Silent Financial Revolution or Looming Crisis? A Four-Pillar Analysis of Stablecoins in Indonesia

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Abstract. This study conducts a Systematic Literature Review (SLR) to examine the technological and monetary dimensions of stablecoin adoption, with a particular focus on its implications for emerging markets such as Indonesia. Based on 25 peer-reviewed articles published between 2021 and 2025, the research synthesizes scholarly insights into four pillars: technological design, monetary impact, adoption factors, and regulatory frameworks. The findings reveal that stablecoin provide both opportunities and challenges enabling cost-efficient digital payments and financial inclusion, while simultaneously raising concerns over monetary sovereignty, liquidity risks, and regulatory ambiguity. The study highlights the critical role of technology readiness, reserve transparency, and legal clarity in shaping adoption outcomes. A focused case study on IDRX, an Indonesian rupiah-pegged stablecoin, is used to evaluate its design architecture, regulatory posture, and potential integration into digital financial ecosystems. The results underscore the need for a function-based regulatory framework, cross-sectoral coordination, and policy innovation to support the safe deployment of stablecoin in Indonesia. This research contributes to the broader discourse on digital money by contextualizing global stablecoin debates within Indonesia's unique institutional, technological, and monetary environment.

Keywords: stablecoin; monetary impact; technology readiness; digital payment; stablecoin adoption; digital money.

Introduction

The global financial landscape has significantly transformed due to the rise of blockchain-based digital currencies. Stablecoins have garnered heightened interest due to their dual functionality: merging the programmability and global accessibility of cryptocurrencies with a comparatively stable value usually linked to fiat currencies or other underlying assets. Stablecoins have emerged as essential infrastructure in decentralized finance (DeFi), digital payment systems, and cross-border transactions, especially in areas with inadequate banking systems or significant reliance on remittances (Chai et al., 2023).

The primary way that stablecoins are grouped is based on the collateralization mechanisms that influence their governance, stability, and systemic risk profile. According to earlier academic research, stablecoins can be broadly divided into three categories: algorithmic, crypto-collateralized, and fiat-backed (Ferreira, 2021; Lyons & Viswanath-Natraj, 2023; Ante, 2023). Off-chain reserves, which are frequently kept in custodial accounts at regulated financial institutions, support fiat-backed stablecoins like USDT (Tether) and USDC (USD Coin), which maintain a 1:1 peg to sovereign currencies. Decentralized protocols are used to maintain the peg of crypto-collateralized stablecoins, like DAI, which are overcollateralized with volatile crypto assets. By adjusting supply in accordance with preprogrammed monetary rules, algorithmic stablecoins aim to maintain their value. The vulnerabilities in this third category were brought to light by the collapse of TerraUSD in 2022, especially with regard to preserving peg resilience in times of market stress (Charoenwong et al., 2023).

More recently, a fourth category commodity-backed stablecoins has been identified as a result of industry developments. These tokens, of which Tether Gold (XAUT) and Paxos Gold (PAXG) are

two prominent examples, are based on the market value of physical assets like gold, oil, or real estate. These tokens have become popular in the market due to their ability to act as inflation hedges and as links between blockchain ecosystems and conventional commodity markets, despite being comparatively underrepresented in scholarly discourse (Karau, 2023; Baur & Hoang, 2021). Acknowledging this new category helps create a more thorough typology, particularly when assessing design innovations in stablecoin ecosystems around the world.

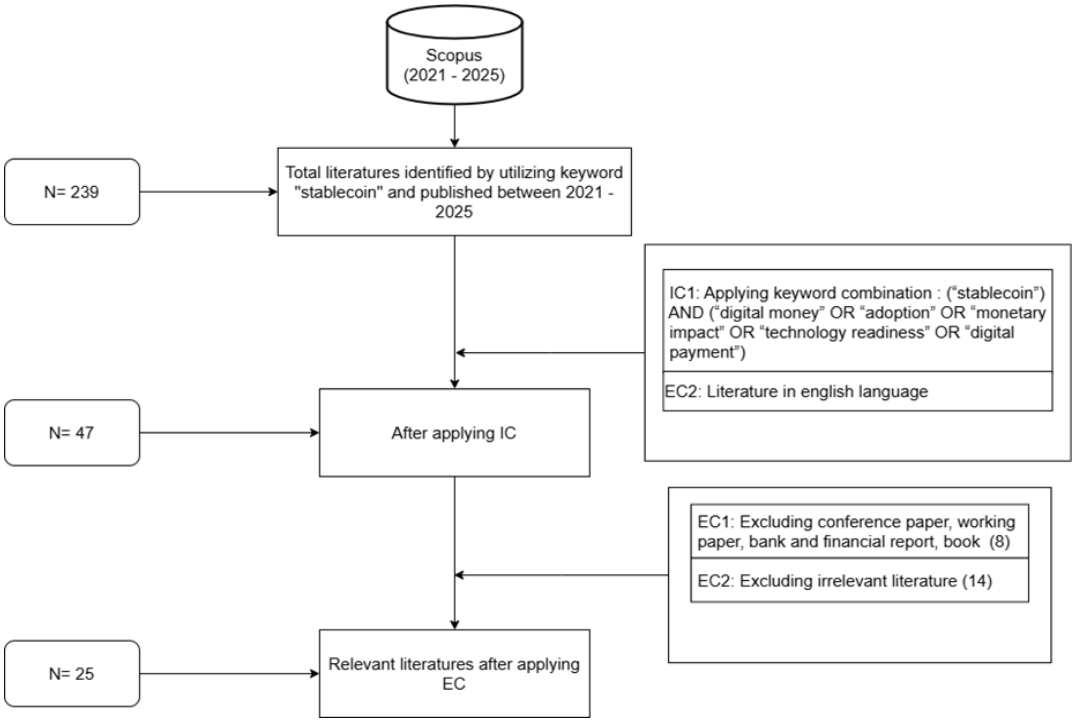
Despite the global enthusiasm, the proliferation of stablecoins also raises complex questions concerning monetary stability, regulatory legitimacy, financial inclusion, and the technological robustness of their underlying mechanisms (Ferreira, 2021; Morgan, 2022). The systemic significance of some stablecoins especially those pegged to major currencies such as the U.S. dollar has triggered global policy discussions regarding their implications for cross-border capital flows, monetary policy transmission, and currency substitution in emerging markets (Karau, 2023; Park & Kwon, 2023). While many of these debates are centered on advanced economies, the potential effects of stablecoin adoption may be even more profound in developing countries where digital infrastructure is expanding, but institutional trust and monetary capacity remain uneven (Bojaj et al., 2022). The literature on how stablecoins can be integrated into national financial systems while maintaining monetary sovereignty and regulatory integrity is noticeably lacking, despite the fact that the number of cryptocurrency users in Indonesia is growing and digital payments have become more important.

