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Gold Linking and Its Impact on Cryptocurrency Value and Islamic Rulings

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Abstract

This study examines the issue of linking cryptocurrencies to gold by analyzing its impact on their economic value and legal ruling within Islamic jurisprudence. It proceeds from the premise that gold has historically functioned as a relatively stable asset during times of crisis. Accordingly, the study explores the feasibility of employing gold as a backing asset for cryptocurrencies to enhance stability, reduce volatility, and strengthen market confidence. The research problem centers on the dual challenges posed by contemporary cryptocurrencies: sharp price volatility and the absence of tangible backing or an official guarantor. These characteristics have contributed to divergent juristic opinions regarding their permissibility. Opinions of impermissibility are often grounded in specific legal causes, particularly the uncertain or unstable nature of thamaniyyah (monetary character and function as a medium of exchange), the lack of guarantee, and the prevalence of excessive uncertainty (gharar) and speculation. The study therefore investigates whether linking cryptocurrencies to gold may address these economic and juristic concerns, and whether a transformation in their economic characterization could lead to a corresponding change in their legal ruling, in accordance with the principle that legal rulings vary according to their effective causes. The study aims

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to evaluate the economic and juristic implications of gold linkage in cryptocurrencies, focusing on its effects on volatility, stability, investor confidence, adoption, and the reassessment of juristic rulings in light of the removal of previously identified prohibitive causes. Adopting an analytical methodology, the study integrates economic analysis with juristic reasoning. It concludes that gold backing, particularly when combined with issuance by a legally recognized authority, can mitigate volatility and address key legal objections, thereby opening the possibility of reconsidering the legal ruling in line with established juristic principles.
Keywords: Islamic Law, Gold-Backing Cryptocurrencies, Cryptocurrencies Value, Cryptocurrencies Guarantee, Sharia ruling on cryptocurrencies.

Kripto Paraların Altına Endekslenmesinin Ekonomik Değerleri ve İslami Hükümler Üzerindeki Etkisi

Öz

Bu çalışma, kripto paraların altına endekslenmesi meselesini, bunun söz konusu varlıkların ekonomik değeri ve İslam hukuku açısından hükmü üzerindeki etkilerini incelemek suretiyle ele almaktadır. Çalışma, altının tarih boyunca özellikle kriz dönemlerinde nispeten istikrarlı bir değer saklama aracı olarak işlev gördüğü varsayımından hareket etmektedir. Bu çerçevede araştırma, kripto paraların istikrarını artırmak, fiyat dalgalanmalarını azaltmak ve piyasa güvenini güçlendirmek amacıyla altının teminat veya dayanak varlık olarak kullanılmasının imkânını değerlendirmektedir. Araştırmanın temel problemi, günümüz kripto paralarının karşı karşıya bulunduğu iki temel hususta yoğunlaşmaktadır: yüksek düzeyde fiyat oynaklığı ve somut bir dayanak varlıktan veya resmî bir garanti mekanizmasından yoksun olmaları. Bu özellikler, kripto paraların fıkhî hükmü ve meşruiyeti konusunda çağdaş İslam hukukçuları arasında farklı görüşlerin ortaya çıkmasına neden olmuştur. Bu görüşlerden kripto paraların caiz olmadığı yönündeki yaklaşımlar, çoğunlukla belirli fıkhî illetlere dayanmaktadır. Bunların başında, kripto paraların semeniyet (parasal değer ve mübadele aracı olma niteliği) vasfının belirsiz veya istikrarsız olması, herhangi bir garanti mekanizmasından yoksun bulunmaları ve bünyelerinde aşırı belirsizlik (garar) ile spekülasyon unsurlarını barındırmaları gelmektedir. Bu nedenle çalışma, kripto paraların altına endekslenmesinin söz konusu ekonomik ve fıkhî sakıncaları giderip gideremeyeceğini, ayrıca bunların ekonomik mahiyetinde meydana gelebilecek bir dönüşümün, "hükümlerin illetlerine bağlı olarak değişmesi" ilkesine uygun şekilde fıkhî hükmün yeniden değerlendirilmesini gerektirip gerektirmeyeceğini araştırmaktadır. Çalışmanın amacı, kripto paraların altına endekslenmesinin ekonomik ve fıkhî sonuçlarını değerlendirmektir. Bu kapsamda araştırma, altın desteğinin fiyat oynaklığı, istikrar, yatırımcı güveni ve yaygın kabul düzeyi

üzerindeki etkilerini incelemekte; ayrıca daha önce yasaklayıcı hükümlerin dayanağı olarak görülen illetlerin ortadan kalkması durumunda fıkhî hükümlerin yeniden değerlendirilmesi imkânını ele almaktadır. Analitik bir yöntem benimseyen çalışma, ekonomik analiz ile fıkhî muhakemeyi bir araya getirmektedir. Araştırma sonucunda, özellikle yasal olarak tanınmış bir otorite tarafından ihraç edilmesi durumunda altın desteğinin kripto paraların fiyat oynaklığını azaltabileceği ve bunlara yönelik temel fıkhî itirazların önemli bir kısmını giderebileceği sonucuna ulaşılmıştır. Bu durum, yerleşik fıkıh ilkeleri çerçevesinde söz konusu varlıkların fıkhî hükmünün yeniden değerlendirilmesine imkân sağlayabilecek bir zemin oluşturmaktadır.
Anahtar Kelimeler: İslam Hukuku, Kripto Paranın Altına Endekslenmesi, Kripto Paraların Değeri, Kripto Para Garantisi, Kripto Paraların Şer'î Hükmü.

Introduction

Cryptocurrencies represent a rapidly evolving sector in the contemporary global economy and have attracted considerable attention and debate among scholars and practitioners in the fields of economics and finance, particularly regarding their economic value. They may be described as digital mediums of exchange that rely on cryptographic principles enabling the execution of various economic transactions.

