

DIGITAL CURRENCIES AND CENTRAL BANKS: AN ANALYSIS FROM A NATIONAL ECONOMIC SECURITY PERSPECTIVE

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Annotatsiya. So'nggi yillarda raqamli texnologiyalarning jadal rivojlanishi global moliyaviy tizimda tub o'zgarishlarni yuzaga keltirdi. Ayniqsa, raqamli valyutalar — markaziy banklar tomonidan chiqariladigan raqamli valyutalar (CBDC) va markazlashmagan kriptovalyutalar (Bitcoin, Ethereum) — moliyaviy innovatsiyalar markaziga aylandi. Ushbu maqolada raqamli valyutalarning turlari, ularning texnologik asoslari (blokcheyn, PoW, PoS), moliyaviy integratsiyadagi roli, an'anaviy bank tizimiga ta'siri va barqarorlikka bo'lgan xavflari tahlil qilinadi. Shuningdek, AQSh, Xitoy, Yevropa Ittifoqi va O'zbekiston kabi mamlakatlarning raqamli valyutalarni qabul qilish va tartibga solish bo'yicha yondashuvlari solishtiriladi. Raqamli valyutalarning rivojlanishi global moliyaviy raqobat va suverenitet, to'lov tizimlari samaradorligi hamda regulyatorlar uchun strategik qarorlarni talab qiladigan dolzarb mavzu ekanligi ta'kidlanadi.

Kalit so'zlar: Raqamli valyutalar, kriptovalyuta, CBDC, blokcheyn, moliyaviy tizim, markazlashmagan boshqaruv, Ethereum, Bitcoin, raqamli iqtisodiyot, regulyatsiya, moliyaviy barqarorlik, O'zbekiston, global moliyaviy integratsiya.

Abstract. In recent years, the rapid development of digital technologies has brought about fundamental changes in the global financial system. In particular, digital currencies — central bank digital currencies (CBDCs) and decentralized cryptocurrencies (Bitcoin, Ethereum) — have become the focus of financial innovation. This article analyzes the types of digital currencies, their technological foundations (blockchain, PoW, PoS), their role in financial integration, their impact on the traditional banking system, and their risks to stability. It also compares the approaches of countries such as the United States, China, the European Union, and Uzbekistan to the adoption and regulation of digital currencies. It is emphasized that the development of digital currencies is a pressing issue that requires strategic decisions for regulators, including global financial competition and sovereignty, the efficiency of payment systems, and global financial integration.

Keywords: Digital currencies, cryptocurrency, CBDC, blockchain, financial system, decentralized governance, Ethereum, Bitcoin, digital economy, regulation, financial stability, Uzbekistan, global financial integration.

Аннотация. Стремительное развитие цифровых технологий в последние годы привело к фундаментальным изменениям в мировой финансовой системе. В частности, цифровые валюты — цифровые валюты центральных банков (CBDC) и децентрализованные криптовалюты (биткоин, эфириум) — стали центром финансовых инноваций. В статье анализируются типы цифровых валют, их технологические основы (блокчейн, PoW, PoS), их роль в финансовой интеграции, их влияние на традиционную банковскую систему и их риски для стабильности. В нем также сравниваются подходы таких стран, как США, Китай, Европейский Союз и Узбекистан, к принятию и регулированию цифровых валют. Подчеркивается, что развитие цифровых валют является актуальной проблемой, требующей

стратегических решений для глобальной финансовой конкуренции и суверенитета, эффективности платежных систем и регуляторов.

Ключевые слова: цифровые валюты, криптовалюта, CBDC, блокчейн, финансовая система, децентрализованное управление, Ethereum, Bitcoin, цифровая экономика, регулирование, финансовая стабильность, Узбекистан, глобальная финансовая интеграция.

Introduction

Digital technologies have fundamentally changed the financial system in recent years. In particular, digital currencies and their development have attracted great interest in global financial markets. Digital currencies are currencies that exist in digital form and are used electronically. They are usually divided into two main types:

Decentralized cryptocurrencies and government-issued digital currencies (CBDCs). Cryptocurrencies, such as Bitcoin and Ethereum, operate on blockchain technology and are characterized by decentralized management. At the same time, digital currencies issued by central banks are under state control, creating new opportunities in national economies. Today, digital currencies not only represent innovative technologies, but also have a significant impact on the global financial system. Their development and increased interest in them are associated with technological advances, financial integration and government regulations. Therefore, how digital currencies will affect the financial system and what role they will play in the future has become an important and relevant topic. Digital currencies are currencies that exist in

digital form, are stored and used electronically. They are generally divided into two main types: cryptocurrencies and central bank digital currencies (CBDCs).

Materials and methods.