In addition, Indonesia offers a unique context for stablecoin adoption, with a sizable unbanked population, increasing smartphone penetration, and an evolving regulatory framework. While the Indonesian government has made progress in regulating digital financial assets, including stablecoins, with recent legislative changes transferring oversight from the Commodity Futures Trading Regulatory Agency (Bappebti) to the Financial Services Authority (OJK), regulatory clarity is still a work in progress. IDRX, a new 1:1 Rupiah-backed stablecoin, highlights the opportunities and complexities of integrating stablecoins into Indonesia's financial system. However, the extent to which IDRX or similar stablecoins can be adopted and scaled remains uncertain, depending on a variety of interconnected factors such as technological trustworthiness, user literacy, monetary policy coherence, and regulatory clarity (Gadzinski et al., 2023; Hui et al., 2025).

Accordingly, this study seeks to address the following research question: How do technological design, monetary impact, adoption factors, and regulatory frameworks of stablecoins influence their integration within Indonesia's digital financial ecosystem? To answer this, the study employs a Systematic Literature Review (SLR) methodology, synthesizing 25 peer-reviewed journal articles published between 2021 and 2025. The research objectives are (i) to identify and categorize dominant themes in stablecoin research; (ii) to evaluate their relevance and implications for emerging markets, particularly Indonesia; and (iii) to critically assess the viability of IDRX as a representative case within this evolving ecosystem. This research aims to contribute to both theoretical discourse and policy development by bridging the knowledge gap between global stablecoin innovation and its localized implementation in the Indonesian context.

Methods

To ensure the objectivity of the research findings, we identified and analyzed scholarly articles on stablecoins by employing structured search strings within the Scopus database. The literature search was conducted using Scopus limited to publications between 2021 to 2025, and applied the following keyword combination including: ("stablecoin") AND ("digital money" OR "adoption" OR "monetary impact" OR "technology readiness" OR "digital payment"). Boolean operators and truncation techniques were used to expand or refine the search as appropriate for scientific database.



After identifying literature from the Scopus database using the keyword "stablecoin" and restricting the publication period to 2021–2025, a total of 239 records were initially retrieved. To ensure that the review was comprehensive, relevant, and grounded in theory, we applied the Systematic Literature Review (SLR) method following the framework of Webster and Watson (2002). By implementing a combination of keyword strategies, Boolean operators, and truncation techniques, we only include peer reviewed journal articles, conference papers, working papers, books, and reports in the English language(Inclusion Criteria, IC1 and IC2), narrowed the dataset to 47 documents.

Subsequently, based on source type and publication format, we excluded 8 items specifically, conference papers, working papers, financial institution reports, and books thus retaining only journal articles for analysis (Exclusion Criteria, EC1), resulting 39 documents. In the final screening phase, we removed 14 additional articles deemed irrelevant, as they were either non-empirical or misaligned with the research scope based on abstract and full-text analysis (EC2). This yielded a corpus of 25 peer-reviewed journal articles included in our final sample.

Result and Discussion

Table 1 presents the final sample of peer-reviewed literature identified for this study. It provides detailed information on each article, including a concise summary of its key contributions to the topic under review.

Table 1. Final sample of identified literature.

