gold, and real estate—in Argentina, Venezuela, and Nigeria (2018–2025). It shows that Bitcoin tends to have a moderately strong positive correlation with inflation in all three countries, particularly in Venezuela. Gold shows consistent but weaker correlation, while real estate exhibits the lowest correlation, highlighting its relative insulation from short-term inflation trends.

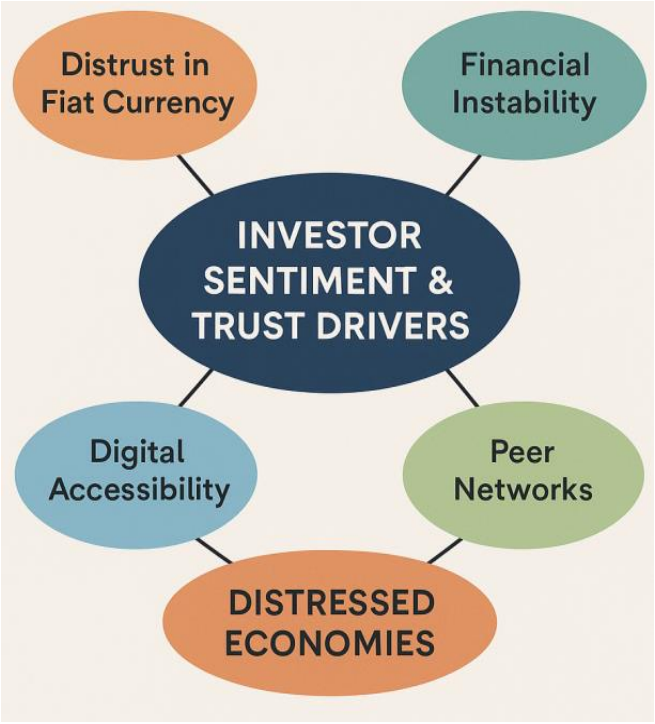

Figure 5: Investor Sentiment and Trust Drivers in High-Inflation Economies

This mind map illustrates the key behavioral and socio-psychological factors that drive investor preference for cryptocurrencies in economically distressed settings. In environments marked by fiat currency distrust, digital accessibility, and peer influence, crypto assets gain traction not solely due to returns but because they offer perceived autonomy, resilience, and trust beyond failing traditional financial systems.

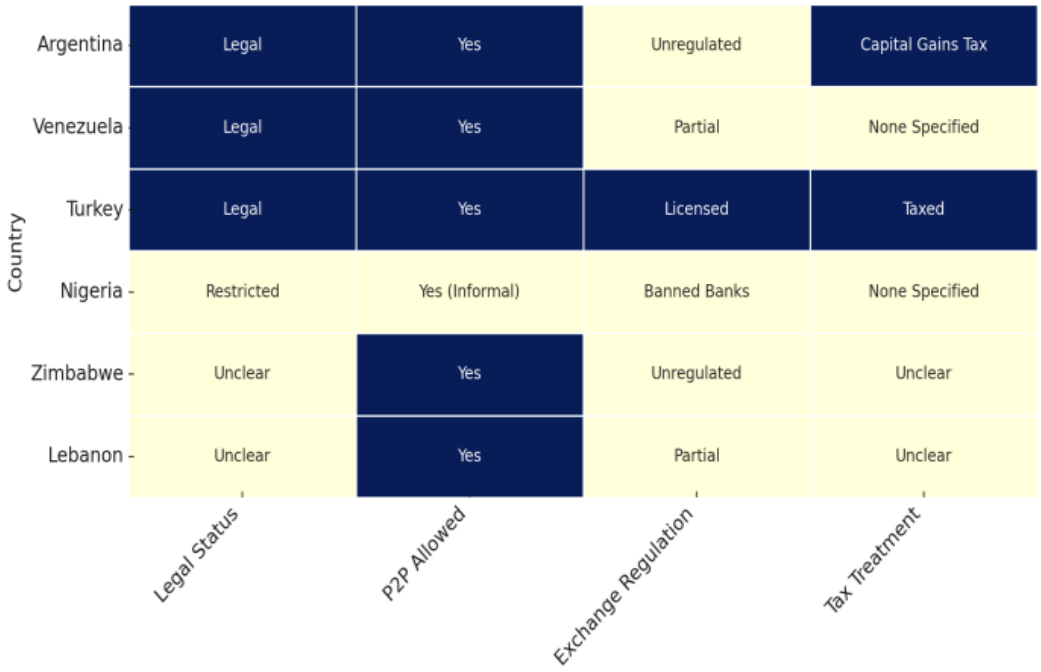

Figure 6 Regulatory Landscape Comparison Table

The comparative table above visually summarizes the regulatory landscape for cryptocurrencies across key high-inflation economies. It categorizes legal status, peer-to-peer (P2P) allowance, exchange regulation, and tax treatment using a color-coded matrix. Green-blue shades indicate more permissive or defined regulatory environments, while darker or blanked cells highlight areas of restriction, ambiguity, or absence of formal policy—useful for understanding crypto's legal context globally.