Cryptocurrencies are decentralized, that is, digital currencies that are not controlled by any central authority. Bitcoin, Ethereum, and other popular cryptocurrencies use blockchain technology, which ensures their security and authenticity. Cryptocurrencies are generally known for their advantages such as transparency, decentralized governance, and low fees. They play a key role in the development of global trade and payment systems, as well as making financial transactions faster and more convenient. Central bank digital currencies (CBDCs) are digital currencies that are issued and controlled by a government. CBDCs are digital forms of traditional currencies that are used in national economies. They are state-controlled and designed to ensure financial stability and increase participation in the digital economy. Unlike cryptocurrencies, CBDCs are issued by central banks and their value is pegged to a national currency.

Results and discussion. Other digital assets are digital instruments used in the financial system, including tokens, stablecoins, and other digital assets. They help to further digitize the financial system and create new investment opportunities. The development of digital currencies and their interest in them has increased dramatically in recent years.

There are several reasons for this:

Blockchain and other innovative technologies have paved the way for the emergence and development of digital currencies. These technologies offer the possibility of accelerating payment systems, increasing their security, and decentralizing governance. Digital currencies are increasing financial integration on a global scale. They facilitate cross-border payments and provide new financial opportunities for emerging markets.

States and financial institutions are adopting new approaches to the issue of accepting and regulating digital currencies. The introduction of CBDCs is creating new ways for states to manage the financial system. Digital currencies offer new solutions to solve some of the problems in the financial system, such as inflation risk, cross-border payments, and access to banking services. This development of digital currencies indicates that it is time for a fundamental change in the financial system. Therefore, studying and analyzing this topic remains very relevant and interesting.

Types of digital currencies: Decentralized currencies such as Bitcoin, Ethereum and how they work. Cryptocurrencies are digital or virtual currencies that are protected by cryptographic technologies. Bitcoin, the first cryptocurrency created in 2009 by an unknown person or group under the pseudonym Satoshi Nakamoto, operates on a decentralized network. These currencies rely on blockchain technology, which makes transactions secure, transparent and immutable. Bitcoin is the most popular cryptocurrency and its working mechanism is called "Proof of Work" (PoW). In this mechanism, transactions are confirmed by network participants and new blocks are created. Each block contains a series of transactions, which are stored in a digital ledger called the blockchain. The main advantages of Bitcoin include decentralized control, transparency and global accessibility.

Ethereum is a cryptocurrency platform similar to Bitcoin, but more complex. It supports not only digital currency, but also advanced features such as smart contracts and dApps (decentralized applications). The Ethereum network also runs on blockchain, but it aims to introduce Proof of Stake (PoS) and other innovations that reduce energy consumption and increase network security. Cryptocurrencies are revolutionizing the global financial system, making payments faster, safer, and more convenient. However, their decentralization and lack of regulation

are among the factors that make their adoption difficult.

Central bank-issued digital currencies (CBDCs) are digital currencies that are controlled by a government and serve as a digital form of national currency. CBDCs have the same value as traditional cash, but they exist only in digital form and are fully controlled by a central bank. The main difference between CBDCs and traditional currencies lies in their form and technology. While traditional currencies exist as paper money and coins, CBDCs are issued only in digital form and are used through electronic payment systems. CBDCs are specifically designed to modernize the financial system and develop the digital economy. They help reduce the security and operational costs associated with cash.

CBDCs have a number of advantages:

Financial inclusion: They enable the underbanked to enter the financial system.

Speed and efficiency: Payments made through CBDCs can be faster and cheaper than traditional banking.

Stability and security: CBDCs, which are controlled by central banks, are more stable and reliable than cryptocurrencies. However, unlike cryptocurrencies, CBDCs are centralized and fully controlled by central banks. This makes them a key factor in providing stability to the financial system, but their centralization can be a limiting factor

for some users. Digital currencies, especially cryptocurrencies and CBDCs, can have a significant impact on traditional banking services. Payments made through digital currencies can be faster and cheaper than payments made through traditional banks. This creates great opportunities, especially for cross-border payments. Cryptocurrencies and CBDCs will facilitate international payment processes, which will increase competition among banks.

Users who have the opportunity to work with digital currencies can reduce the need for deposit accounts in banks. This can affect banks' deposit and lending operations. If CBDCs are widely introduced, banks may be forced to reconsider their operations, as they will be able to work directly with the population through a central bank digital currency. Banks may face security issues related to digital currencies. When adopting digital currency-related technologies, banks will need to strengthen their IT infrastructure. At the same time, the volatility of digital currencies can bring new risks to banks. In general, the development of digital currencies will bring significant changes to banking services, which will require the integration of financial technologies with the banking sector. There is much debate about how digital currencies will affect financial stability. While cryptocurrencies and CBDCs can create new opportunities in the financial system, they can also pose certain risks.

Cryptocurrencies, especially currencies such as Bitcoin, are characterized by high price volatility. This calls into question their stability as a means of payment and may limit their use as an investment vehicle. Frequent price changes can have a negative impact, especially on small investors. The risks of cryptocurrencies can be difficult to manage, as their value depends on various factors. At the same time, CBDCs issued by central banks can provide greater stability, as their value is controlled by the government and is relatively stable in relation to inflation or other macroeconomic factors. The widespread introduction of digital currencies can affect the stability of the financial system. If digital currencies are widely adopted in place of traditional currencies, this could affect the stability of national currencies.