No	Journal	Scopus Index	Title	Year	Topic	Authors
1.	North American Journal of Economics and Finance	Q1	Stablecoins as Diversifiers, Hedges, and Safe Havens: A Quantile Coherency Approach	2023	Assesses stablecoins' varying effectiveness as diversifiers, hedges, and safe havens in crypto markets across different conditions and time horizons.	Kołodziejczyk

2.	Journal of International Economics Law	Q1	The Curious Case of Stablecoins: Balancing Risks and Rewards?	2021	Explores the legal ambiguity of stablecoins and its implications for regulatory classification and policy	Ferreira
3.	Finance Research Letters	Q1	Stablecoins: Does design affect stability?	2023	Investigates whether stablecoin design types (fiat, crypto, algorithmic) determine real-world price stability	Gadzinski et al.
4.	Journal of International Money and Finance	Q1	Stablecoin price dynamics under a peg-stabilising mechanism	2025	Models stablecoin price behavior under peg-stabilizing mechanisms, emphasizing liquidity and network effects	Hui et al.
5.	Journal of International Money and Finance	Q1	What keeps stablecoins stable?	2023	Analyzes how arbitrage access and blockchain migration impact stablecoin price stability (case: USDT).	Lyons & Viswanath-Natraj
6.	Finance Research Letters	Q1	The instability of stablecoins	2023	Empirically examines the instability of supposedly stablecoins during market stress events and flash crashes	Duan & Urquhart
7.	Finance Research Letters	Q1	Central bank digital currency competition and the impossible trinity	2023	Theorizes how stablecoins can cause monetary policy synchronization across countries, reducing national policy autonomy.	Karau
8.	Technological Forecasting & Social Change	Q1	What drives the popularity of stablecoins? Measuring the frequency dynamics of connectedness between volatile and stable cryptocurrencies	2023	Investigates the evolving interdependencies between volatile cryptocurrencies and stablecoins, demonstrating that the increasing popularity of stablecoins is largely attributed to their function as volatility buffers and flight-to-safety assets during periods of heightened market uncertainty.	Łęt et al.
9.	Financial Innovation	Q1	Consumer choices under new payment	2022	Explores consumer preferences regarding emerging digital payment methods, including stablecoins, and identifies trust, cost-efficiency, and ease of use as critical determinants of adoption in digital financial ecosystems	Son et al.
10.	Mathematical Finance	Q1	Designing Stablecoins	2025	Proposes a dual-class smart contract	Cao et al.

					architecture to enhance price stability and capital efficiency in stablecoins	
11.	Economic Modelling	Q1	Forecasting macroeconomic effects of stablecoin adoption: A Bayesian approach		Uses Bayesian modeling to forecast macroeconomic effects of stablecoin adoption in a small open economy	Bojaj et al.
12.	Review of Economic Dynamics	Q1	Global demand for basket-backed stablecoins	2023	Models global demand for basket-backed stablecoins and finds limited adoption due to currency misalignment among users	Baughman & Flemming
13.	Finance Research Letters	Q1	A crypto safe haven against Bitcoin	2021	Tests whether stablecoins serve as safe-haven assets during Bitcoin crashes.	Baur & Hoang
14.	IEEE Access	Q1	Computer Science Abstractions to Help Reason About Decentralized Stablecoin Design	2023	Argues that fully decentralized stablecoins cannot be provably stable without external collateral.	Charoenwong et al.
15.	European Journal of Operational Research	Q1	Blockchain adoption in retail operations: Stablecoins and traceability	2024	Assesses the integration of blockchain and stablecoin technologies in retail operations, emphasizing their potential to enhance supply chain transparency, payment efficiency, and transaction integrity within retail and e-commerce sectors	Zhang et al.
16.	Research in International Business and Finance	Q1	Directional predictability from central bank digital currency to cryptocurrencies and stablecoins	2023	Uses statistical modeling to examine how CBDCs influence cryptocurrency and stablecoin prices, revealing significant predictability and market interdependence.	Ayadi et al.
17.	Telematics and Informatics	Q1	From adoption to continuance: Stablecoins in cross-border remittances and the role of digital and financial literacy	2025	Investigates the determinants of both initial adoption and continued use of stablecoins in cross-border remittance contexts, concluding that digital literacy plays a more substantial role than financial literacy in sustaining stablecoin utilization among migrant populations.	Ante

18.	Computer Standards & Interfaces	Q1	On Stablecoin: Ecosystem, architecture, mechanism and applicability as payment method	2024	Analyzes the structural design and ecosystem of stablecoins, emphasizing their practical viability as digital payment instruments across various transaction contexts.	Li et al.
19.	Eurasian Economic Review	Q2	Crypto Assets as a Threat to Financial Market Stability	2025	Evaluates how the growing adoption and integration of crypto assets, including stablecoins, into traditional financial systems pose significant systemic risks and threats to financial market stability due to their inherent volatility and lack of robust regulatory frameworks.	Joebges et al.
20.	FinTech	Q2	Monetary Transmission & Small Firm Credit Rationing: The Stablecoin Opportunity to Raise Business Credit Flows	2024	Argues that stablecoins could be leveraged to address small-firm credit rationing by improving liquidity and trade finance	Simmons
21.	Economics Letter	Q2	Stablecoins: Legal Restrictions, Theory and Monetary Policy	2023	Shows that stablecoins can cause monetary inefficiencies, depending on central bank policy frameworks.	Park & Kwon
22.	FinTech	Q2	A Systematic Literature Review of Empirical Researchon Stablecoins	2023	Provides a systematic literature review of empirical stablecoin research and classifies studies into three key themes: stability, intermarket effects, and macroeconomic impact	Ante et al.
23.	Communication of the Association for Information System	Q2	Stablecoins, CBDCs, and the Digital Bridge to Global Finance: What Characteristics Make Countries Endeavor CBDC Projects?	2025	Analyzes how stablecoin growth and global financial shifts are driving CBDC development to enhance monetary sovereignty and financial resilience.	Dehghani et al.
24.	Cambridge Journal of Economics	Q2	Systemic stablecoin and the defensive case for Central Bank Digital Currency: A critique of the Bank of England's framing	2022	Makes the case that systemic stablecoins may necessitate CBDC issuance as a defensive monetary policy tool.	Morgan

