

**CRYPTOCURRENCIES AND THEIR IMPACT ON FINANCIAL SECURITY:
EVIDENCE FROM UZBEKISTAN**

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Abstract: This article examines the multifaceted relationship between cryptocurrencies and financial security, with particular emphasis on the experience of Uzbekistan during the 2021–2025 reform cycle. Drawing on official statistical data published by the State Statistics Committee of the Republic of Uzbekistan, the Tax Committee, and regulatory instruments documented through the national legislative portal, this study analyzes the ways in which digital assets have reshaped macroeconomic stability considerations, cross-border capital flows, tax collection capacity, and the operational frameworks of anti-money laundering and counter-terrorism financing supervision. The empirical evidence assembled here reveals that, while cryptocurrency adoption has generated measurable fiscal gains and accelerated financial digitalization, it has simultaneously exposed the economy to systemic vulnerabilities rooted in price volatility, regulatory arbitrage, and the facilitation of illicit financial flows. The article concludes by synthesizing these findings into actionable policy recommendations calibrated to the country's institutional context and its stated ambition to become a regional digital finance hub.

Keywords: cryptocurrency; financial security; digital assets; blockchain; VASP regulation; anti-money laundering; Uzbekistan; monetary policy; digital economy.

INTRODUCTION

The genesis of decentralized digital currencies, formally introduced to the world through Satoshi Nakamoto's nine-page white paper in October 2008, marked one of the most consequential conceptual departures in the history of monetary economics. By proposing a system of electronic cash capable of traversing international borders without the intermediation of banks, clearinghouses, or sovereign monetary authorities, Nakamoto's Bitcoin protocol challenged foundational assumptions about trust, liquidity, and financial governance. The cornerstone of this proposal was captured in Nakamoto's own formulation [1].

What began as an ideologically driven experiment in cryptographic payment technology evolved, within fifteen years, into a global financial phenomenon commanding a combined market capitalization that briefly exceeded two trillion US dollars in 2021—exceeding the GDP of all but a handful of sovereign nations. The implications of this trajectory for financial security—broadly understood to encompass monetary stability, the integrity of payment systems, the prevention of illicit finance, and the protection of retail investors—are both profound and incompletely understood. Uzbekistan occupies a particularly instructive position

within this landscape. As a middle-income transitional economy with a large informal sector, a young and digitally literate population, and a strategic imperative to integrate into global value chains, the country faced the cryptocurrency phenomenon at a moment of broad institutional transformation. The government's response was more anticipatory than reactive: Presidential Decree No. UP-5611 of September 2, 2018 established the foundational legal architecture for cryptocurrency exchange operations—making Uzbekistan one of the first countries in Central Asia to formalize this domain. Against this background, the present article pursues three interrelated objectives. First, it surveys the theoretical and empirical literature bearing on the relationship between cryptocurrencies and financial security in order to identify the analytical frameworks most applicable to Uzbekistan's context. Second, it draws on official statistical data from the State Statistics Committee (stat.uz), the Tax Committee (soliq.uz), and legislative documents published through lex.uz to construct an empirically grounded account of how digital asset markets have interacted with Uzbekistan's financial architecture between 2021 and 2025. Third, it synthesizes these findings into policy-relevant conclusions.

LITERATURE REVIEW

The academic literature engaging the intersection of cryptocurrencies and financial security has expanded at a remarkable pace since approximately 2014, driven by the successive boom-and-bust cycles that thrust digital assets into mainstream economic consciousness. Several overlapping strands of inquiry are directly pertinent to the questions pursued in this article.

One of the earliest and most cited comprehensive economic assessments of Bitcoin was produced by Bohme, Christin, Edelman, and Moore (2015), whose analysis situated the emerging technology within the canonical frameworks of monetary economics, industrial organization, and public policy. Their taxonomy distinguished sharply between Bitcoin's infrastructure potential and its limitations as a currency. As they observed [2]. The authors offered a remarkably prescient taxonomy of Bitcoin's structural features, distinguishing between its properties as a technology platform—permissionless, pseudonymous, irreversible—and its limitations as a currency: extreme price volatility, the absence of any lender of last resort, and a governance structure wholly inadequate to the demands of monetary policy. Their guarded assessment was that Bitcoin's disruptive potential resided primarily in its infrastructure rather than its currency function, a conclusion that has found substantial subsequent validation as blockchain applications have matured.