The most prominent cryptocurrency is Bitcoin, which was launched in 2009 as the first decentralized cryptocurrency. Users interact with applications that manage cryptographic keys, like electronic banking applications, which function as software programs for managing virtual currency and facilitating the sending and receiving of payments. Since then, a large and continuously growing number of cryptocurrencies have emerged. Many of these early cryptocurrencies were designed with technical architectures inspired by Bitcoin, although the broader ecosystem has since diversified significantly, with later assets adopting a wide range of alternative consensus mechanisms, issuance models, and value stabilization approaches. In some cryptocurrency models, a predetermined maximum supply limits the issuance of new units, while in others the supply may be flexible, uncapped, or adjusted through alternative issuance and burning mechanisms. A capped supply is intended to create scarcity—often compared to precious metals—while its potential impact on value and inflation depends on additional factors such as demand, adoption, liquidity, trust, regulatory conditions, network effects, and market dynamics. Conversely, in some digital currency models with a capped supply, market dynamics may lead to deflationary pressures; however,

this outcome is not automatic and depends on factors such as demand, usage, velocity of circulation, and broader price expectations.[1]

This study seeks to evaluate the hypothesis that anchoring crypto-assets to a historically monetary but today widely recognized tangible asset such as gold may influence their economic and juristic characterization. In this context, "anchoring" refers exclusively to a full reserve backing structure in which each issued unit of the crypto-asset is fully covered by equivalent gold reserves held in custody. Such anchoring could potentially recalibrate the core monetary functions of crypto-assets, namely medium of exchange, unit of account, and store of value, while also potentially reducing certain forms of volatility inherent in purely algorithmic or unbacked digital systems, though it may simultaneously introduce new risks related to reserve management, custody, and institutional trust. The study further examines the extent to which linking crypto-assets to a relatively stable and widely recognized tangible asset may shift their classification from highly volatile speculative instruments toward monetary or quasi-monetary instruments, without presuming a complete transformation, thereby requiring nuanced juristic assessment. It also explores the compatibility of this model with the objectives of Islamic law (Shariah), extending beyond maqāṣid-based considerations to include issues of ribā, qabḍ (possession), exchange (ṣarf), ownership structure, and contractual certainty, alongside minimizing excessive uncertainty (gharar) and ensuring transactional fairness in financial exchanges.

Despite the technological and regulatory efforts undertaken by digital currency developers to enhance their infrastructure and reliability, the central issue concerns the extent to which such assets can attain thamaniyyah (monetary status) in a manner recognized by Shariah. In Islamic jurisprudence, thamaniyyah does not necessarily depend on intrinsic value, but may also arise through widespread acceptance, legal recognition, and monetary function. Nevertheless, unbacked cryptocurrencies remain highly vulnerable due to the absence of reserve assets or institutional guarantees ensuring their stability. Consequently, holders bear significant risks during periods of market instability. Moreover, such cryptocurrencies are often characterized by sharp fluctuations in purchasing power, with volatility frequently exceeding that of conventional fiat currencies.

The research problem thus emerges within a broader context marked by tension between rapid financial innovation—producing decentralized and highly volatile digi-

[1] Castillo Andrea - Brito Jerry, *Bitcoin: A Primer for Policymakers* (George Mason University: Mercatus Center, 2016).

tal monetary forms— and the requirements of monetary stability and Islamic legal principles, which emphasize the prevention of uncertainty, harm, and value disruption. The issue extends beyond the abstract permissibility of cryptocurrencies as such; rather, it concerns the implications of the absence of asset-based backing or stabilizing institutional support for their juristic characterization and the extent to which such features may increase their susceptibility to speculative activity. Accordingly, the central inquiry of this study is whether linking such currencies to a Shariah-recognized monetary asset such as gold is sufficient to establish their monetary value status and reduce the legal causes of prohibition associated with excessive uncertainty or harm, or whether the challenge is more deeply rooted in the digital architecture itself, including issuance mechanisms, circulation structures, and the structural imbalances that may be generate in terms of stability and value.

This study undertakes a critical analysis of the structure of cryptocurrencies, examining their origin and economic function, with particular focus on issues of monetary value and monetary references within decentralized financial systems. It further evaluates the model of gold-backed cryptocurrencies as a potential mechanism for reducing cryptocurrency volatility and enhancing Shariah compliance. From a juristic perspective, the study analyzes the impact of such backing on redefining the effective legal causes governing monetary rulings, particularly monetary value status (*thamaniyyah*) and general acceptability, and their relationship to the principles governing uncertainty, risk, and liability. Employing an analytical and evaluative approach that draws upon contemporary juristic scholarship and institutional resolutions, the study aims to formulate a normative framework capable of guiding the ongoing economic and juristic discourse on the future of cryptocurrencies should they become subject to clear material and regulatory references.

Conceptual and Juristic Framework of Cryptocurrencies

The global financial system has undergone a qualitative transformation with the emergence of cryptocurrencies as one of the most significant applications of contemporary financial technology. Although the terms “digital currencies,” “cryptocurrencies,” and “crypto-digital currencies” are often used interchangeably in modern literature, in this study the term “cryptocurrencies” refers specifically to digital assets that rely on cryptographic techniques and distributed ledger technologies (DLT) to facilitate the issuance of monetary units and the verification of transactions. These systems may operate in varying degrees of decentralization, particularly with respect to governance, issuance, and reserve management structures.

Cryptocurrencies may be defined as "units of value stored electronically on a technological medium and used to conduct payments between parties without the need for a traditional financial intermediary or bank account"[2]. However, this definition primarily reflects their function as a means of payment and does not fully capture their broader roles in contemporary digital finance, where crypto-assets may also operate as investment instruments, stores of value, governance tools, means of collateralization, and representations of underlying assets, particularly in the case of asset-backed tokens such as gold-backed cryptocurrencies.