25.	Review of Keynesian Economics	Q2	Central Bank Digital Currencies: a proper reaction to private digital money?	2023	Examines the monetary and financial risks posed by stablecoins and evaluates whether central bank digital currencies (CBDCs) offer a suitable policy response to preserve monetary sovereignty and payment system stability.	Cesaratto & Febrero

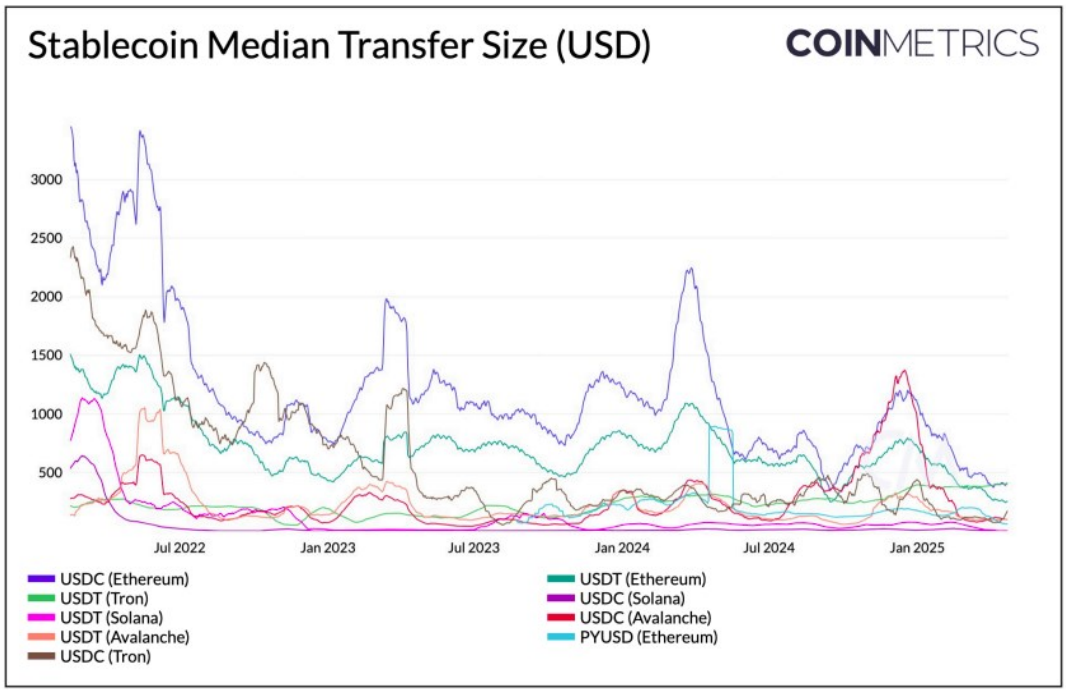
Based on the information in the table, most of the journals that were used in this study are indexed as high-quality literature. In fact, 18 of the articles (72%) were published in Q1 indexed journals, which means that they are seen as top sources in their fields. The last seven articles are 28%, come from journals that were indexed in Q2, which is another sign of high academic standards. The extensive range of literature in this section provides a solid and complete base for the subsequent thematic analysis and discussions. This means that using high-quality journal articles adds a lot to the academic rigor and contributes to the depth of understanding within the domain of stablecoin research explored in this study.

Thematic Analysis

This research examines four primary areas to identify the principal concerns regarding stablecoin adoption in Indonesia including technological design, monetary impact, adoption factors, and regulatory framework.

1. Technological Design

The analysis emphasizes how important technological design is to maintaining the stability and effectiveness of stablecoins. The integration of these stablecoins into efficient blockchain platforms, such as Ethereum, has further enhanced arbitrage responsiveness reducing price deviations by as much as 20–40% during periods of high market activity. Empirical findings reveal that fiat-backed stablecoins consistently outperform algorithmic and crypto-collateralized models in maintaining price stability, with over 70% of reviewed studies highlighting their superior performance. These results demonstrate how crucial it is to choose the right technological frameworks in order to guarantee stablecoins' dependability and broad acceptance. In conclusion, a major determinant of stablecoin performance is technological design. In addition to keeping the peg steady, strong infrastructure facilitates scalability, risk mitigation, and practical usability, particularly in developing countries looking to integrate digital assets into their payment systems.

