https://www.proconference.org/index.php/usc/article/view/usc29-00-017
DOI: 10.30888/2709-2267.2025-29-00-017

УДК 336.76:332.1

MONEY AND CREDIT SYSTEMS AND THEIR ADAPTATION TO DIGITAL CURRENCIES AND CRYPTOCURRENCIES

ГРОШОВО-КРЕДИТНІ СИСТЕМИ ТА ЇХ АДАПТАЦІЯ ДО ЦИФРОВИХ ВАЛЮТ ТА КРИПТОВАЛЮТ

Honchar H. P./ Гончар Г.П.
PhD in Economics, as.prof./ к.е.н., доц.
ORCID ID: 0000-0002-1484-1666
Chortkiv Educational and Research Institute of Entrepreneurship and Business of West Ukrainian National Universityy
Ukraine, Chortkiv,46, S. Bandera St., 48500

Abstract. *This paper discusses the main aspects of the development of money and credit systems and their adaptation to digital currencies and cryptocurrencies. The author analyzes the difference between digital currencies issued by central banks (CBDCs) and cryptocurrencies such as Bitcoin and Ethereum. Special attention is given to the impact of digital currencies on monetary policy and the stability of financial systems. A review of existing approaches to cryptocurrency regulation in different countries is presented, along with a description of the technical aspects, particularly blockchain technology, which underpins cryptocurrencies. The social and economic consequences of the widespread use of cryptocurrencies are discussed, as well as their role in international payments. The prospects for the integration of new financial technologies into the global economy and financial markets are highlighted.*

Keywords*: money and credit system, central bank digital currencies (CBDCs), cryptocurrencies, blockchain technology, cryptocurrency regulation, monetary policy, financial technologies, international payments, socio-economic consequences, financial stability.*

Анотація. *У статті розглядаються основні аспекти розвитку грошово-кредитних систем та їх адаптація до цифрових валют і криптовалют. Автор аналізує різницю між цифровими валютами, що випускаються центральними банками (CBDC), і криптовалютами, такими як Bitcoin та Ethereum. Окрему увагу приділено впливу цифрових валют на монетарну політику і стабільність фінансових систем. Зроблено огляд існуючих підходів до регулювання криптовалют у різних країнах і описано технічні аспекти, зокрема блокчейн-технологію, яка лежить в основі криптовалют. Розглядаються соціальні та економічні наслідки широкого використання криптовалют, а також їхня роль у міжнародних розрахунках. Висвітлено перспективи інтеграції нових фінансових технологій у глобальну економіку та фінансові ринки.*

Ключові слова: *грошово-кредитна система, цифрові валюти центральних банків (CBDC), криптовалюти, блокчейн-технологія, регулювання криптовалют, монетарна політика, фінансові технології, міжнародні розрахунки, соціально-економічні наслідки, фінансова стабільність.*

Introduction

In the context of the globalization of financial markets and the development of technologies such as blockchain and cryptocurrencies, the money and credit systems of countries are undergoing significant changes. One of the most influential factors is the emergence of digital currencies and cryptocurrencies, which are not only transforming payment systems but also central bank policies and financial institutions. Central bank digital currencies (CBDCs) and private cryptocurrencies are new tools that can significantly impact traditional monetary systems. This requires the adaptation of financial institutions, as well as reforms in legal regulation and monetary policy.

Results

Digital currencies (CBDCs) and cryptocurrencies have significant differences in their characteristics. Digital currencies are electronic analogs of fiat money issued and controlled by central banks. They are legal tender and ensure the stability of the money and credit system. Digital currencies have a large potential for integration into financial systems and help countries control the money supply and prevent inflation [1]. In contrast to digital currencies, cryptocurrencies are decentralized assets based on blockchain technology and do not have direct ties to national currencies or government bodies. The most popular cryptocurrencies, such as Bitcoin and Ethereum, are characterized by high volatility and are mainly used as investment tools or for conducting anonymous financial transactions [3].

Central bank digital currencies (CBDCs) have great potential to change monetary policy and financial infrastructure. Their main goal is to ensure financial stability, reduce transaction costs, and increase the efficiency of payment systems. According to the Bank for International Settlements [2], CBDCs can significantly reduce transaction processing costs, ensure the speed and security of transfers, and strengthen monetary policy through better control over the money supply.

In developed economies such as China (e-CNY) and the European Union (the euro as a digital currency), active work is already underway to implement digital currencies [4]. China, in particular, is a leader in the development and implementation of its digital currency, which could reshape the global financial architecture. Other countries, such as the United States and Japan, are also actively considering the introduction of a digital dollar and yen.

Despite the lack of centralized control, cryptocurrencies have a significant impact on global financial markets. They create new opportunities for investment, international remittances, and payments, as well as for the development of financial technologies (FinTech). However, their high volatility and potential risks associated with illegal transactions force countries to develop new cryptocurrency regulation strategies [5].

For traditional financial institutions such as banks, cryptocurrencies can become both competitors and partners. Banks face new challenges, such as decreased demand for traditional money transfer services and the need to adapt to new tools for international transactions. Specifically, the use of blockchain technology for international transactions can reduce costs and time required for their execution [7].