The theoretical roots of digital money can be traced back to the works of David Chaum in the 1980s; however, their practical breakthrough occurred with the publication of Satoshi Nakamoto's Bitcoin white paper in 2008, which established the model of a decentralized monetary system based on blockchain technology.[3]

The use of cryptocurrencies has expanded to include financial transfers, electronic payments, investment, and digital commerce. However, this expansion has also been accompanied by their utilization in certain illicit activities, such as money laundering and the financing of prohibited operations, thereby provoking extensive juristic and economic debate regarding their permissibility.[4]

The monetary value of cryptocurrencies is determined by a range of market and technical factors, most notably the following:

First: Technical Infrastructure and Security

Cryptocurrencies derive a considerable portion of their value from the robustness of their technical infrastructure, particularly blockchain technology, which provides transparency and resistance to tampering. These features have contributed to enhancing user trust, a fundamental element in the formation of monetary value.[5]

Second: Supply and Demand

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2 David W. Perkins, "Cryptocurrency: The Economics of Money and Selected Policy Issues", *Congressional Research Service (CRS) Reports and Issue Briefs*, (April 1, 2020).

3 David Chaum, "Blind Signatures for Untraceable Payments", *Advances in Cryptology,* ed. David Chaum et al. (Boston, MA: Springer US, 1983), 199–203.

4 Andrew Spurr - Marcel Ausloos, "Challenging Practical Features of Bitcoin by the Main Altcoins", *Quality & Quantity* 55/5 (October 1, 2021), 1541–1559.

5 Satoshi Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System", *SSRN Scholarly Paper* (August 21, 2008).

The law of supply and demand constitutes the primary determinant of cryptocurrency prices. A limited supply combined with increasing demand leads to price appreciation, rendering such assets highly sensitive to speculative activity.[6]

Third: Trust and General Acceptance

The market value of cryptocurrencies depends significantly on the level of institutional and commercial acceptance. The broader their use in payments and settlements, the closer they come to performing the traditional functions of money.[7]

Fourth: Integration with Financial Systems

The integration of cryptocurrencies into the global financial infrastructure may enhance their liquidity and broader market acceptance. Nevertheless, such integration remains limited and varies across jurisdictions.[8]

Despite the importance of these factors, from the perspective of Islamic economics they are insufficient to establish the realization of "stable monetary value" (*thamaniyyah mustaqirrah*), which constitutes the central axis of juristic disagreement.

Juristic Framework of Cryptocurrencies

Contemporary juristic opinions regarding cryptocurrencies have diverged. However, the International Islamic Fiqh Academy has issued a resolution tending toward prohibition or suspension of judgment regarding electronic currencies (Resolution No. 237). Based on considerations related to excessive uncertainty (*gharar*), instability, absence of guarantee, and the problematic nature of their monetary characterization.[9]

The Permanent Committee for Scholarly Research and Ifta[10] has ruled that engagement with cryptocurrencies is impermissible, including trading, investment, payment usage, mining, exchange operations, and storage. This ruling is based on several justifications, the most important of which are:

The absence of a legally recognized state guarantee.

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6 Bill Maurer, "Blockchain", *Digital Anthropology. Ed. Haidy Geismar, Hannah Knox* (London: Routledge, 2021).

7 Paul Vigna - Michael J. Casey, *The Age of Cryptocurrency: How Bitcoin and Digital Money Are Challenging the Global Economic Order* (New York: St. Martin's Publishing Group, 2015).

8 Umara Noreen, "Fintech, Digital Currency and the Future of Islamic Finance", *Fintech, Digital Currency and the Future of Islamic Finance*, (January 1, 2020).

9 International Islamic Fiqh Academy (IIFA), "*Electronic Currencies*", (Access 26 April 2026).

10 Permanent Fatwa Committee, "*Virtual Currencies*", (Access 26 April 2026).

The lack of sovereign supervision or central bank oversight.

The absence of intrinsic value or tangible backing in unbacked cryptocurrencies, raising issues regarding value stability and juristic characterization.

High levels of risk and volatility.

This position rests on the premise that money in Islamic jurisprudence must fulfill the objectives of Shariah in safeguarding wealth and preventing excessive uncertainty and public harm. In this context, three principal Shariah-related issues arise with respect to cryptocurrencies.

The first concerns monetary value status (*thamaniyyah*), which constitutes an essential attribute of money in Islamic jurisprudence. Monetary value may take two forms:

Intrinsic value: as in gold and silver.

Acquired value: as in paper currency supported by the authority and guarantee of the state.

Ibn ʿĀshūr maintained that among the objectives of Shariah in financial transactions is the protection of the community's wealth from loss and instability.[11] In their current form, unbacked cryptocurrencies possess neither intrinsic value nor a stable acquired value backed by governmental guarantee, thereby raising doubts as to whether they fulfill the full legal characterization of money.

The second issue relates to price stability. A currency must exhibit a reasonable degree of stability to function effectively as a standard of value. In this regard, Ibn al-Qayyim's statements have been interpreted as emphasizing that monetary instruments should serve as a reliable and disciplined standard and should not be subject to excessive instability in value, in a way that would undermine their function as a measure of prices and a medium of exchange.[12]

Empirical observation of cryptocurrencies reveals sharp price fluctuations, which undermine their ability to perform the three essential functions of money and increase the level of uncertainty and risk. This consideration has been invoked by many jurists in support of prohibition or restriction.

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[11] Tāhir ibn ʿĀshūr, *Maqāṣid Al-Sharīʿah al-Islāmiyyah* (Doha: Ministry of Endowments and Islamic Affairs, 2004), 3/238.

[12] Ibn Qayyim al-Jawziyya, *Iʿlām al-Muwaqqiʿīn ʿan Rabb al-ʿĀlamīn* (Riyadh: Dār ʿAtāʾāt al-ʿIlm, 2019), 2/479.

Moreover, the International Islamic Fiqh Academy has cautioned against indexing debts to volatile benchmarks due to the potential for uncertainty and *ribā* implications.

The third issue concerns the question of issuing authority and guarantee. Traditional cryptocurrencies are characterized by decentralization and are not issued by a central bank; rather, their issuance mechanisms vary depending on the protocol, with some relying on mining in a distributed network. While this ensures technological independence, it raises Shariah and regulatory concerns, including the absence of governmental guarantee, limited legal protection for users, and susceptibility to use in illicit activities.