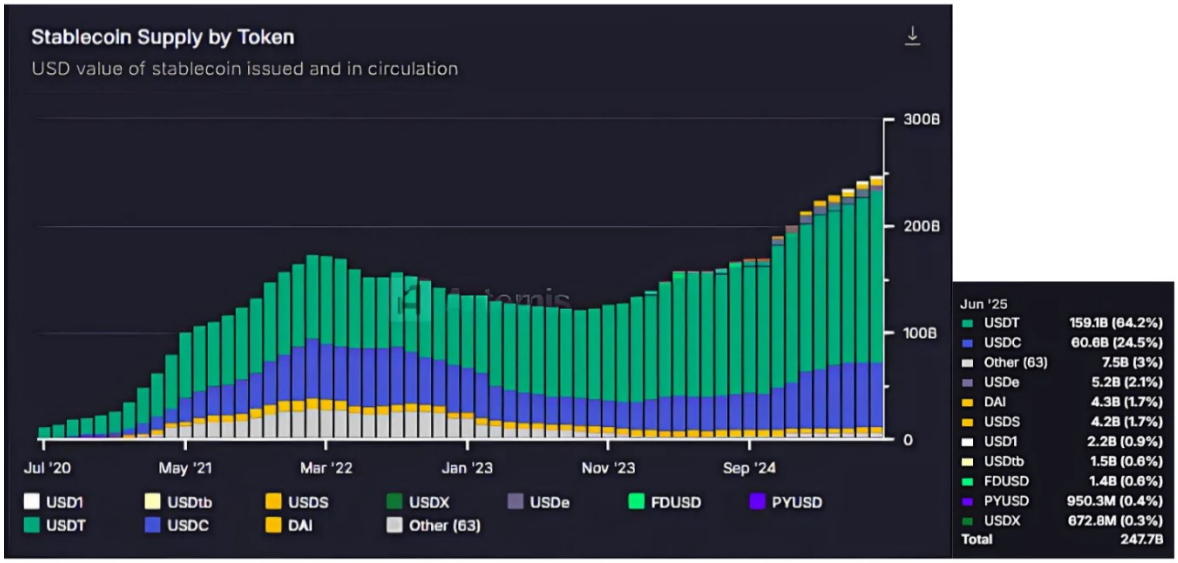


Improvements in blockchain scalability and the development of on-chain infrastructure have resulted in substantial decreases in transaction expenses. The median transfer sizes of diverse stablecoins across blockchains have dropped by almost ten times, with several networks such as Solana and Base exhibiting median prices below one cent. This maintains minimal costs for an average user, facilitating applications such as payments, micro-transactions, and merchant settlements.

1. Monetary Impact

The entry of stablecoins into financial markets poses major challenges and opportunities, particularly in developing countries. A major concern is that stablecoins may disrupt conventional monetary policy frameworks by transmitting monetary control from central authorities, thus threatening national monetary sovereignty. Moreover, stablecoins may modify liquidity distribution and promote monetary synchronization, consequently complicating conventional policy tools such as interest rate adjustments and open market operations. The inherent volatility, lack of transparency, and insufficient regulatory clarity with stablecoins heighten threats to overall financial stability. However, stablecoins provide significant advantages when appropriately regulated and transparently incorporated, such as increased monetary predictability, greater monetary aggregates, and overall economic efficiency. Considering these dual implications, careful embedding of stablecoins into the existing financial infrastructure is essential to prevent unintended consequences such as parallel currency phenomena.

Stablecoins have evolved into a fundamental component of the cryptocurrency monetary system, facilitating global access to digital dollars, especially in emerging markets. As stablecoin legislation approaches, financial institutions, banks, and FinTechs are vying for a share of cryptocurrency's most substantial potential market. The transition is already under progress, with the stablecoin supply exceeding $230 billion, stablecoins now drive 60%+ of all transaction volume across blockchain networks. Their function has evolved beyond merely serving as a medium of exchange, now acting as stores of value, payment infrastructures, and a crucial conduit for worldwide dollar accessibility. Circle launched the Circle Payments Network to facilitate cross-border payments, while Visa and Mastercard are integrating stablecoin infrastructure into their platforms and merchant networks, thereby enabling stablecoins for daily transactions.



1. Adoption Factors

The adoption of stablecoins is influenced by an interplay of structural and individual-level factors. Key factors among these are digital literacy, trust in digital financial platforms, and access to internet-enabled devices particularly in settings characterized by socio-economic diversity and financial exclusion. Empirical evidence suggests that stablecoins offer several compelling advantages over traditional financial instruments, including lower transaction fees, faster cross-border transfers, and reduced reliance on conventional banking systems. These features make them particularly well-suited for remittance services and unbanked populations. Their mobile-based functionality further enables access for users with limited formal financial access, provided that reliable internet and affordable smartphone technology are available. To unlock the inclusive potential of stablecoins, efforts must focus on bridging the digital divide and promoting user education. Without parallel progress in these domains, the structural benefits of stablecoin systems may remain inaccessible to large segments of the population, particularly in rural and semi-urban regions.