POLICY IMPLICATIONS AND RECOMMENDATIONS

These results provide valuable implications for policy authorities, investors and scholars who are attempting to understand the changing roles of inflation-hedging assets in high-inflation countries. More broadly, the increasing popularisation of using cryptocurrencies as alternative stores of value requires a rethinking of traditional regulatory, financial, and academic structures to accommodate this new normal of monetary behaviour in inflation-ridden territories.

One immediate imperative for policymakers is to accept the calculus of cryptocurrencies as nascent vehicles for hedging, especially in economies undermined by persistent inflation, devaluation of currency, or the breakdown of trust in institutions. In countries such as Venezuela, Nigeria, and Argentina, there is evidence that average citizens and small firms are moving in increasing numbers toward using cryptocurrency as a means of survival and not necessarily as an investment vehicle due to the rapidly falling value of their local currencies (Trabelsi, 2022; Ibrahim & Osinubi, 2021). Efforts to repress this through broad based prohibitions or restrictions are typically counterproductive, pushing transactions outside of formal systems and increasing financial exclusion. Hence, authorities must establish flexible, open, and dynamic regulatory regimes that reconcile consumer protection and innovation. Such clarification is conducive to investor confidence, systemic risk minimization and the legitimate use of blockchain based solutions, while helping to control illicit activity (Yermack, 2022; OECD, 2023).

For investors and financial planners, this study serves as a reminder that cryptocurrencies should be part of a broader inflation-hedging portfolio, not a diversifier or safe haven unto themselves. Due to their high volatility and sensitivity to regulatory and market shocks they are not suitable as a lone hedge mechanism in long-term planning. Nevertheless, while gold and real estate exhibit less volatility and more stability than cryptocurrencies, accompanied by potential benefits in terms of portfolio diversification and return asymmetry, cryptocurrencies can be an effective way to improve the diversification of a portfolio and to seek return asymmetry, notably in the case of environments characterized by inflation (Bouri et al., 2020; Fang et al., 2023). Decisions about the level

of crypto exposure should also be matched to jurisdictional risk, access to liquid markets, regulatory oversight, and investor capacity for risk. In economies with high penetration of P2P networks and stablecoins, planners should also consider the digital easy access and literacy of clients for successful hedging execution.

The theoretical and empirical findings reported in this study indicate a number of areas for further research. There is an evident and compelling call for empiricists to investigate the dynamic inflation-hedging ability of cryptocurrencies in the national context beyond 2022 using the multivariate time-series models such as Generalized Autoregressive Conditional Heteroskedasticity (GARCH) or Autoregressive Distributed Lag (ARDL) frameworks. Such models can consider short- as well as long-run relationships and allow for volatility clustering, which is important when it comes to understanding what happens to an asset during periods of high inflation. Furthermore, research should investigate the hedging potential of stablecoins – especially those pegged to inflation-resistant currencies such as the U.S. dollar – and consider their contribution to financial stability in jurisdictions with low levels of access to formal banking services. Furthermore, the growing focus around central bank digital currencies (CBDCs) provides a new frontier for research. With central banks experimenting with and implementing digital currencies, the interaction with the narrative of inflation expectations, credibility of monetary policy, and faith in fiat systems deserves systematic examination (Yermack, 2022; World Bank, 2023).

In conclusion, the evolution of cryptocurrencies as unofficial inflation hedges indicates a step-change in how value is Regulators are required to rework their regulatory frameworks in order to try to capture the value of digital assets while protecting the public sector. Investors and advisors should seek to deploy well-discipled, diversified strategies that take into account the specific long-term and tactical attributes of cryptocurrencies but do not unduly expose the portfolio to their risks. At the same time, scholars need to enrich their theoretical and empirical knowledge of this the growing class, particularly in view of post-pandemic inflation patterns and the digital revolution in finance.

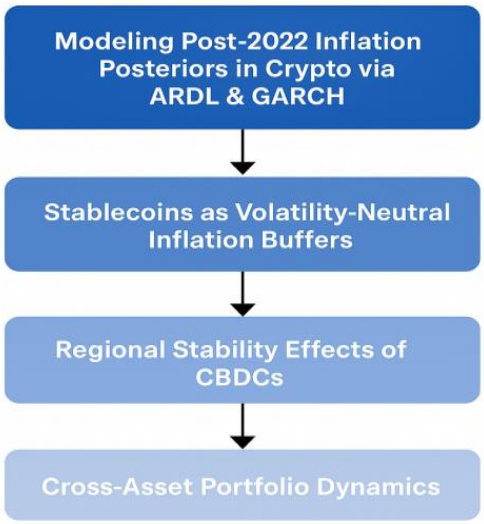

Figure 7: Future Research Roadmap on Cryptocurrency and Inflation Hedging

This flowchart outlines strategic directions for future research on cryptocurrencies as inflation hedges. It begins with post-2022 inflation modeling using ARDL and GARCH techniques, advancing toward the study of stablecoins as low-volatility buffers, the regional stability impact of central bank digital currencies (CBDCs), and ends with evaluating cross-asset portfolio dynamics for resilient inflation-hedging strategies in emerging economies.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study critically examined the role of cryptocurrencies as potential inflation-hedging instruments in comparison with traditional assets such as gold, real estate, and inflation-linked bonds. Drawing from empirical

