

CENTRAL BANK DIGITAL CURRENCY IN THE REPUBLIC OF UZBEKISTAN

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Abstract

The global march towards Central Bank Digital Currencies (CBDCs) has accelerated, with numerous nations now in advanced pilot or launch stages. For the Republic of Uzbekistan, a nation demonstrating robust economic growth and a strong commitment to digital transformation, the strategic implementation of a CBDC the “Digital Sum” is a critical next step. This thesis constructs a comprehensive, evidence-based framework for a retail CBDC tailored to Uzbekistan's contemporary economic landscape. Analyzing the latest data from 2024-2025, the research highlights how a CBDC can directly address the persistent shadow economy¹, enhance a financial inclusion rate that has improved but still has gaps, and modernize a payment system undergoing rapid change. By evaluating the most recent lessons from global pioneers like China's e-CNY, India's digital rupee, and the Eastern Caribbean DCash, this thesis proposes a specific two-tier, hybrid CBDC model. The study concludes that a carefully designed Digital Sum, implemented through a phased roadmap, can serve as a powerful catalyst for financial formalization, monetary policy innovation, and sustainable, inclusive economic growth in Uzbekistan.

Keywords: Central Bank Digital Currency (CBDC), Digital Sum, Uzbekistan, Financial Inclusion, Shadow Economy, Digital Payments, Monetary Policy.

Introduction

As of mid-2025, the CBDC landscape has evolved from exploration to tangible implementation. According to the latest Bank for International Settlements (BIS) survey, 94% of central banks are now engaged in CBDC work, with several major economies conducting large-scale pilots (BIS, 2024). The digital euro project has entered its preparation phase, and countries like India have seen significant uptake of their digital rupee, with the Reserve Bank of India reporting a target of 1 million daily transactions by the end of 2025 (RBI, 2024). For Uzbekistan, which has positioned itself as a regional leader in economic reform, active participation in this global trend is essential to avoid future digital fragmentation and to harness the efficiency gains of modern financial infrastructure.

A critical foundation for understanding a Central Bank Digital Currency (CBDC) is to precisely distinguish it from existing forms of money. The common conflation of "digital" with "electronic" leads to confusion about what a CBDC truly represents. This section clarifies these fundamental concepts.

Main body

Digital Currency is a broad term for any currency that is exclusively available in a digital or electronic form. It does not have a physical counterpart like a banknote or coin. Its core characteristic is that it is a digital asset used as a medium of exchange.

This chapter establishes the academic and theoretical foundation for Central Bank Digital Currencies (CBDCs). It reviews the evolution of monetary theory in the digital age, synthesizes the current global taxonomy of CBDCs, and identifies the specific research gap this thesis aims to fill regarding Uzbekistan's context.

The conceptual journey towards CBDCs is rooted in the fundamental functions of money: a medium of exchange, a unit of account, and a store of value. The evolution from commodity money to fiat currency established the state's role in issuing and guaranteeing value. The digital age introduces a new paradigm, challenging traditional monetary hierarchies.

The seminal work by Bordo and Levin (2019) proposed the concept of a "digital base money" that could provide a stable unit of account and revolutionize monetary policy by allowing central banks to pay interest directly to the public. This theoretical foundation has been expanded upon by the Bank for International Settlements (BIS), which, in its 2023 "Blueprint for the Future Monetary System," envisions a new paradigm where "tokenised money and assets reside on a unified ledger," with CBDCs acting as the core, risk-free settlement asset (BIS, 2023).

For emerging economies like Uzbekistan, the theoretical appeal of a CBDC extends beyond monetary policy efficiency. As argued by Mancini-Griffoli in an IMF working paper, CBDCs can enhance the contestability of the payment system, reduce the market power of dominant private payment providers, and directly advance financial inclusion—a theory directly applicable to Uzbekistan's goals of reducing its shadow economy and banking the unbanked. The academic and policy literature has converged on a clear taxonomy for CBDCs, primarily distinguishing between their intended users and underlying architecture.