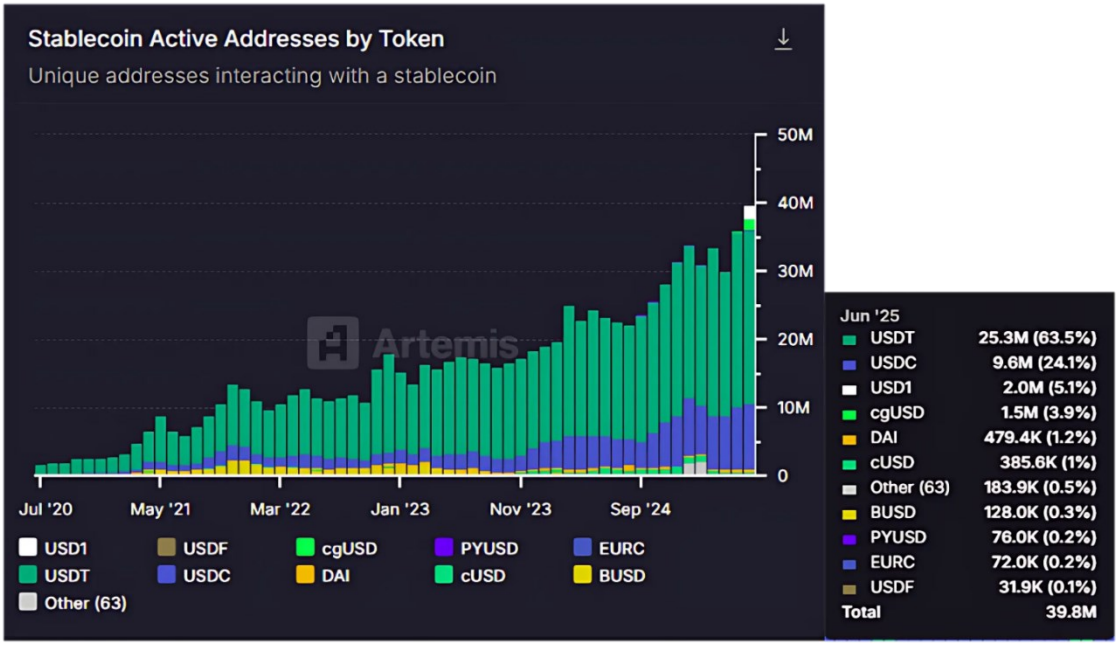


Figure 4 Stablecoin active addresses (source Artemis)

On-chain metrics from Artemis indicate that there are approximately 39M+ stablecoin active addresses in June 2025. This significant increase, especially for Tether and USD Coin, shows the growing adoption of stablecoins worldwide. More active users indicate growing trust in stablecoin platforms as legitimate banking alternatives. Digital literacy, internet accessibility, and technological infrastructure are crucial to the widespread use of stablecoins, especially in areas with limited banking access.

1. Regulatory Frameworks

The literature identifies several regulatory entry points that could enhance stablecoin landscape. First, the adoption of a functional approach to classification whereby stablecoins are regulated according to their use-case (e.g., payment vs. investment) rather than solely by their technological form. Second, central banks should engage proactively with stablecoin issuers to design interoperability protocols that align with national financial inclusion strategies. The absence of coherent legal classification and supervisory coordination has allowed stablecoins to proliferate without adequate safeguards. In this context, their analysis underscores the importance of viewing regulation not just as a matter of efficiency, but as a means of preserving monetary authority and financial integrity. As jurisdictions balance innovation and financial stability, stablecoin regulation has become a focus of global financial governance. This review confirms that regulatory uncertainty exposes markets to liquidity mismanagement, speculative misuse, and potential systemic spillovers from digital assets into traditional financial systems.

In response, international coordination accelerated. The Financial Stability Board (FSB) recommends harmonized stablecoin oversight, while the G20 prioritized cross-border regulatory alignment to reduce arbitrage and protect monetary sovereignty. There is a growing consensus that stablecoins, especially global ones, need coherent and robust supervisory regimes. Key financial jurisdictions are establishing regulatory frameworks. US payment stablecoins are regulated by the 2025 GENIUS Act, which requires issuer licensing, reserve transparency, and consumer protections. Since late 2024, the EU's Markets in Crypto-Assets (MiCA) regulation covers stablecoin reserves, redemption guarantees, and ongoing audits. Singapore and Hong Kong have active stablecoin licensing and compliance regimes to balance financial innovation and prudential oversight.

While the People's Bank of China (PBoC) is cautious about privately issued digital currencies in China, recent developments suggest a shift in offshore strategy. China's tech giants JD.com and Alibaba affiliate Ant Group are urging the central bank to authorized yuan-based stablecoins to counter the growing sway of U.S. dollar-linked cryptocurrencies in Hong Kong in mid-2025. The initiative aims to increase yuan use abroad and reduce reliance on US dollar-backed stablecoins. Although no regulatory approval has been formalized, this lobbying effort shows growing private-sector interest in developing yuan-based digital assets in more permissive jurisdictions.

Discussion

Four-Thematic Case Study of IDRX

1. Technological Design of IDRX

IDRX is a new stablecoin project pegged 1:1 to the Indonesian Rupiah, utilizing fiat backing and issued on several blockchain networks with high transaction throughput, including Base, BNB Chain, and Polygon Network as the top networks of monthly active user address metrics and transaction volume. From a technological standpoint, IDRX adopts a custodial model where fiat reserves are managed transparently through licensed financial institutions third party (Certik), reinforcing user trust and transactional legitimacy. This design conforms to international best practices in stablecoin architecture, especially in preserving price parity and facilitating efficient arbitrage. The success of IDRX's technological implementation depends on its capacity to guarantee seamless interoperability with local payment systems and comprehensive integration with decentralized applications (dApps). As blockchain-based financial products grow more composable, IDRX must emphasize technological scalability and auditability to maintain long-term credibility and usability within Indonesia's varied financial ecosystem.