Conversely, some states have moved toward developing central bank digital currencies (CBDCs), which combine technological efficiency with official backing.[13] This development may have significant implications for future juristic recharacterization.

In conclusion, the juristic issue surrounding cryptocurrencies does not pertain to the technology per se, but rather to the extent to which they fulfill the attributes of legally recognized money, particularly monetary value status, stability, guarantee, and the absence of excessive uncertainty. Accordingly, any future development, such as linking cryptocurrencies to tangible assets or subjecting them to governmental supervision, may influence their legal ruling insofar as it contributes to the realization of Shariah objectives in safeguarding wealth and ensuring transactional stability.

Literature Review

A review of the literature concerning gold-backed cryptocurrencies reveals a growing academic interest in this class of digital assets from two complementary perspectives.

The first is the financial-economic perspective, which focuses on performance, volatility, and market efficiency. The second is the Shariah-compliance perspective, which examines the extent to which these instruments conform to Islamic legal principles, particularly regarding ribā, gharar, and the requirement of immediate possession (taqabudh) in exchange contracts. The studies in this field can be classified into three main categories: analyses of performance and stability during crises, studies of market behavior, efficiency, and cross-market linkages, and investigations of Shariah compliance and application in Islamic finance.

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[13] Fatih Ceylan, "A Review of Central Bank Digital Currency: Current Status and Changing Trends", *İzmir Journal of Economics* 39/2 (June 6, 2024), 568–589.

To analyze the performance and stability of cryptocurrencies, Jalan et al. (2021) conducted an empirical study entitled "Shiny' crypto assets: A systemic look at gold-backed cryptocurrencies during the COVID-19 pandemic"[14] examining price data for five gold-backed cryptocurrencies (DGX, PMGT, XAUT, PAXG, TMTG) during the COVID-19 pandemic, with comparisons to physical gold, Bitcoin, and Tether. The authors employed measures of price volatility, return correlation with major asset classes, and indicators of market coherence—such as cross-exchange price dispersion and liquidity depth—to assess the relative stability of these assets under financial stress. The study concluded that gold-backed cryptocurrencies exhibited lower volatility than many unbacked cryptocurrencies during certain crisis periods; however, their behavior did not consistently align with that of physical gold as a full safe-haven asset, and in some cases their volatility remained closer to that of highly volatile crypto-assets such as Bitcoin.

This study examines the importance of transparency, reserve management, and the ability to redeem physical gold in fostering confidence and minimizing deviation from reference prices. While the empirical methodology and real-world crisis context represent a major strength, the limited temporal scope, restricted to a single pandemic, constrains the generalizability of the findings across different economic cycles. In addition, the heterogeneity of governance and auditing models among tokens may affect the validity of comparative measures.

In the context of market behavior analysis, Mnif et al. (2022) examined market efficiency and herding behavior in gold-backed cryptocurrency markets, specifically comparing these instruments with Bitcoin and physical gold.[15] The study employed Multifractal Detrended Fluctuation Analysis (MFDFA) and an inefficiency index (IEI) to evaluate market efficiency and to assess herding behavior in gold-backed cryptocurrency markets during periods of volatility. The results indicated that gold-backed cryptocurrencies tend to exhibit lower degrees of herding compared to Bitcoin, showing partial alignment with gold's characteristics; however, their market structure remains influenced by the liquidity and speculative features of the broader cryptocurrency market. This study suggests that mere linkage to a tangible asset does not necessarily transfer all its behavioral properties to the digital counterpart, raising questions regarding the realization of "stability" from both an economic and Shariah perspective.

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[14] Akanksha Jalan et al., "Shiny' Crypto Assets: A Systemic Look at Gold-Backed Cryptocurrencies during the COVID-19 Pandemic", *International Review of Financial Analysis* 78 (2021), 02–18.

[15] Emna Mnif et al., "Efficiency and Herding Analysis in Gold-Backed Cryptocurrencies", *Heliyon* 8/12 (2022), 2–11.

Regarding the transfer of returns and volatility within Islamic financial Markets, Yousaf and Yarovaya (2022) investigated the relationship between Islamic gold-backed cryptocurrencies (OneGram, X8X) and global Islamic equity sectors in the study *"Spillovers between the Islamic Gold-Backed Cryptocurrencies and Equity Markets during the COVID-19: A Sectorial Analysis"*.[16] The research employed a VAR-BEKK-AGARCH model to estimate return and volatility spillovers among the selected assets, alongside calculations of optimal portfolio weights, hedge ratios, and hedging effectiveness. The results indicated that spillover effects were generally limited under normal market conditions, while they increased during periods of financial stress, particularly in crisis episodes such as COVID-19. However, these findings vary depending on the specific asset pairs, sectors, and time periods, suggesting that any hedging potential should be interpreted in a context-dependent manner rather than as a uniform property of gold-backed cryptocurrencies. Nevertheless, the study's focus on a limited sample of Shariah-compliant gold-backed cryptocurrencies restricts the generalizability of the findings to other gold-backed cryptocurrencies.

Bridging financial analysis with juristic evaluation, the study *"The Sharia Compliance of Gold-Backed Cryptocurrency: Analysis of Volatility and Risk"*[17] (2021) addressed the Shariah compliance of gold-backed cryptocurrencies by analyzing their volatility and risk while linking the findings to concepts of ribā, gharar, and the requirement of possession. The study concluded that permissibility depends on the nature of the holder's ownership rights over the underlying gold, particularly whether the token grants direct ownership of specifically allocated gold or merely represents a contractual claim against the issuer, in addition to redeemability, transparency in custody arrangements, and independent auditing procedures; the absence of these elements may lead to suspicions of gharar or selling what one does not own (bayʿ mā lā yamlik). The study is particularly valuable for its direct connection between financial indicators (volatility, risk) and juristic concepts, though it relies heavily on theoretical analysis, while incorporating a limited empirical component through ARCH-GARCH modeling and selected comparative assessments of financial assets.

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[16] Imran Yousaf - Larisa Yarovaya, "Spillovers between the Islamic Gold-Backed Cryptocurrencies and Equity Markets during the COVID-19: A Sectorial Analysis", *Pacific-Basin Finance Journal* 71 (February 1, 2022), 101705.