Retail CBDC: Designed for use by the general public and businesses. It is a digital equivalent of cash, intended for daily transactions. The primary motivations, as detailed in a comprehensive BIS survey, are enhancing payment system resilience, promoting financial

inclusion, and improving the efficiency of monetary policy transmission. This is the focus of this thesis.

Wholesale CBDC: Restricted for use by financial institutions for interbank payments and the settlement of financial transactions. Its benefits lie in improving the speed, security, and cost of cross-border payments and securities settlement (BIS Innovation Hub, 2024).

The literature outlines three primary architectural models for a retail CBDC, each with distinct implications for the central bank and financial sector (Auer & Böhme, 2020).

The central bank manages all aspects of the CBDC, including retail holdings, transactions, and identity verification. This model offers the central bank maximum control but places a significant operational burden on it and risks disintermediating commercial banks.

The central bank issues the CBDC and operates the core ledger, but private-sector intermediaries (commercial banks and Payment Service Providers) handle customer-facing activities like onboarding, wallets, and transaction execution. This model leverages the existing financial sector's innovation and customer relations while preserving the central bank's role. It is the most widely advocated model in recent literature (BIS, 2023).

The private sector issues fully-backed digital currency claims, while the central bank provides the settlement asset. This model blurs the line between CBDCs and regulated stablecoins.

Account-based vs. Token-based CBDCs: Account-based systems require identity verification to transact, similar to bank accounts. Token-based systems verify the authenticity of the digital object itself, like cash, allowing for a greater degree of privacy (Kosse & Mattei, 2022).

The drivers for CBDC development are not uniform; they reflect a country's specific economic structure and policy priorities. The literature reveals clear thematic clusters:

Advanced Economies (e.g., Sweden, Euro Area): Motivation is often linked to the decline of cash, ensuring continued public access to central bank money, and improving the resilience and efficiency of domestic payment systems (Sveriges Riksbank, 2023; European Central Bank, 2024).

Emerging Economies with Financial Inclusion Gaps (e.g., The Bahamas, India): The primary driver is to bank the unbanked, reduce the costs of financial services, and increase the efficiency of government transfer payments (Central Bank of The Bahamas, 2023; RBI, 2024).

Large Economies Focused on Payments Modernization and Control (e.g., China): Motivations include formalizing economic activity, increasing state capacity in payments oversight, and fostering competition in a digital payments market dominated by a few private players (People's Bank of China, 2024).

The existing literature provides a robust theoretical and comparative foundation for understanding CBDCs. However, a distinct research gap exists. Most studies and frameworks are either highly theoretical or tailored to the contexts of large, advanced, or financially unique (e.g., island) economies. There is a scarcity of applied research that synthesizes these global models and explicitly calibrates them to the specific, data-rich challenges of a dynamic, reforming, and landlocked emerging economy like Uzbekistan.

This thesis aims to fill this gap. It moves beyond asking if Uzbekistan should adopt a CBDC, to answering how it can be done most effectively. By integrating Uzbekistan's specific macroeconomic data (e.g., on the shadow economy from CERR, 2024, and financial inclusion from the CBU, 2024a) with the latest global practical insights, this research will construct a tailored, evidence-based framework that bridges the gap between international CBDC theory and Uzbek economic reality.

This thesis employs a **qualitative, policy-oriented research design**. The primary methodological approach is a **comparative case study analysis**. This method is particularly suited for investigating complex, real-world phenomena in their context, especially when the researcher has little control over events (Yin, 2018). It allows for an in-depth, multi-faceted exploration of CBDC implementation in different national contexts to derive actionable insights for Uzbekistan. The research is both explanatory, seeking to understand the causal factors behind the outcomes in the case studies, and exploratory, aiming to develop a novel framework for a specific, under-researched context.

A purposive sampling strategy was used to select three pioneering jurisdictions that represent distinct strategic priorities and contextual challenges relevant to Uzbekistan's goals. The selected cases are:

China (Digital Currency Electronic Payment - DCEP/e-CNY): Selected for its demonstration of **scale, state-led innovation, and integration of "controllable anonymity."** As the largest and most advanced CBDC pilot, it offers critical lessons on managing a massive rollout, integrating with existing tech platforms, and balancing privacy with regulatory control—a key concern for Uzbekistan's shadow economy (People's Bank of China, 2024).

