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DIGITAL CURRENCIES (CBDC) AND THEIR INTEGRATION INTO THE NATIONAL FINANCIAL SYSTEM

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Abstract. *This article analyzes the concept of Central Bank Digital Currencies (CBDC), their role in the economy, and the process of integrating them into the national financial system.*

It also explores the advantages, risks, and challenges associated with the introduction of CBDCs and discusses the potential for their application in Uzbekistan.

Keywords: *digital currency, central bank, CBDC, financial system, blockchain, monetary policy, payment system, economic stability.*

Аннотация. *В данной статье анализируется концепция цифровых валют центральных банков (CBDC), их роль в экономике и процесс интеграции в национальную финансовую систему. Также рассматриваются преимущества, риски и проблемы, связанные с внедрением CBDC, и обсуждается потенциал их применения в Узбекистане.*

Ключевые слова: *цифровая валюта, центральный банк, CBDC, финансовая система, блокчейн, денежно-кредитная политика, платежная система, экономическая стабильность.*

In recent years, the global financial system has been undergoing a process of digital transformation. One of the most important aspects of this transformation is the development and implementation of Central Bank Digital Currencies (CBDC). These currencies not only modernize payment systems but also enhance economic security and financial inclusion.

Many countries, including China, Sweden, Nigeria, and members of the European Union, are experimenting with CBDC projects. Uzbekistan is also among the nations exploring this innovative area.

A CBDC is a digital form of money issued and guaranteed by a central bank. It serves as an electronic equivalent of physical cash. Unlike cryptocurrencies, CBDCs are centrally controlled and directly linked to the value of the national currency.

CBDCs are generally divided into two main types:

- Retail CBDC: used by individuals and businesses for everyday transactions.
- Wholesale CBDC: designed for interbank settlements and large-scale financial operations.

Tab 1. Analysis of the impact of CBDC on the national financial system

№	Area of Impact	Mechanism of Influence	Positive Outcomes	Potential Risks
1	**Efficiency of the Payment System**	CBDC enables real-time payments and reduces intermediaries	Faster and cheaper transactions, improved financial inclusion	Cyberattacks, technical malfunctions
2	**Monetary Policy Management**	Central banks can monitor and control	More effective inflation and interest	Over-centralization,

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		the money supply directly through CBDC	rate control	potential loss of privacy
3	**National Currency Stability**	The digital form of the national currency strengthens its credibility and control	Increases trust in the national currency, reduces the shadow economy	Poor regulation may increase currency risks
4	**Financial Transparency**	Every transaction is recorded on blockchain technology	Improved anti-corruption measures and tracking of illegal funds	Risk of data exposure and privacy breaches
5	**Impact on the Banking Sector**	Citizens can store and use money directly with the central bank via CBDC	Encourages competition and improves service quality	Possible reduction of deposits in commercial banks
6	**Financial Inclusion**	Mobile and digital access allows wider use of payment services	Expands access to financial services for all population groups	Low digital literacy may limit participation
7	**International Settlements**	CBDC supports faster and cheaper cross-border transactions	More efficient global payment systems and reduced costs	Coordination challenges between countries
8	**Macroeconomic Stability**	Enhanced control over financial flows and transparency	Higher tax revenues and more effective fiscal policy	Excessive monitoring could discourage private investment

The introduction of CBDC fundamentally transforms the national financial system by:

- increasing the speed and transparency of payments,
- enhancing control over monetary policy,
- strengthening financial inclusion and economic stability.

However, to ensure long-term success, the implementation must be gradual, technologically secure, and supported by strong legal and regulatory frameworks.

Tab 2. Analysis of the challenges in implementing CBDC

№	Problem area	Description of the problem	Negative consequences	Possible solutions
1	**Lack of Technical Infrastructure**	Insufficient servers, networks, and technological resources for digital transactions	System failures, payment delays, loss of public trust	Gradual development of digital infrastructure, increase in IT investments
2	**Cybersecurity Risks**	CBDC systems may be targeted by hackers or cyberattacks	Data breaches, financial losses, decline in confidence	Implement advanced encryption algorithms and strong cybersecurity measures
3	**Privacy Concerns**	Every transaction is traceable, which may	Public dissatisfaction,	Develop systems that ensure partial

		lead to intrusion into users' personal lives	reluctance to use CBDC	anonymity and data protection
4	**Legal and Regulatory Uncertainty**	Lack of specific laws and regulatory frameworks for CBDC	Legal gaps, disputes, and potential economic instability	Develop clear and comprehensive legal frameworks for CBDC
5	**Pressure on the Banking Sector**	Direct accounts with the central bank could reduce deposits in commercial banks	Decreased liquidity and reduced lending capacity	Introduce a balanced model between CBDC and commercial banks
6	**Low Digital Literacy**	A significant part of the population lacks sufficient digital skills	Limited adoption and inefficient use of CBDC	Implement nationwide digital literacy and financial education programs
7	**International Coordination Challenges**	Different countries develop independent CBDC systems that may not be compatible	Issues with cross-border payments and international integration	Establish global CBDC standards and cooperation mechanisms
8	**Impact on Economic Stability**	The introduction of CBDC may affect money circulation and market balance	Short-term instability in the financial system	Conduct pilot projects and phased implementation strategies

The implementation of CBDC presents significant opportunities but also serious challenges.

Key issues are technical, legal, and social in nature. To ensure a successful transition, countries should:

- establish strong cybersecurity infrastructure,
- develop a clear legal and regulatory framework,
- improve digital literacy, and
- introduce pilot phases before full deployment.

These measures will help minimize risks and ensure that CBDCs contribute to sustainable economic growth and financial stability.

The Central Bank of Uzbekistan began studying the concept of a digital so‘m in 2023.

Under the “Digital Uzbekistan – 2030” strategy, the government is working on modernizing payment systems and supporting fintech initiatives.

Potential benefits of introducing a digital sum include:

- Increasing the independence and reliability of the national payment system;
- Expanding public access to banking services;
- Reducing the volume of cash circulation;
- Enhancing oversight and transparency of financial transactions.

Conclusion

Digital currencies are becoming an integral part of the modern financial ecosystem. They contribute to economic stability, financial transparency, and more effective monetary policy management. However, the introduction of CBDCs must be carried out carefully, with sufficient technological and legal infrastructure in place.

For Uzbekistan, the creation of a digital so‘m would represent an important step toward digital transformation and strengthening the stability of the financial system.

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