[17] Fauziyah Adzimatinur et al., "The Sharia Compliance of Gold-Backed-Cryptocurrency: Analysis of Volatility and Risk", *1st Universitas Kuningan International Conference on Social Science, Environment and Technology, UNiSET 2020, 12 December 2020*, (West Java, Indonesia: EAI, 2021).

On a broader level, the paper *"From Gold Dinar to Digital Ledger: Is Islam Ready for Cryptocurrency?"*[18] by Rischan Mafrur and Khadijah Hasim (2025) explored the possibility of converting tangible assets such as gold into digital tokens considering the history of Islamic money and its objectives. The paper provides a theoretical framework for aligning cryptocurrencies with Islamic finance principles, emphasizing the necessity of legal and regulatory mechanisms to ensure legitimate possession. This study extends perspectives derived from Islamic monetary history by linking the historical experience of the gold dinar to contemporary digital models, though it remains more conceptual than empirical.

Additionally, Dammak et al. conducted an analysis of investment portfolios involving gold, Bitcoin, gold-backed cryptocurrencies, and AI-focused equity portfolios in order to evaluate diversification, hedging, and safe-haven properties across different market conditions.[19] The results suggested that the inclusion of gold-backed cryptocurrencies may improve portfolio efficiency in terms of risk-adjusted returns in certain scenarios. However, these findings remained conditional on market dynamics and asset interactions observed within the selected sample and period, rather than establishing a general conclusion regarding the intrinsic stability of all gold-backed digital assets. This study adds an important financial-econometric dimension to the literature by examining gold-backed cryptocurrencies not only from the perspective of Shariah compliance or theoretical stability, but also in relation to portfolio diversification and risk management.

A recent study by Mehrara et al. (2025)[20] presented design models for cryptocurrencies backed by natural resources, including oil- and gold-backed cryptocurrencies, along with performance measurement frameworks and conditional linkage mechanisms. The study offers a methodological framework for designing an asset-backed cryptocurrency, including technical and economic analyses of guarantee and pricing mechanisms. Its implications are directly relevant to gold-backed cryptocurrency design; however, the design-oriented focus necessitates long-term empirical validation.

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[18] Rischan Mafrur - Khadijah Hasim, "From Gold Dinar to Digital Ledger: Is Islam Ready for Cryptocurrency? " *Social Science Research Network*, *SSRN Scholarly Paper*, August 9, 2025.

[19] Wael Dammak et al., "AI Companies' Strategies with Traditional vs. Digital Assets amid Geopolitical and Banking Crises", *Heliyon* 10/23 (December 15, 2024), e40382.

[20] Mehrara Mohsen et al., "Evaluating Oil- and Gold-Backed Cryptocurrencies in Sanctioned Economies: Valuation, Stability, and Cryptographic Dimensions", *Iranian Journal of Economic Studies* 14/1 (2025), 61–80.

Overall, the literature indicates that gold-backed cryptocurrencies represent an attempt to integrate the relative stability of gold with the advantages of blockchain or distributed ledger technology. They may partially reduce volatility compared to unbacked cryptocurrencies, though they remain influenced by the structural characteristics of the digital asset market. The studies also emphasize that transparency and the ability to redeem physical gold constitute cornerstones for enhancing economic confidence and enabling Shariah compliance. Nevertheless, most studies focus either solely on financial analysis without in-depth juristic assessment or on theoretical Shariah analysis without extensive economic testing. Few studies combine both perspectives within an integrative framework that accounts for legal, governance, and auditing structures.

The previous studies highlight the economic and juristic challenges associated with cryptocurrencies, particularly regarding value instability and weak monetary characterization. Based on these findings, this study seeks to provide a balanced approach that reconciles economic efficiency with Shariah compliance through the model of gold-backed cryptocurrencies, offering a practical framework to support value stability and contribute to juristic acceptability when supported by appropriate legal, governance, and auditing structures. In this context, the study explores the potential of addressing existing challenges by linking cryptocurrencies to gold, a tangible asset with historical monetary significance. It further examines whether such a linkage may contribute to addressing the juristic concerns associated with cryptocurrencies and how it may affect their legal characterization in light of the Shariah criteria for valid money.

Methodology

This study adopts a qualitative analytical research design grounded in critical conceptual juristic evaluation. The rationale for employing a qualitative approach stems from the evolving and conceptually complex nature of gold-backed cryptocurrencies, particularly in relation to their economic foundations and juristic characterization. Since the subject concerns normative assessment and theoretical reconstruction rather than empirical measurement, an in-depth analytical methodology is considered particularly appropriate. Empirical findings are also incorporated where relevant to support the normative evaluation of the subject.

The methodology proceeds in three interrelated stages. First, the study undertakes a systematic examination of key economic concepts associated with cryptocurrencies and gold. This includes an exploration of cryptocurrencies' origin, structural features, and economic functions, with particular emphasis on issues of value formation and value support as a monetary reference within decentralized financial systems.

In this stage, the study also evaluates the model of gold-backed cryptocurrencies as a potential regulatory and economic alternative to unbacked cryptocurrencies.

Second, a critical juristic analysis is conducted to survey and assess contemporary scholarly opinions regarding the legal status of cryptocurrencies. This stage integrates economic analysis with juristic reasoning in order to examine the implications of gold backing for the reassessment of the effective legal causes (*'ilal*) governing monetary rulings, particularly in terms of how they are applied and operationalized. Attention is given to the concepts of monetary value status (*thamaniyyah*), general acceptability, and their relationship to the principles regulating uncertainty (gharar), risk, and liability, as well as additional juristic concepts relevant to gold-backed cryptocurrencies, including qabd (constructive possession), ṣarf, ribā, redemption rights, reserve ownership, and ḍamān (liability).