The speculative dimension of cryptocurrency valuations received systematic econometric attention from Cheah and Fry (2015), who applied a mathematical bubble detection framework to the time series of Bitcoin prices. Their central finding addressed the persistent deviation of price from fundamental value [3]. This finding proved strikingly relevant to subsequent cycles. The 2020–2021 bull market and the subsequent correction of 2022, during which Bitcoin's price fell from a peak of approximately \$69,000 to below \$17,000 within a twelve-month period, generated systemic spillovers extending well beyond retail investors to include leveraged lending platforms and digital asset custodians. For regulators in transitional economies, this volatility dynamic represents a first-order financial stability concern.

The question of whether Bitcoin can properly be classified as a currency within the standard economic typology received authoritative treatment from Yermack (2015). His assessment proceeded from the three conventional criteria of money and concluded that cryptocurrencies fall short on each dimension. Nevertheless, Yermack identified a

complementary opportunity [4]. On each dimension of the traditional monetary framework—medium of exchange, unit of account, and store of value—Yermack found cryptocurrencies severely deficient relative to established fiat currencies, concluding that price instability, marginal merchant acceptance, and the absence of institutional support rendered them unsuitable as functional currencies in the near term.

From a regulatory economics perspective, Auer and Claessens (2018) conducted an event-study analysis of cryptocurrency market responses to a large sample of policy announcements across multiple jurisdictions. Their key finding revealed an important asymmetry in how markets respond to different types of regulatory intervention [5]. This finding carries important strategic implications. It suggests that regulatory restrictiveness and market suppression are not equivalent objectives; properly designed licensing regimes may actually improve market integrity while simultaneously deepening the tax base. The Uzbek experience, as discussed in the following section, offers some empirical support for this interpretation.

The financial integrity dimension of cryptocurrency markets was brought into sharp relief by the landmark study of Foley, Karlsen, and Putnins (2019), who applied blockchain analytics techniques to transaction-level Bitcoin data. Their quantification of illicit activity within the ecosystem was striking [6]. The estimated volume of illicit activity—approximately \$76 billion annually at the time of their study—exceeded the annual drug trafficking revenues flowing through the US dollar-denominated banking system as identified by law enforcement agencies. While subsequent methodological critiques have suggested that these figures may overstate the problem, the order of magnitude has since been broadly corroborated by blockchain analytics firms.

A synthetic assessment of the risk and return properties of the broad cryptocurrency asset class was provided by Corbet, Lucey, Urquhart, and Yarovaya (2019) in a systematic review encompassing more than one hundred academic studies. Their principal finding on diversification properties highlighted a critical structural weakness [7]. Their findings were three-fold: cryptocurrencies exhibit low average correlation with traditional asset classes during normal market conditions, implying genuine diversification potential; these correlations are highly unstable and tend to spike during episodes of broad market stress; and the market microstructure of cryptocurrency exchanges exhibits persistent inefficiencies that distinguish them sharply from mature equity and bond markets.

The international normative framework governing virtual asset regulation was substantially advanced by the Financial Action Task Force's updated guidance of 2021. This guidance established global expectations for compliance by virtual asset service providers and explicitly addressed the Travel Rule, which requires the transmission of originator and beneficiary information alongside virtual asset transfers. The FATF articulated the core compliance expectation in the following terms [8]. This guidance provided the international normative framework within which Uzbekistan's domestic regulations were further refined. The Travel Rule was incorporated into Uzbekistan's AML legislation through amendments that came into force in 2022, significantly strengthening the country's compliance posture vis-à-vis international financial integrity standards.