analyses and region-specific case studies, the evidence reveals a nuanced and context dependent relationship between cryptocurrencies and inflationary dynamics. While traditional assets particularly gold continue to exhibit consistent long-term hedging performance, cryptocurrencies like Bitcoin and Ethereum display partial, conditional, and time-variant inflation-hedging characteristics. These are most visible in high-inflation, low-trust environments in the Global South where citizens confront currency devaluation, capital controls, and institutional breakdowns.

Cryptocurrencies serve not as perfect hedges in the classical financial sense but as functional hedging tools and monetary escape assets. Their decentralized architecture, ease of transacting across borders, and deflationary design appeal to individuals in inflation-stricken economies. However, their extreme volatility, regulatory ambiguity, and technological constraints undermine their ability to fully replicate the qualities of a reliable inflation hedge. Moreover, access to these digital assets is influenced by local infrastructure, digital literacy, and mobile payment ecosystems, which vary widely across regions.

This study affirms that hedging effectiveness must be evaluated not only through statistical measures of correlation and regression but also through behavioral, institutional, and technological lenses. Consequently, the theoretical lens underpinning this research draws from a hybrid of traditional financial hedging theory, behavioral finance, and institutional economics. The findings challenge the prevailing assumptions in inflation-hedging literature that assume uniform asset behavior across monetary regimes, highlighting the need for a more adaptive and interdisciplinary approach.

Recommendations

Grounded in the study's findings and theoretical framework, the following recommendations are proposed to policymakers, investors, financial educators, and regulators:

Adopt a Context-Specific Hedging Framework

Regulators and financial advisors should recognize the variability in hedging performance across asset classes and design inflation protection strategies that account for local realities such as currency volatility, digital infrastructure, and institutional trust. A "one-size-fits-all" model is ineffective, particularly in emerging economies where formal markets are thin, and informal digital asset usage is growing.

Enhance Digital Financial Infrastructure and Literacy

Governments and development partners should invest in the expansion of mobile payment infrastructure, broadband access, and blockchain-based systems, particularly in rural and peri-urban areas. These investments are critical for enabling broader access to digital assets and for ensuring their utility as inflation hedges. Financial literacy campaigns should accompany these efforts to build public awareness on risk, volatility, and portfolio diversification strategies.

Develop Regulatory Sandboxes and Balanced Crypto Frameworks

National financial authorities should explore the use of regulatory sandboxes to monitor and test the use of cryptocurrencies in high-inflation environments without stifling innovation. Rather than blanket bans, nuanced regulatory frameworks should be developed to balance investor protection, systemic stability, and financial inclusion. Clear tax treatment, consumer protection, and anti-money laundering (AML) compliance measures will support trust in the digital asset ecosystem.

Promote Portfolio Diversification Rather Than Substitution

Investors, particularly in inflation-prone economies, should view cryptocurrencies as complementary rather than substitutive hedging instruments. They should be integrated cautiously within a diversified asset mix that includes gold, inflation-indexed securities, and, where possible, real estate. This approach aligns with the non-linear, time-varying nature of crypto-asset performance observed across empirical studies.

Support Cross-Disciplinary Research and Real-Time Monitoring

Academic institutions and central banks should promote research that integrates financial econometrics, behavioral analysis, and institutional diagnostics to better understand the evolving dynamics of inflation hedging in the digital age. Real-time data analytics and sentiment analysis tools should be developed to monitor shifts in investor behavior, crypto adoption, and hedging effectiveness in inflationary episodes.

Incorporate Functional Hedging into Financial Inclusion Policies

Given the demonstrated role of cryptocurrencies as "monetary escape tools" in fragile monetary regimes, financial inclusion strategies should not ignore the potential role of decentralized finance. Policies aimed at expanding access to savings, payments, and remittance systems should incorporate regulated crypto-rails where feasible, thereby enhancing resilience to inflation shocks for unbanked populations.

This study underscores that cryptocurrencies are not panaceas but are increasingly relevant in global inflation discourse. Their evolution as partial hedging assets must be matched with strategic policy frameworks, informed investor strategies, and robust empirical research tailored to the volatile and unequal terrain of the global financial system. The future of inflation protection lies not in choosing between traditional or digital assets, but in understanding how each can serve distinct roles within a resilient, inclusive, and adaptive financial ecosystem.

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