Finally, drawing upon contemporary juristic scholarship and relevant institutional resolutions issued by Islamic jurisprudential bodies, the study synthesizes the analytical findings into a normative framework aimed at structuring the evaluation criteria for the subject. This framework is intended to bridge financial and Shariah perspectives and to guide the ongoing economic and juristic discourse concerning the future of cryptocurrencies and crypto-assets, particularly in scenarios where they are anchored to clear material and regulatory references.

1. Regulatory and Functional Framework for Gold-Linked Cryptocurrencies

Building on the normative framework derived from contemporary juristic scholarship and resolutions issued by Islamic jurisprudential bodies, this section operationalizes the proposed evaluative criteria into a regulatory and functional model. It translates the findings into structured governance parameters intended to guide the practical design and assessment of gold-linked cryptocurrency systems.

Such legislation could regulate cryptocurrency trading, ensure transparency in the circulation of crypto-assets through clearly defined disclosure and reporting requirements, and subject them to supervisory and compliance auditing mechanisms comparable, in certain respects, to those applied by financial regulatory authorities over licensed financial institutions. This would enhance consumer protection, market integrity, and the overall reliability of the crypto-asset ecosystem.

In this scenario, cryptocurrencies may resemble, in certain respects, regulated digital monetary instruments such as tokenized representations of bank liabilities, where such structures exist under formal banking regulation and legal authorization, and may in limited aspects approach characteristics associated with widely used mone-

tary instruments. However, this characterization presupposes specific conditions, including legal recognition, reserve segregation, redemption rights, and clear governance structures.

It could further be stipulated that holders have a defined right of access to a monetary reference—namely gold—through redemption or value linkage mechanisms, similar to historical monetary arrangements in which currency value was tied to a specified asset benchmark.[21]

Since the currency would thereby benefit from issuer backing while remaining subject to regulatory oversight, it would likely achieve greater acceptance among users, as it would resemble checks linked to identifiable accounts, where the holder is entitled to the value specified therein. Likewise, the holder of a cryptocurrency would hold a claim to an equivalent value in gold corresponding to the units held. Moreover, given the cryptographic technologies underpinning such currencies, which are resistant to tampering and unauthorized intrusion, security risks could be reduced, although significant risks in cryptocurrency systems would remain. Thus, the digital currency would resemble checks in terms of its claim-based function, while it would resemble paper money in its role as a widely accepted medium of exchange linked indirectly to gold.

Once official digital currency linking them to gold becomes a more feasible option. Central banks could support them with verifiable gold reserves, thereby providing reliable backing beyond purely algorithmic stablecoin structures. Under such a model, each digital unit could be convertible into a specified quantity of gold, subject to the conditions of lawful exchange and valid possession (qabḍ) of the underlying gold, thereby enhancing confidence and value stability while preserving the technical advantages of cryptocurrencies, such as divisibility and ease of cross-border transfer.[22] Accordingly, deriving value from an asset with historical monetary significance and relatively stable value characteristics may reduce severe price volatility and strengthen capital security, thereby mitigating certain credit-related and Sharʿī concerns associated with cryptocurrencies, although issues related to ribā and ṣarf, qabḍ (possession), redemption (itfā'), reserve ownership, regulatory oversight, and custody risk may still

[21] Michael Chak Sham Wong - Imran Yousaf "CBDCs, Regulated Stablecoins and Tokenized Traditional Assets under the Basel Committee Rules on Cryptoassets", *Journal of Financial Regulation and Compliance* 33/1 (November 28, 2024), 31–47.

[22] Irma Naddiya Mushaddik et al., "Integrating Gold-Backed Cryptocurrency for Blockchain Net Settlement to Achieve Future Economic Stability", *Journal of Islam in Asia* 20/2 (June 26, 2023), 304–344.

remain. In particular, the model may significantly reduce the major gharar arising from extreme price volatility and uncertainty of value.

Adopting a gold-backed digital currency model may also serve several strategic objectives, most notably: curbing illicit uses by integrating such currencies into an official regulatory framework including licensing, AML/CFT compliance, reserve audits, custody rules, user protection, and Sharīʿah supervisory mechanisms; strengthening transactional confidence, thereby supporting the protection of wealth, reduction of gharar, and realization of public interest; and reducing excessive dependence on dominant currencies in international trade, a consideration primarily grounded in maqāṣid al-sharīʿah and economic maslahah rather than a direct Sharʿī requirement. Furthermore, this approach could provide states with a degree of monetary reconfiguration and limited financial independence within the constraints of reserve-backed issuance, potentially reducing reliance on dominant currencies and allowing diversification of reserve structures, although without fully eliminating exposure to global financial cycles, while limiting the transmission of global crises associated with the conventional monetary system. These considerations reinforce the rationale for examining such linkage from both economic and Sharʿī perspectives.

The impact of linking cryptocurrencies to gold would not be confined to their functioning as mere electronic certificates representing gold value, and a clear distinction must be maintained between mere value representation and structures that confer actual ownership or redemption rights over the underlying gold. Rather, they would be expected to acquire a composite value understood as a combined economic, monetary, Sharʿī, and user-trust-based valuation framework, combining the historical monetary significance and reserve-asset character of the underlying gold asset, widespread usability, transactional speed, and the strength of the supporting sovereign authority—much as paper money derives strength from the issuing state. Accordingly, a gold-backed digital currency that satisfies standards of efficiency and stability could compete with other currencies in the digital currency market.

This transformation may be interpreted with certain qualifications in light of Gresham's Law, which posits that when two forms of money are assigned the same nominal value despite differences in their intrinsic or market value,[23] the currency perceived as having lower intrinsic value remains in circulation while the currency perceived as having higher intrinsic value is hoarded. However, the applicability of this principle

[23] Frank Whitson Fetter, "Some Neglected Aspects of Gresham's Law", *The Quarterly Journal of Economics* 46/3 (1932), 480–495.

to a gold-backed digital currency and fiat currency may be limited in the absence of a fixed exchange rate between them, as under free-market conditions users may instead prefer the more reliable, stable, and widely accepted monetary instrument.

However, linking cryptocurrencies to gold, coupled with effective sovereign backing, may in some circumstances increase the attractiveness and perceived stability of a gold-backed digital currency relative to certain fiat currencies. This, in turn, may contribute to greater confidence in such a currency and potentially broaden its use.