Decentralized cryptocurrencies, on the other hand, can create additional challenges for macroeconomic policy.

Therefore, it is important to understand the impact of digital currencies on stability and develop effective strategies to manage risks. Along with the development of digital currencies, the issue of their regulation and legal framework is also becoming relevant. Different countries and international organizations are taking different approaches to addressing regulatory and legal issues related to digital currencies. In many countries, the legal status of digital currencies is still unclear. While some countries have

accepted cryptocurrencies, others are restricting or even banning them. The lack of legal certainty can hinder investments in digital currencies and their widespread use as a means of payment.

Different countries are taking different approaches to regulating digital currencies. For example, the United States requires strict licensing for companies operating on the basis of digital currencies, while the European Union has plans to regulate them more broadly. China, on the other hand, is banning cryptocurrencies and focusing more on the development of a central bank digital currency. At the same time, international organizations, such as the International Monetary Fund (IMF) and the World Bank, emphasize the need to develop global regulations related to digital currencies. The main goal of regulating digital currencies is to ensure the stability of the financial system, protect consumers, and prevent illegal activities. Also, by regulating digital currencies, countries create opportunities for their integration into the economy and the development of new technologies.

Legal regulation of digital currencies will increase stability and confidence in this area, but international cooperation and harmonization of approaches will be necessary for their effective management.

Different countries around the world are taking different approaches to the adoption and development of

digital currencies. China, the United States, and the European Union have chosen their own directions in this regard.

China is one of the leading countries in the field of digital currencies. The People's Bank of China (PBoC) has begun the process of creating and testing the world's first state-issued digital currency - the Digital Yuan (e-CNY). China's goal is to digitize cash, modernize domestic payment systems, and increase its share in the international financial system.

China has also imposed strict restrictions and controls on cryptocurrencies, while focusing more on the development of CBDCs.

The United States has been more cautious about the development and regulation of digital currency technologies. Cryptocurrencies have been widely adopted in the United States, and their operation is regulated by various government agencies, including the SEC (Securities and Exchange Commission) and the CFTC (Commodity Futures Trading Commission). At the same time, the US Federal Reserve is exploring CBDCs, but there is no fully developed digital dollar yet. The US approach aims to strike a balance between cryptocurrencies and CBDCs.

The European Union (EU) is taking a cautious approach to the introduction of CBDCs. The European Central Bank (ECB) is conducting research and pilot projects on the

development of a digital euro. The digital euro is being created to strengthen its role in international payment systems and ensure financial stability. At the same time, EU countries are developing a single regulatory mechanism for cryptocurrencies, which will increase their importance in terms of legality and security.

This indicates that the approaches of countries and regions to digital currencies are aimed at developing their financial systems and gaining an advantage in global competition. Uzbekistan, one of the countries operating in the field of digital technologies and financial innovations, is forming its own policy regarding digital currencies. Uzbekistan has chosen a conservative approach to digital currencies, especially in terms of strict regulations on cryptocurrencies. In 2019, the government of Uzbekistan took strict measures to prevent the illegal use of cryptocurrencies. At the same time, a number of legal and regulatory documents are being adopted in Uzbekistan to regulate activities related to cryptocurrencies. Uzbekistan is studying the possibilities of introducing its own digital currency.

The Central Bank is conducting research in this area, but no final decision has been made on the introduction of a digital currency yet. However, as interest in digital currencies and blockchain technologies continues to grow, Uzbekistan's policy

in this area is expected to develop further in the future.

Uzbekistan is taking steps to develop financial technologies (fintech). This is mainly aimed at developing the digital economy and expanding the scope of financial services. The Central Bank and other state bodies are studying international experiences related to digital currencies and making efforts to adapt them to the conditions of Uzbekistan.

Uzbekistan's experience and future plans related to digital currencies will be of great importance in modernizing the country's financial system and integrating it into the global economy.

Digital currencies are becoming an integral part of the modern financial system, and this trend is expected to intensify in the future. Cryptocurrencies and central bank-issued digital currencies (CBDCs) have the potential to make significant changes in the environment of financial innovation and economic competition.

Advanced countries such as China, the United States, and the European Union are trying to strengthen their position in the global

financial system by choosing different approaches to developing their digital currencies. China's introduction of the digital yuan, the cautious approach of the United States, and the European Union's research on a digital euro indicate that competition for leadership in this area is intensifying.

Conclusion. Uzbekistan is also taking its own steps in the field of digital currencies. Although it is taking a cautious approach for now, it is expected to implement clear strategies for the development of the digital economy in the future. The country's policy on digital currencies and future plans will determine its opportunities for integration into the global financial system. From this perspective, the impact of digital currencies on the financial system is wide-ranging, affecting issues of economic stability, security, payment systems, and financial sovereignty. This requires important strategic decisions for states and financial institutions. In the future, monitoring developments in the field of digital currencies and correctly assessing their impact on the financial system will be of great importance for all states and economic systems.

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