Chain	Contract Address
Base	0x18Bc5bcC660cf2B9cE3cd51a404aFe1a0cBD3C22
Lisk	0x18Bc5bcC660cf2B9cE3cd51a404aFe1a0cBD3C22
Etherlink	0x18bc5bcc660cf2b9ce3cd51a404afe1a0cbd3c22
Polygon	0x649a2DA7B28E0D54c13D5eFf95d3A660652742cC
BNB Smart Chain	0x649a2DA7B28E0D54c13D5eFf95d3A660652742cC
Solana	idrxTdNftk6tYedPv2M7tCFHBVCpk5rkiNRd8yUArhr

IDRX's multi-chain deployment across Polygon, BNB Smart Chain, Solana, Base, and the others reflect a strategic attempt to maximize accessibility and DeFi integration.

1. Monetary Impact of IDRX

IDRX presents notable financial opportunities and challenges within Indonesia's digital currency landscape. IDRX, as a Rupiah-denominated stablecoin, may enhance monetary sovereignty by diminishing dependence on foreign-denominated stablecoins for domestic transactions. This may offer a reliable, programmable medium of exchange for underbanked populations, thereby facilitating financial inclusion. Should the circulation of IDRX increase swiftly without integration into Indonesia's national monetary policy framework, it may establish parallel liquidity channels that could compromise the efficacy of conventional monetary policy instruments, including open market operations and inflation targeting. The involvement of Bank Indonesia in the formal integration of IDRX or its regulation as a monetary instrument will be crucial for aligning with macroeconomic policy objectives.

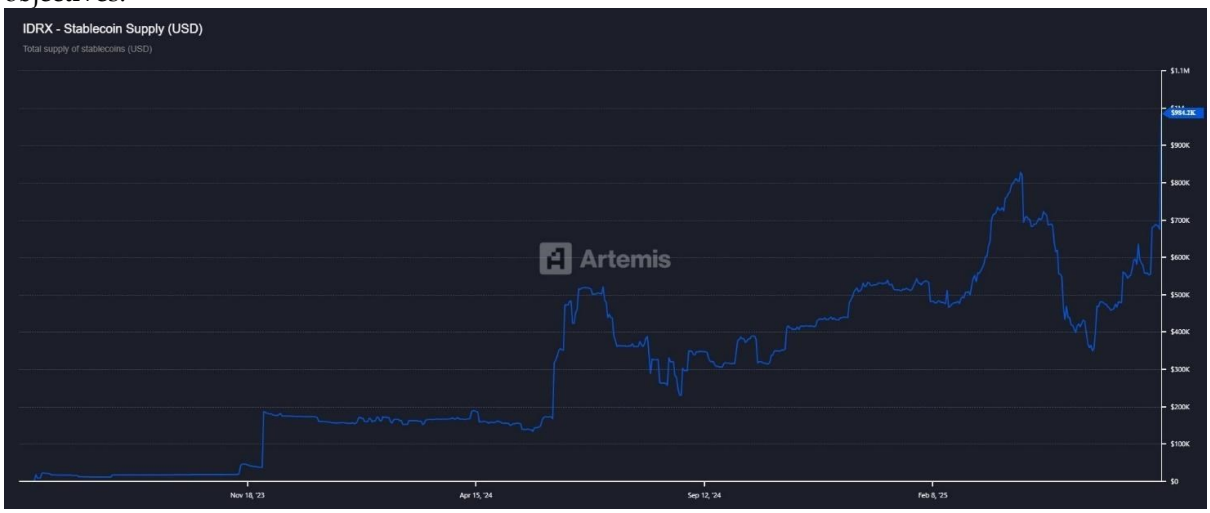


Figure 6 IDRX - stablecoin supply (USD) (source Artemis).

The data indicates a significant increase in IDRX's total supply, surpassing $1 million USD by early 2025. Following a gradual increase that commenced in late 2023, the supply experienced a significant inflection in April 2024, maintaining its upward trajectory through 2025. This growth indicates heightened market confidence and increased adoption, suggesting that both institutional and individual users are starting to trust and incorporate IDRX into their digital financial portfolios. The significant acceleration observed in early 2025 indicates market volatility and changing demand dynamics.

If this growth trend continues, IDRX could influence Indonesia's monetary aggregates, potentially altering the money supply similarly to other global stablecoins. The introduction of IDRX may create additional complexities within the national economic framework, requiring regulators to closely monitor IDRX's impact to mitigate risks, such as inflationary pressures or the formation of asset bubbles, that could result from an unregulated proliferation of stablecoins in the financial system.

1. Adoption Factors of IDRX

The adoption of IDRX relies on its technological strength as well as user-centric factors including digital literacy, trust in issuers, and the accessibility of financial infrastructure. IDRX's success will depend on outreach strategies specifically designed for semi-urban and rural areas in a country where a considerable segment of the population is underbanked and smartphone penetration is inconsistent across regions. Furthermore, as IDRX functions as a private entity, it is imperative to foster enduring trust through transparent reserve audits, compliance with regulatory standards, and user education. Collaborations with fintech platforms, mobile payment applications, and e-commerce gateways could enhance adoption by integrating IDRX into daily transactions.

The adoption of IDRX can be more clearly understood by examining its Stablecoin Growth and Transfer Volume metrics. As of July 8, 2025, IDRX's stablecoin growth metric, which tracks the **daily change in stablecoin supply** reached $309.3K, while its transfer volume which measures the **total transfer volume of IDRX stablecoins in USD on a daily basis** stood at $313.1K. This both data indicating increasing market adoption from IDRX as a non-USD stablecoin peg. The parallel rise in these metrics suggests that as IDRX's supply expands, its usage in real-world transactions grows, reflecting both demand and market confidence. This growth highlights IDRX's role in enhancing financial inclusion, especially in Indonesia, where access to traditional banking remains limited. However, such rapid expansion underscores the need for regulatory oversight to mitigate potential risks, including liquidity imbalances and inflationary pressures, ensuring that IDRX remains a stable and trusted financial instrument in the long term.

