ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 03,2026

Journal: https://www.academicpublishers.org/journals/index.php/ijai

THE ROLE OF DIGITALIZATION IN THE MONETARY SYSTEM AND ITS IMPACT ON THE IMPLEMENTATION OF MONETARY POLICY IN UZBEKISTAN

Abdumajidov Shohjakhon
A fourth-year student
Samarkand Institute of Economics and Service

Akhmedjonov Abdulmalik
A fourth-year student
Samarkand Institute of Economics and Service

Scientific Supervisor:
Sharipova Nigina Jurakulovna
Senior Lecturer, Department of Banking
Samarkand Institute of Economics and Service

Abstract

The article is devoted to the impact of the process of digitalization of the monetary system of the Republic of Uzbekistan on the effectiveness of the monetary policy of the Central Bank (CBU) in terms of inflation targeting and the transformation of the economy to the one of the market economies. It examines the theoretical foundations of the transmission mechanism in the digital space, data on empirical evidence regarding the dynamics of non-cash payment, digital banks, the money supply M 2, inflation and GDP during the years 2015-2025, the role of pilot projects of the digital som (CBDC) and stablecoins (since the year 2026), and obstacles (cybersecurity, risk of bank disintermediation, residual dollarization). Special care is being taken to enhance the transmission of policies (interest rate, credit) channels, financial inclusion and lessening the shadow economy. The article has been written in IMRAD format and gives practical tips on how an accelerated digitalization process may be made to achieve the specified inflation rate of 5% as early as 2027.

Key words

digitalization of the monetary system, monetary policy, digital som, CBDC monetary policy, non-cash payments, transmission mechanism, financial inclusion, Uzbekistan, Central Bank.

Introduction. The transformations of monetary policy in the modern economy are taking the form of the digitalization of the monetary system being one of the focal points in the transformation. It is against this background that monetary policy is acquiring new tools to enhance effectiveness of transmission, control flow of money, and control risk of inflation against quick development of fintech, mobile banking and promise of central bank digital currencies (CBDC) issue. Inability to regulate flows of digital money in the economy does not allow ensuring enjoyment of price stability and sustainable rates of economic growth.

With regards to the macroeconomic theory, digitalization increases the interest rate and credit channel of transmission, represents the economy more responsive to changes of the key rate, and contributes to financial inclusion. Nevertheless, in the emerging market economy, such as Uzbekistan, the issues become more complicated - the cyber risks and the possibility of disintermediating the banks and the impacts on the liquidity.

ORIGINAL ARTICLE
INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE
ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 03,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

Uzbekistan has been undergoing the reform of the financial sector since 2017-2018: opening up the foreign exchange market, establishment of payment systems, the opening of digital banks, the National Financial Inclusion Strategy 2025-2030. Non-cash payment shares continue to increase; by 2025, the turnover of the interbank payment system has increased by 56.3% since 2024, and it is planned to increase to 75 percent of the payment share in the trade and services sector by 2030. The increase in GDP to 7.7% in 2025, the drop in the inflation rate to 7.3% (December 2025) and the proactive evolution of fintech creates the preconditions of the emergence of the importance of digitalization in the monetary policy.

The purpose of the article is a systematic study of the impacts of monetary system digitalization on the behavior of the CBU monetary policy, discovering the opportunities to ensure the effectiveness of transmissions, formulating recommendations regarding the application of digital tools (including digital som) to the attainment of macroeconomic stability. The analysis relies on the information of the CBU, the Statistics Agency, IMF, World Bank and National strategies.

Literature Review. One of the push vectors of the modern macroeconomic discourse, which leads to a need to revise classical transmission models, is the links between the digitalization of monetary system and the monetary policy. Even though the initial writing of J.M. Keynes and R. Solow made money and savings a fixed element of the system and did not even think about the technological factor, it is believed that with the emergence of digitalization, financial intermediation is spreading (IMF and World Bank, 2025).

The system of transmission in the introduction of CBDCs is essentially enhanced, as the central bank currency has become omnipresent to counterparties, as claimed in the policy paper of the Bank of International Settlement called BIS Papers No. 159, (2025), in which the central bank money becomes exposed to counterparties only, the commercial banks lose their influence in the market, and the economy becomes more susceptible to interest rates. Simultaneously, IMF experts (2025) predict the threat of disintermediation and immediate liquidity volatility in case of digital bank runs under the conditions.

Despite that, speaking of the region, the analysis conducted by the Asian Development Bank (Country Partnership Strategy: Uzbekistan, 2025) notes that in the example of the developing economy, such as Uzbekistan, the issue of digitalization and the subjugation of the shadow environment is an urgent issue but at the price of cybersecurity.

The analysis of the CBU of its Main Directions of Monetary Policy 2025-2027 in its downloadable Appendix 5) and its Annual Report 2024-2025 reflects that the digital som is the tool of accelerating the velocity of money (V) and providing more competition in the household deposits. A new meaning of the phenomenon of the Feldstein-Horioka paradox becomes possible in the era of fintech: the complex of digital results and AI-based scoring in the strategy of enhancing financial inclusion (NAPU, 2025) will accelerate the conversion of domestic savings into investments, without considering geographic and bureaucratic borders.

Nevertheless, CBU statistics (2026) of indicators of payment systems implies an additional complication of the transition: in 2025, the cash turnover has grown by a quarter although the introduction of digital som was made (Gazeta.uz, 2026) which proves that at the specified stage, the process is still the hybrid one.

In 2025-2026, the academic literature is more inclined towards viewing it as the positions that the possibility of deep development of open banking infrastructure and the stability of new digital assets cannot be guaranteed and hence technological innovation does not really guarantee the stability of the monetary system but makes the task of regulating aggregate demand more difficult on the side of the regulator.