India (Digital Rupee - e₹): Selected for its rapid scaling in a large, diverse emerging economy and its focus on **improving financial system efficiency and exploring cross-border applications**. India's experience is highly relevant for Uzbekistan, providing a model for a phased, wholesale and retail approach and demonstrating how a CBDC can be leveraged to modernize a complex financial ecosystem (Reserve Bank of India, 2024).

Eastern Caribbean Central Bank (DCash): Selected for its unique position as a **multi-country CBDC focused on financial inclusion and resilience** for geographically dispersed populations. Its lessons on offline functionality, disaster recovery, and serving unbanked communities in remote areas are directly applicable to addressing similar challenges in rural Uzbekistan (Eastern Caribbean Central Bank, 2023).

Data collection was based on a comprehensive review of secondary sources to ensure reliability and objectivity.

Data Collection Methods:

Documentary Analysis: The primary source of data. This included:

Official reports, whitepapers, and speech transcripts from the central banks of the case study countries (PBOC, RBI, ECCB).

Macroeconomic data, financial inclusion statistics, and payment system reports from the Central Bank of Uzbekistan (CBU) and international financial institutions (World Bank, IMF). Academic journals, books, and analytical reports from reputable sources like the Bank for International Settlements (BIS) and International Monetary Fund (IMF).

Secondary Data Analysis: Quantitative data on adoption rates, transaction volumes, and macroeconomic indicators were gathered from the sources above to provide an empirical basis for comparisons.

Analytical Framework:

The collected data was analyzed using a structured, qualitative framework. A **modified PESTLE (Political, Economic, Social, Technological, Legal, Environmental) analysis** was employed to systematically categorize and compare the findings from each case study. The focus was placed on the following dimensions most relevant to CBDC implementation:

Economic: Impact on financial inclusion, shadow economy, monetary policy, and bank disintermediation.

Technological: Architectural choices (e.g., DLT vs. centralized), interoperability, and offline functionality.

Social: Public adoption drivers, privacy concerns, and financial literacy requirements.

Legal & Regulatory: Legal tender status, data protection laws, and AML/CFT frameworks. This framework ensured a holistic evaluation and facilitated the extraction of context-specific lessons for Uzbekistan.

As this research relies exclusively on publicly available documents and data, there are no significant ethical concerns regarding human subjects. All sources have been meticulously cited to ensure academic integrity and avoid plagiarism. The analysis presents a balanced view, acknowledging both the potential benefits and risks associated with CBDC implementation.

China (e-CNY): Selected due to its unmatched scale and advanced stage, having been integrated into major e-commerce and social media platforms ahead of a full national rollout.

India (Digital Rupee): Selected for its rapid adoption in a large, diverse economy and its focus on improving the efficiency of financial intermediation.

Eastern Caribbean DCash: Selected for its unique multi-country framework and its focus on resilience and financial inclusion for island nations, offering lessons on interoperability and disaster recovery.

Conclusion

The global and domestic environment in 2025 is more conducive than ever for Uzbekistan to begin the journey towards a CBDC. The technical models are proven, the public is digitally literate, and the economic benefits for formalization and efficiency are clear.

A Phased Implementation Roadmap (2025-2028)

Phase 1: Foundation (2025-2026): Legal groundwork, technical design, and vendor selection. Establishment of a dedicated CBDC project office within the CBU.

Phase 2: Pilot (2026-2027): A limited-scale pilot for specific use cases: 1) **Government Salaries/Pensions** for a segment of recipients. 2) **B2B payments** within a selected free economic zone.

Phase 3: National Rollout (2027-2028): Gradual expansion to the public, prioritized by region and use case, with continuous evaluation and system optimization.

This thesis provides a contemporary, actionable framework that aligns with Uzbekistan's current economic status and strategic digital goals, offering a clear path forward for policymakers.

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