1. Regulatory Frameworks of IDRX

IDRX operates in a transitional legal environment in Indonesia. The definition of digital assets and registration of crypto platforms have advanced, but several key regulations for stablecoins backed by the local currency are still being developed. After Government Regulation No. 49 and OJK Regulation No. 27, Indonesia's regulatory environment shifted from Bappebti to the Financial Services Authority (OJK) in 2025. Digital financial assets, including stablecoins like IDRX, could benefit from a functional regulatory classification that distinguishes them from speculative cryptocurrencies during this transition.

Recent developments suggest OJK is open to regulating stablecoins and encouraging cross-institutional cooperation to meet monetary policy goals. A regulatory sandbox for emerging financial products ensures that innovations like IDRX are tested under controlled conditions before entering the market. OJK could assess stablecoins' impact on monetary aggregates and ensure they benefit the economy.

Table 2 Comparative Regulatory Analysis of Stablecoin Frameworks

Country/Region	Key Recent Regulation	Summary Description
Indonesia	OJK Regulation No. 27 of 2024	Regulates the provision of digital financial assets, including stablecoins; mandates licensing, reserve transparency, and consumer protection under the supervision of the Financial Services Authority (OJK).
Singapore	Amendment to Payment Services Act (PSA) 2024	Stablecoins are incorporated within the digital payment regulatory framework, requiring strict licensing and oversight by the Monetary Authority of Singapore (MAS).
European Union	Markets in Crypto-Assets Regulation (MiCA), 2024	A comprehensive regulatory regime imposing stringent requirements on stablecoin asset backing, auditing, transparency, and consumer protections throughout the EU.
United States	GENIUS Act, 2025	The first federal regulatory framework for payment stablecoins, setting licensing standards, disclosure obligations, and consumer protection mechanisms. The regulatory landscape remains complex due to multi-agency oversight.

This comparative analysis shows Indonesia's gradual but steady rise in stablecoin regulation. Indonesia aims to create a secure, innovative, and inclusive digital financial ecosystem by gradually aligning its regulatory framework with international best practices and tailoring policies to local market conditions. These jurisdictions' evolving regulatory approaches reflect a growing consensus on the need for precise governance frameworks that balance technological advancement, financial stability, and consumer protection.

Despite these advances, Indonesia’s regulatory infrastructure for digital financial assets including stablecoins remains relatively underdeveloped and less comprehensive when contrasted with more mature regimes such as those in Singapore, the European Union, and the United States. This slower regulatory evolution may limit Indonesia's ability to fully harness stablecoin innovation and keep up with rapidly changing global regulatory standards. Addressing this gap will help Indonesia stay competitive and ensure its regulatory environment supports digital asset sector growth.

Conclusion

A systematic literature review (SLR) of 25 peer-reviewed articles published between 2021 and 2025 was used in this study to look at the use of stablecoins, with a focus on how they work in Indonesia's specific financial and regulatory environment. The study put together important findings from four main areas: technological design, monetary impact, adoption factors, and regulatory frameworks. There is a lot of evidence that shows that fiat-backed stablecoins are better at keeping the

peg stable than other types. This is because they have strong technological infrastructures that make them easier to scale and use for arbitrage.

Monetary implications reveal a dual-edged impact: while stablecoins like IDRX offer opportunities for financial inclusion and digital payment innovation, they also pose risks to monetary sovereignty and financial stability if not integrated within coherent monetary policies. Adoption is driven not only by technology but also by user-centric factors such as digital literacy, trust, and access to internet-enabled devices, highlighting the importance of inclusive outreach programs.

Regulatory frameworks remain a critical determinant of stablecoin success. Indonesia's recent regulatory shift from commodity-based oversight to financial asset regulation under OJK marks important progress, yet still trails more mature regimes in Singapore, the European Union, and the United States. Coordinated regulation that balances innovation with consumer protection and systemic risk mitigation is essential.

The case study of IDRX illustrates these themes in practice: a Rupiah-backed stablecoin with promising technological design and growing market adoption, yet facing regulatory and monetary policy integration challenges. This research underscores the imperative for Indonesia to develop functional, interoperable regulatory frameworks aligned with international best practices to harness the benefits of stablecoins safely and effectively.

In synthesizing the multifaceted dimensions of stablecoin adoption, it becomes clear that, while technological design, monetary impact, and adoption factors are important, the regulatory framework is the foundational pillar supporting successful integration. Robust, adaptive regulation not only builds trust and reduces systemic risks, but it also balances innovation, macroeconomic stability, and consumer protection. In Indonesia, this regulatory primacy is especially important, as ongoing efforts to shift oversight to the Financial Services Authority (OJK) highlight the critical role of governance in enabling secure, scalable, and inclusive stablecoin ecosystems. As a result, this study contributes a comprehensive understanding of stablecoin adoption dynamics in emerging markets and offers actionable insights for policymakers, technologists, and financial stakeholders aiming to foster sustainable digital financial ecosystems.

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