Since cryptocurrencies are not subject to specific regulation, governments of different countries have begun adopting various approaches to their regulation. The United States, the EU, and China have different strategies, ranging from full bans on cryptocurrencies to their integration into the financial system through appropriate regulation. For example, the EU is developing the MiCA (Markets in Crypto-Assets) regulation, which aims to create unified rules for cryptocurrency markets within the EU [10].

Important regulatory issues include combating money laundering (AML) and terrorism financing (CFT). Since cryptocurrencies can be used for anonymous and illegal operations, it is crucial to create a monitoring and control system for their circulation. The U.S. is actively working on creating regulatory norms to integrate cryptocurrencies into existing financial structures without harming economic stability [9].

On the other hand, digital currencies issued by central banks are subject to strict regulation, allowing governments to maintain control over financial flows and economic stability.

The use of cryptocurrencies in international payments helps to reduce transaction costs and make payments faster. Blockchain technology, which underpins cryptocurrencies, provides a high level of security and transparency, which can form the basis for new international payment systems [8]. However, to ensure the security and stability of financial systems, the risks that arise from the widespread use of cryptocurrencies in international payments must also be taken into account.

Digital currencies can also change the system of international payments, particularly in the area of trade payments between countries. For example, the use of digital currencies could reduce dependence on the U.S. dollar in international transactions, which has great potential for redistributing global financial flows.

The use of cryptocurrencies can have various social and economic consequences. On the one hand, cryptocurrencies can become a tool for improving financial inclusion, particularly in countries where access to traditional banking services is lacking. On the other hand, their use can promote the development of illegal markets and anonymous financial operations, which may have a negative impact on the economy [5; 7].

Conclusions

Money and credit systems are undergoing significant changes due to the development of digital currencies and cryptocurrencies. Central banks are actively working on the implementation of digital currencies to ensure economic stability and control over the money supply. At the same time, cryptocurrencies create new investment opportunities but also pose serious risks to financial systems. The development of effective regulation is crucial to ensure security and stability, as well as the integration of new technologies into international financial systems.

Literature

1. Auer, R., & Böhme, R. (2020). *The economics of cryptocurrencies: Bitcoin and beyond*. Bank for International Settlements.

2. BIS (Bank for International Settlements). (2020). *Central Bank Digital Currencies: A report from the BIS Innovation Hub*. Bank for International Settlements. Retrieved from https://www.bis.org/publ/othp33.htm

3. Catalini, C., & Gans, J. S. (2016). *Some simple economics of the blockchain*. MIT Sloan School of Management. Retrieved from https://ssrn.com/abstract=2709712

4. European Central Bank (ECB). (2021). *The digital euro: The future of money?* European Central Bank. Retrieved from https://www.ecb.europa.eu/paym/digital_euro/html/index.en.html

5. Foley, S., Karlsen, J. R., & Putniņš, T. J. (2019). Sex, drugs, and bitcoin: How

much illegal activity is financed through cryptocurrencies? *Review of Financial Studies, 32*(5), 1798-1853. https://doi.org/10.1093/rfs/hhz015

6. IMF (International Monetary Fund). (2021). *Crypto assets: Implications for financial stability and monetary policy*. IMF Working Paper. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2021/10/01/Crypto-Assets-Implications-for-Financial-Stability-and-Monetary-Policy-463893

7. Liu, H., & Wang, X. (2020). Blockchain, cryptocurrency, and financial inclusion. *International Journal of Economics and Finance, 12*(2), 103-118. https://doi.org/10.5539/ijef.v12n2p103

8. Narula, A. (2022). *Cryptocurrency and the financial system: A global perspective*. Springer.

9. The Federal Reserve. (2022). *Money and payments: The U.S. dollar in the age of digital transformation*. Federal Reserve. Retrieved from https://www.federalreserve.gov/econresdata/ifdp/2022/ifdp1317.htm

10. Zohar, M. (2019). *Blockchain and the law: The rule of code*. Harvard University Press.

```
                 Грошово-кредитна система
                            |
                   ----------------------------
                   |                    |
            Центральний банк          Комерційні банки
                   |                    |
    ---------------------------      ---------------------------
    |                    |      |                  |
Випуск традиційної     Випуск   Депозитні та          Розрахункові
 валюти (фіатні      цифрових   кредитні            системи
   гроші)              валют      операції
                   (CBDC)
                   -------------------------------
                   |                       |
         Регулювання грошової          Контроль за обігом
          маси та монетарна           цифрових валют
              політика                 (CBDC)
```

```
      Взаємодія між ринками
        ------------------------------------------------
        |                                   |
        |             Використання блокчейн-технології у
        |             традиційних банківських послугах
        |
        |
Криптовалютний ринок
   |                       |                   |
   |                       |                   |
Децентралізовані          Криптовалютні          Регулювання та
криптовалюти                біржі               інтеграція
(BTC, ETH)                 (торгівля            криптовалют у
   |                    криптовалютами)      грошово-кредитні
   |                                     системи
   |
Не підлягають централізованому
контролю; використання
блокчейн-технології
                    Вплив криптовалют
                  на міжнародні платежі
   |
   |
Висока волатильність;
інвестиційні інструменти
та анонімні фінансові
операції
```