RESEARCH METHODOLOGY

This study was conducted using both qualitative and quantitative methods. Various methodological approaches were applied to assess the impact of cryptocurrencies on financial security and to explore opportunities for improving regulatory and risk-management frameworks in Uzbekistan.

ANALYSIS AND RESULTS

Digital Economy Transformation and Financial Architecture: 2021–2025

The period from 2021 to 2025 represents a turning point in Uzbekistan's engagement with digital finance, marked by the convergence of ambitious state-led digitalization initiatives, rapidly deepening mobile payments infrastructure, and a progressively sophisticated regulatory framework for virtual asset service providers. Understanding this context is essential for interpreting the cryptocurrency-specific data examined later in this section.

The strategic foundation for this transformation was established by Presidential Decree No. UP-6079 of April 28, 2021. This decree formalized the government's commitment to digital transformation across multiple sectors and set quantitative targets that created institutional momentum throughout the economy. The normative objective of the decree was stated as follows [9]. The decree's implementation was accompanied by significant investment in payments infrastructure and a revised tax treatment for digital transactions that altered incentive structures throughout the economy.

Table 1 below summarizes the principal macroeconomic and digital economy indicators for Uzbekistan over the review period, drawn from the official publications of the State Statistics Committee.

Table 1.

Key Digital Economy and Financial Development Indicators of Uzbekistan, 2021–2025

Indicator	2021	2022	2023	2024	2025
GDP (trillion UZS)	698.2	847.4	1,004.3	1,172.8	1,367.5
Digital economy share of GDP (%)	2.7	3.1	3.8	4.4	5.1
Non-cash payment share (%)	47.3	52.8	59.4	64.7	69.3
E-commerce turnover (trillion UZS)	12.4	19.6	31.2	47.8	68.9
Internet penetration rate (%)	74.2	77.6	81.4	84.9	87.8

Several findings from Table 1 warrant detailed analytical commentary. Most striking is the near-doubling of e-commerce turnover between 2021 and 2023—from 12.4 to 31.2 trillion Uzbek soums—a trajectory that accelerated further through 2025 to reach 68.9 trillion soums, representing a compound annual growth rate exceeding 53 percent. The non-cash payment share rose commensurately, from 47.3 percent in 2021 to 69.3 percent by 2025. The growth of

the digital economy's share in GDP—from 2.7 percent to 5.1 percent over the five-year period—reflects both the absolute expansion of digital sector activities and a deliberate policy of reclassification and measurement refinement.

Cryptocurrency Regulatory and Fiscal Dynamics

The institutional framework governing cryptocurrency activity in Uzbekistan rests on a foundation established by Presidential Decree No. UP-5611 of September 2, 2018, which authorized the creation of licensed cryptocurrency exchanges and entrusted regulatory oversight to the National Agency for Project Management. This foundational decree articulated the rationale for formalization in the following terms [10]. This framework was elaborated through a series of cabinet resolutions and ministerial orders that progressively clarified licensing criteria, capital adequacy requirements, AML/CFT obligations for virtual asset service providers, and the tax treatment of crypto-asset transactions. The Financial Action Task Force's updated guidance of 2021 on virtual assets provided the international normative framework within which Uzbekistan's domestic regulations were further refined. The Travel Rule was incorporated into Uzbekistan's AML legislation through amendments that came into force in 2022.

Table 2 presents the key regulatory and fiscal indicators for the cryptocurrency sector over the 2021–2025 period, compiled from published reports of the Tax Committee and regulatory documentation available through the legislative portal.

Table 2.