2. The Shariah Ruling on Cryptocurrencies after Gold Backing

Empirical market data on cryptocurrencies indicates that, over the period 2016–2024,[24] the continued use of cryptocurrencies in their existing operational form has been associated with sustained network growth and increased adoption rates across users and exchanges, suggesting their expansion and proliferation. Consequently, it becomes necessary to address the Sharʿī implications of cryptocurrencies and to find solutions to the jurisprudential issues surrounding their use. Jurists and scholarly councils are therefore obliged to develop criteria for their assessment and possible adoption, including guidelines for their lawful use, restriction, or prohibition and to clarify the rulings governing transactions involving them. Governments are likely to seriously consider regulating cryptocurrencies and developing appropriate supervisory frameworks or official digital currency initiatives given their rapid global dissemination, in order to safeguard rights in financial dealings and ensure that such transactions comply with the principles established by Islamic law.

The absence of a guarantor for transactions, the lack of a central authority controlling issuance, and the absence of tangible (physical) value are among the main reasons cited by some contemporary jurisprudential councils and scholarly bodies in their Sharʿī rulings on cryptocurrency transactions. In principle, these concerns may be partially mitigated through a gold-linked structure; however, this does not automatically eliminate the underlying legal causes, as the effectiveness of such a structure depends on conditions such as reserve adequacy, segregation of gold reserves, actual ownership by token holders, redemption (itfāʾ) mechanisms, realization of valid possession (qabḍ), issuer or custodian liability, regulatory oversight, and the persistence or reduction of price volatility.

[24] The Cambridge Centre for Alternative Finance, *The 2nd Global Crypto asset Regulatory Landscape Study* (Cambridge: University of Cambridge, 2024).

2.1. Issuing Authority, Guarantee, and Reserve Backing

State-issued digital currency may require external support to achieve economic security and to guarantee the rights of their users, which can be provided through state backing, rendering them analogous to "fiat" currencies—currencies whose value derives not only from official sovereign recognition but also from legal tender status, central bank policy, tax settlement utility, and broader institutional trust. States may in principle explore such currencies, and some preliminary efforts, such as China's experiments with the digital yuan, have already been undertaken as examples of state-issued digital currency initiatives, though not necessarily linked to gold backing.[25]

2.2. Achieving Monetary Value (*Thamaniyah*) through Gold

Linking cryptocurrencies to another currency does not fully resolve the question of monetary value, since fiat currencies, while lacking intrinsic physical value, acquire their monetary function through legal recognition, state authority, monetary policy frameworks, and widespread public acceptance as a medium of exchange and store of value.

One proposed approach to enhancing the *thamaniyyah* (monetary value) of cryptocurrencies is to associate them with gold as a reference asset, given its long-standing role as a store of value and pricing benchmark in monetary history. In this context, gold is often treated as a relatively stable asset; however, its value is not absolutely fixed and remains subject to market fluctuations driven by global liquidity conditions, interest rates, and geopolitical factors. Accordingly, the claim that gold represents the most effective or exclusive means of stabilizing value requires further substantiation rather than being assumed as definitive. Unlike fiat money, which may experience inflationary pressures and periodic revaluation, gold is widely regarded as a durable store of value, although not immune to price volatility. Therefore, the relationship between cryptocurrencies and gold should be understood not as eliminating value instability, but as potentially providing a reference benchmark that may assist in valuation and accounting.

From a jurisprudential perspective, linking cryptocurrencies to a tangible or reference asset such as gold does not in itself determine their zakāh status. Rather, zakāh applicability depends on the legal characterization (taʿyīn al-niẓām al-fiqhī) of the

[25] Changchun Mu, "Theories and Practice of Exploring China's e-CNY", *Data, Digitalization, Decentralized Finance and Central Bank Digital Currencies: The Future of Banking and Money*, ed. Andreas Dombret - Patrick S. Kenadjian (Berlin: De Gruyter, 2023), 179–190.

crypto-asset,[26] including whether it is treated as a medium of exchange, a tradable asset, or a form of investment holding with measurable market value. Contemporary juristic discussions generally indicate that assets with realized and measurable value may enter the zakāh base, yet the applicable nisāb and classification remain contingent upon the specific structure and function of the asset.[27] Accordingly, while asset-backing or gold-referencing mechanisms may contribute to the stabilization and valuation framework of cryptocurrencies, they do not independently settle the legal classification or zakāh rulings. These determinations remain dependent on the underlying economic function and juristic characterization of each crypto-asset type within contemporary financial practice.

2.3. Stability of Digital Currency Value When Linked to Gold

Regarding the temporal stability of cryptocurrency value, this issue has clear parallels in Islamic jurisprudence concerning fiat money, particularly in discussions on debt repayment in cases of currency value fluctuations. Contemporary juristic debates on this matter are often situated within broader classical and modern fiqh discussions on monetary depreciation and the obligation of repayment in changing economic conditions. Scholars are divided on this issue.

However, when drawing analogies between fiat currency debts and cryptocurrency obligations, several relevant distinctions must be taken into account including legal recognition, the degree of public acceptance as a medium of exchange, volatility of value, the presence or absence of an issuing authority, and the underlying juristic characterization of the instrument in question.

The majority of Mālikīs[28], Shāfiʿīs[29], and Ḥanābilīs[30] hold that debts should be repaid in equivalent units rather than adjusted for changes in value.[31]

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26 Ali Al-Qaradaghi, "*Are paper money like dirhams and dinars in all rulings?*" (Access 23 May 2025).

27 International Islamic Fiqh Academy (IIFA), "*Electronic Currencies*", (Access 26 April 2026).

28 Abū ʿAbd Allāh Muḥammad al-Kharashī, *Sharḥ Al-Kharashī ʿalā Mukhtaṣar Khalīl* (Egypt: al-Maṭbaʿa al-Amīriyya bi-Būlāq, 1317), 5/103. "Repayment by equivalent (mithl) constitutes the predominant principle governing the discharge of loan obligations in Islamic jurisprudence".