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 03,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

Methodology. The interdisciplinary method was used:

Theoretical discussion Keynesian and Solovian theories, the current CBDC principles (IMF, BIS) and the theory of the transmission channels in a digital world.

Empirical analysis time series 2015-2025: share of non-cash payment proportion of total turnover, transactions conducted by payment systems (trillion som), the development of digital banks (share of retail loans), key rate (percent), M2 proportion of GDP, inflation (percent) and real GDP growth proportion (percent).

Qualitative analysis Regulatory acts (Presidential Decree on the fintech support program 20252026, Financial Inclusion Strategy 20252030), CBU reports, expert interviews, IMF and ADB materials.

Comparative analysis - in comparison to Kazakhstan, Kyrgyzstan, and other countries that are on the same level of income (World Development Indicators data).

Analysis and Results. The e-monetary system of Uzbekistan is evolving at a faster pace. The CBU holds that in 2025, the number of settlements via the interbank payment system would be 11,374.8 billion som (an increase of 56.3% compared to 2024). Non-cash payments are expanding although the cash turnover will increase by 25 in 2025 (total receipt volume - 1,075 trillion som, +28%). It is aimed at 75 non-cash by 2030 (Presidential Decree of December 10, 2025).

There is a rise in retail lending that is being substantially driven by the Digital banks (Uzum Bank and others): the portion of online credits has grown, and it is no wonder that household loans have increased by 48% in 2019-2023. This has enhanced the credit channel of transmission hence causing inflationary pressures (the CBU introduced macroprudential measures).

The CBU has moved into the active research stage since 2025 a digital som: a roadmap is to be approved by April 2026 (fintech support program 2025-2026). Both retail (household payments) and wholesale (interbank settlements) cases of CBDC are being looked into. A chairman of the CBU, Timur Ishmetov (seasons 2025) and deputy chairman Nodirbek Ochilov (seasons 2026) stressed that pilot projects in the regulatory sandbox took place in January 2026 with the digital som intended to maximize control over liquidity.

Given the main directions of the monetary policy of the CBU which are reflected in Appendix 5 to the main directions of 2025-2027:

- CBDC enhances the interest rate channel (competition ends up raising deposit rates).
- It cuts down dollarization and cryptoization;
- It enriches financial inclusion (money access among 30-40% outcast citizenry).
- Nonetheless, it introduces risks of liquidity (exodus of deposits to CBDM).

Empirically: With more efficient observation of digital flows, the inflation decreased between 11.45% (2024) and 7.3% (2025) and between 7.2 and February 2026). M 2/GDP increased by the means of which digital instruments enabled the CBU to control liquidity more accurately (via government bonds issue). Compared to Kazakhstan, which is slightly ahead of Uzbekistan regarding the share of digital payments (around 40-45% in 2025 compared to 60% in Kazakhstan), it is possible to state that CBDC will be more advantageous in terms of transmission.

Stumbling blocks persist cyber-attacks (Section 4.4 of the CBU Annual Report 2024), less financial literacy of the areas and threat of disintermediation (reduction in bank deposits). Nevertheless, the process of digitalization has already decreased the shadow economy and

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 03,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

enhanced tax collection. Going forward, the digital som will enhance the CBU control of money supply without adjusting the inflation targets (5% by 2027).

Conclusions and Recommendations.

The effectiveness of CBU monetary policy is greatly enhanced by the digitalization of the monetary system: it enhances and contributes to better transmission and the level of inclusion, as well as lowers inflationary expectations. The introduction of the digital som and stablecoins puts Uzbekistan in the position of a qualitative jump.

It is suggested we take the following measures:

Adopt and enforce a Digital Som Introduction Roadmap 2026-2030 comprising of pilot projects (retail and wholesale) by the end of 2026, including a two-tier system (banks as agents).

Regulatory sandboxing of stable coins and tokenized assets with reserve requirements of 100 percent obligatory.

Require all school and undergraduate children to have mandatory classes in digital financial literacy (starting in 2027), such as lessons on CBDC and cybersecurity.

Introduce a unified CBU digital platform - Uzbekistan Digital Financial Hub - to monitor the payments in a real-time and to combine with the mobile applications of the banks.

To control liquidity, introduce macro prudential limits on the holdings of CBDC and the negative rates on the excess balances.

Intensify the international coordination with the BIS, IMF and central banks including Switzerland and China to exchange experience in the CBDC testing.

Uzbekistan has everything that can make it a hub of fintech in Central Asia. These proposals will help the country to undertake the 5% inflation target, further increase the GDP growth rate, which currently stands at 6.5, and reduce the effect of external shocks by creating internal digital resilience. To be effective, the reforms should be finding the right balance between innovation and stability.

References:

1. Central Bank of the Republic of Uzbekistan. (2025). Annual Report 2024-2025. Tashkent.
2. Central Bank of the Republic of Uzbekistan. (2024). Main Directions of Monetary Policy for 2025 and the 2026-2027 Period. Tashkent (including Appendix 5).
3. Central Bank of the Republic of Uzbekistan. (2026). Payment System Indicators (December 2025).
4. World Bank. (2025). World Development Indicators.
5. International Monetary Fund. (2025). IMF DataMapper and CBDC Reports.
6. Asian Development Bank. (2025). Country Partnership Strategy: Uzbekistan.
7. BIS. (2025). Advancing in tandem - results of the 2024 BIS survey on central bank digital currencies (BIS Papers No. 159).
8. Gazeta.uz. (2026). The digital development process has been launched.
9. UzDaily.uz. (2026). CBU of Uzbekistan: cash turnover in 2025 grew by a quarter.
10. National Agency for Project Management. (2025). Financial Inclusion Strategy for 2025-2030.