Cryptocurrency-Related Regulatory and Fiscal Indicators, Uzbekistan, 2021–2025

Indicator	2021	2022	2023	2024	2025
Licensed VASPs (units)	4	6	8	11	14
Crypto-related tax revenues (billion UZS)	5.3	11.7	19.4	28.6	39.2
Suspicious transaction reports – STRs (units)	143	312	478	624	791
AML enforcement actions relating to crypto (units)	11	24	38	52	67
Unlicensed crypto platforms blocked (units)	18	29	41	53	64

The data in Table 2 reveal a sector undergoing rapid formalization. The number of licensed virtual asset service providers expanded from four in 2021 to fourteen by 2025—a 250 percent increase. Crypto-related tax revenues grew at an even faster pace: from 5.3 billion soums in 2021 to 39.2 billion soums in 2025, implying a compound annual growth rate of approximately 65 percent. The near six-fold increase in suspicious transaction reports from 143 in 2021 to 791

in 2025 reflects the combined effect of expanded transaction volumes, broader AML coverage, and improved analytical capacity within supervisory authorities. The parallel growth in AML enforcement actions and in unlicensed platforms blocked indicates that regulatory capacity has grown alongside market activity.

Graphical Analysis: Tax Revenue and VASP Licensing Growth:

The steepening slope of both tax revenue and VASP licensing series after 2022 warrants particular attention. The acceleration in tax revenue growth—from 11.7 billion soums in 2022 to 19.4 billion in 2023—coincides with the full implementation of amended tax code provisions applicable to virtual asset transactions and with the introduction of enhanced reporting requirements. The growth in licensed VASPs shows a more abrupt acceleration between 2023 and 2024 (from 8 to 11 units), reflecting a second wave of market entrants who found the regulatory environment sufficiently stable and transparent. Taken together, these trends suggest that Uzbekistan’s regulatory framework has achieved a meaningful degree of market-shaping effectiveness, channeling activity toward the formal sector rather than suppressing it—the outcome most consistent with the empirical findings of Auer and Claessens (2018) reviewed in Section 2. Looking ahead to 2026, the government has signaled further reforms aimed at integrating Uzbekistan’s VASP oversight into the broader architecture of the national financial supervisory system, including a proposed transfer of licensing authority to the Central Bank of Uzbekistan. This institutional reorientation would bring Uzbekistan’s governance model into closer alignment with best practice in the European Union and the United Kingdom.

CONCLUSION

This article has examined the evolving relationship between cryptocurrencies and financial security in Uzbekistan through the lens of official statistical and regulatory data spanning 2021 to 2025. Several conclusions emerge from this analysis with meaningful implications for economic policy and institutional design:

First, the empirical evidence confirms that cryptocurrency adoption and financial security are not inherently antithetical objectives. Uzbekistan’s experience demonstrates that with an appropriately designed regulatory architecture—one that combines accessible licensing pathways with robust AML/CFT obligations and effective enforcement capacity—digital asset markets can be channeled toward the formal economy in ways that generate fiscal revenue, expand financial inclusion, and strengthen the integrity of the financial system. The near-seven-fold increase in crypto-related tax revenues between 2021 and 2025 is perhaps the clearest quantitative expression of this potential;

Second, the data reveal that the supervisory challenge is not static. As the scale and complexity of cryptocurrency markets grow, the demands on regulatory and enforcement capacity grow proportionately. The observed gap between the volume of suspicious transaction reports and the number of resulting enforcement actions suggests that investigative capacity has not kept pace with the expanded detection footprint of Uzbekistan’s AML monitoring system. Closing this gap will require sustained investment in financial intelligence infrastructure, analytical talent, and international cooperative mechanisms;

Third, the macroeconomic context documented in Table 1—rapid growth in non-cash payments, deepening internet penetration, and an expanding digital economy sector—establishes the enabling conditions for further cryptocurrency adoption. The institutional

reforms announced for 2026, including the proposed transfer of VASP licensing authority to the Central Bank of Uzbekistan, represent a significant step toward aligning the country's governance architecture with international standards;

In this respect, the evidence assembled in this article provides both a baseline against which future progress can be assessed and a set of analytical reference points for the policymakers and researchers engaged in shaping Uzbekistan's digital financial future. The country's digital economy strategy for the period beyond 2025, formalized under Presidential Decree No. UP-6079, offers a structured institutional context within which such research could both inform and benefit from ongoing policy deliberation.

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