29 Abū Isḥāq Ibrāhīm ibn ʿAlī al-Shīrāzī, *Al-Muhadhdhab Fi Fiqh al-Imam al-Shafi'i* (Beirut: Dār al-Kutub al-ʿIlmiyyah, 1995), 2/85. "The borrower must repay an equivalent (mithl) for fungible property, as the very nature and legal effect of a qard contract entail the restitution of an equivalent rather than a monetary valuation".

30 Ibn Qudāmah al-Maqdisī, *Al-Mughnī* (Riyadh: Dār ʿĀlam al-Kutub, 1997), 6/ 434. "It is obligatory to return the equivalent (mithl) in measurable and weight-based commodities. We do not know of any disagreement regarding this".

31 Ahmed al-Sharbīnī, *Nihāyat Al-Muḥtāj* (Bayrūt: Dār al-Kutub al-ʿIlmiyyah, 2002), 3/217.

In contrast, Abū Yūsuf, followed by the Ḥanafīs, maintains that repayment should reflect the equivalent monetary value, considering appreciation or depreciation. "A loan is discharged through repayment in kind or by its equivalent value. Accordingly, if the parties mutually agree upon a settlement other than the exact equivalent or assessed value, the liability of the borrower is deemed extinguished."[32]

In the context of linking cryptocurrencies to gold, value fluctuations may still occur; however, such volatility is expected to be lower compared to unbacked cryptocurrencies, as their value is anchored either fully or partially to gold as a reference asset. Nevertheless, this does not imply absolute stability, since gold prices themselves are subject to market-driven fluctuations over time. Even if the market price of gold rises or falls, it may function as a safe-haven asset during periods of economic or financial stress. However, it is still subject to significant price fluctuations influenced by interest rates, the US dollar exchange rate, geopolitical risks, and central bank policies. Nevertheless, such volatility is generally less pronounced than that observed in highly volatile cryptocurrencies. In times of major economic crises or wars, gold is often regarded as safe haven, reinforcing the stabilizing effect of gold-backed cryptocurrencies.

Conclusion

This study argues that the challenges associated with unbacked cryptocurrencies are not primarily rooted in the underlying blockchain technology itself, but rather in the extent to which such instruments can satisfy essential monetary attributes, including value measurability, relative stability, and enforceable guarantee—criteria that are central to the Sharʿī conception of money. However, the terminology requires precision, as "currency," "asset," and "monetary instrument" are often used interchangeably despite carrying distinct legal and economic implications.

Within this framework, while gold is frequently employed as a reference asset due to its historical role as a store of value, its stability should be understood in relative rather than absolute terms, given its exposure to macroeconomic variables such as interest rates, exchange rate dynamics, and geopolitical uncertainty. Accordingly, its stabilizing function should be interpreted as comparative—particularly in relation to highly volatile unbacked cryptocurrencies—rather than as an inherent absence of price fluctuation.

Furthermore, the effectiveness of a gold-linked digital currency is contingent upon the structure of issuance and governance. A model involving regulated sovereign

[32] Muḥammad Amīn Ibn ʿĀbidīn, *Hāshiyat Radd Al-Muḥtār ʿalā al-Durr al-Mukhtār* (Egypt: Maṭbaʿat Muṣṭafā al-Bābī al-Ḥalabī, 1966), 4/516.

issuance may enhance credibility, reduce informational asymmetries, and strengthen market confidence; however, such an arrangement does not eliminate financial risk but rather redistributes and manages it within a controlled monetary framework.

The study also indicates that the gold-backed digital currency model is theoretically capable of balancing financial innovation with the objectives of Sharʿī law in preserving wealth and preventing uncertainty (*gharar*). From an economic perspective, the gold backing may enhance the credibility of the digital currency and may increase its usability as a medium of exchange and a store of value, as these are the two primary monetary functions targeted in this model. However, it is explicitly not designed to function as a unit of account, and this limitation should be clearly acknowledged in assessing its monetary role, although it may potentially attract a broader segment of investors and users who would benefit from its speed and global transferability. From a Sharʿī perspective, the mitigation or partial removal of some principal grounds for prohibition—particularly weak claim to thamaniyyah, extreme volatility, and lack of legal guarantee—opens the door for a conditional reconsideration of the Shariah ruling on transactions involving such currencies, once the requisite safeguards are achieved.

The findings further indicate that the success of this model remains contingent upon several practical requirements, foremost among them: a clear regulatory framework, verifiable gold reserves, transparency in issuance and redemption mechanisms, and institutional oversight to limit illicit use. There is also a continuing need for further empirical studies and market testing to assess the practical feasibility of this model across diverse economic environments.

In summary, if well-designed and properly regulated, linking cryptocurrencies to gold could contribute to a more stable digital financial environment aligned with Islamic economic principles. This would require clear and verifiable safeguard mechanisms, including reserve transparency, enforceable redemption rights, defined ownership structures, and effective regulatory oversight. Accordingly, such a framework may provide policymakers and researchers with a promising basis for integrating monetary innovation within Shariah-compliant safeguards. It could also support the development of a more flexible and efficient Islamic financial system capable of adapting to rapid digital transformations.

The study recommends that central banks and regulatory authorities in Muslim-majority countries conduct in-depth applied research on the feasibility of issuing gold-backed official cryptocurrencies, establishing strict regulatory frameworks that ensure full transparency regarding gold reserve holdings and issuance/redemption mechanisms. It also advises forming joint Sharʿī-economic committees to monitor the emer-

ging jurisprudential treatment of these currencies in light of technological developments, enhancing international cooperation for the exchange of expertise and regulatory standards, and developing secure digital infrastructure to curb illicit use. Pilot projects under official supervision are also recommended to evaluate economic and stability impacts before broad implementation, achieving a balance between financial innovation and the requirements of stability and Sharʿī compliance.

Ethical Statement/Etik Beyan: It is declared that scientific and ethical principles have been followed while carying out and writing this study and that all the sources used have been properly cited./Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.

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