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## **THE IMPACT OF THE DIGITAL RUBLE ON THE BANKING SYSTEM**

***Annotation.** The article examines the role of the digital ruble as a factor in the development of the economic potential of the banking system. The possibilities and challenges of the digital ruble are analyzed. Particular attention is paid to changing the business models of commercial banks, including the risk of deposit outflow, lower commission income and the prospects for the introduction of smart contracts. Based on the statistical data of C2C and C2B transactions, the dynamics of the popularity of the digital ruble among citizens and businesses is shown. The conclusion is made about the need for banks to adapt to the new reality through the development of technological modernization.*

***Keywords:** digital ruble, Central Bank, commercial banks, challenges, opportunities, C2C, C2B.*

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## **ВЛИЯНИЕ ЦИФРОВОГО РУБЛЯ НА БАНКОВСКУЮ СИСТЕМУ**

*Аннотация.* В статье рассматривается роль цифрового рубля как фактора в развитии экономического потенциала банковской системы. Анализируются возможности и вызовы цифрового рубля. Особое внимание уделяется изменению бизнес-моделей коммерческих банков, включая риск оттока депозитов, снижение комиссионных доходов и перспективы внедрения смарт-контрактов. На основе статистических данных С2С и С2В транзакций показана динамика популярности цифрового рубля среди граждан и предприятий. Сделан вывод о необходимости адаптации банков к новой реальности посредством развития технологической модернизации.

*Ключевые слова:* цифровой рубль, Центральный банк, коммерческие банки, вызовы, возможности, С2С, С2В.

Before we talk about how the digital ruble affects commercial banks, we need to talk about what the digital ruble is. The digital ruble is a digital form of the Russian national currency, which the Bank of Russia plans to issue in addition to existing forms of money, that is, as an alternative to cash and non-cash money. Digital rubles,

like any other form of money, are issued by the Bank of Russia, that is, it acts as the issuer of this money [2].

The digital ruble has a three-level management system. The levels include the Central Bank or the Bank of Russia, commercial banks, and bank clients, namely individuals and legal entities. The central bank issues digital rubles and manages the system to ensure that all processes work smoothly. Commercial banks manage customers' wallets and conduct transactions with digital rubles, but do not store digital rubles. Customers also use wallets and dispose of digital rubles [2].

The digital ruble has some advantages in comparison with other forms of money issuance [6]. For citizens and legal entities, the advantages are that they have access to a wallet through any bank they are served at, they do not need a new bank, and the digital ruble is heavily guarded, which increases the security of using the digital ruble. For the financial market, the digital ruble provides an opportunity to increase competitiveness, create new innovative products and services, as well as create and further develop a new payment infrastructure.

The digital ruble helps not only individuals and the financial market, but also the state. Thanks to the use of the digital ruble, the costs of administering budget payments are reduced, and it is also potentially possible to simplify cross-border payments.

After reviewing the advantages of the digital ruble, let's analyze its capabilities. Let's consider the key ones [4, p. 4-5]:

- Reducing the cost of payments, that is, transfers of the digital ruble go directly through the Central Bank without intermediaries, as it happens when transferring ordinary money. This significantly reduces banks' operating costs.
- Digital ruble funds are stored on the Central Bank's platform, which means it increases the security and safety of money, as commercial banks may lose their licenses.
- The digital ruble allows you to track the entire cash flow chain, reflecting the transparency of transactions, which reduces the risks of fraud and abuse.

- Thanks to the digital ruble, the development of smart contracts has begun, that is, the terms of transactions are automatically fulfilled upon the occurrence of pre-determined conditions without the participation of financial intermediaries.

- It will not depend on the restrictions of banks, like other funds, in the form of fees and limits.

- The digital ruble allows transactions to be carried out between different countries, bypassing commissions and complex chains of intermediaries, and also reduces transaction time.

Having studied the possibilities of the digital ruble, it is also necessary to note the challenges it faces.

The key impact on the banking system is that the use of the digital ruble will negatively affect banks' incomes, as part of the funds will be transferred to the Central Bank's platform [1, p. 48].

Commission income from commercial banks will also decrease, as the bank charges interest when paying with a card. The operations of the digital ruble go through the Central Bank, and it, in turn, does not earn commission income, that is, the existence of banks, especially small ones, is under threat.

The digital ruble is a new technological system, meaning that small banks cannot use it, as they need to update their IT infrastructure [5].

Due to the fact that this new direction raises the problem of cyber threats, characteristic attacks on the platform are possible, which can lead to loss of access to funds.

Thus, the digital ruble must either be forced to modernize banks, or they will cease to exist.

After analyzing the statistics on the dynamics of transfers on the digital ruble platform from September 2023 to May 2025, we can conclude that both types of transactions – C2C and C2B – are steadily growing, but C2C transfers are growing much faster both in absolute terms and in terms of pace. Starting from 4,034 transfers in September 2023, by May 2025, it had become 63,075, that is, almost 15.5 times.

As for C2B transfers, starting from 1,024 in September 2023, by May 2025, there were 12,895 transfers, an increase of about 12.6 times. The ratio of C2C to C2B increased from 3.9 times at the beginning of the period to 4.9 times at the end, meaning that the gap has grown, which means that users are more actively using the digital ruble for personal transfers than for paying for goods and services. The dynamics shows that after March 2024, C2C noticeably accelerated, and in March–May 2025 it added almost 7 thousand in two months. On the contrary, C2B growth slowed significantly after September 2024: in 9 months, the increase was only about 3.6 thousand, while in the previous year it was more than 8.2 thousand. This may indicate that businesses are slower to accept digital rubles, or citizens are still reluctant to use them for purchases. Thus, the digital ruble platform is gaining popularity primarily in the C2C segment, and additional incentives for sellers and buyers are needed for the mass implementation of payments in commerce (C2B) [3].

The analysis suggests that the digital ruble is the third form of national currency and fundamentally changes the traditional role of commercial banks in the settlement system. On the one hand, the introduction of the digital ruble opens up new opportunities for banks: reducing transaction costs, developing smart contracts, and increasing payment transparency. These advantages are particularly evident in the C2C and C2B segments, where the digital ruble provides instant and virtually free payments, which was previously unattainable for interbank transfers.

On the other hand, there are serious challenges, namely the reduction of commission income and the outflow of part of the liabilities to the Central Bank's platform. In addition, banks are forced to invest in upgrading their IT infrastructure and strengthening cybersecurity, which is especially difficult for small credit institutions. Nevertheless, the digital ruble will not lead to the instant disappearance of banks, but will accelerate the structural change of the banking sector. Large banks that are able to adapt quickly and offer new services to customers will maintain and strengthen their positions. Thus, the future of commercial banks in a digital ruble environment depends not so much on the instrument itself as on the willingness of banks to change and adopt new business models.

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