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CHOOSING A DIGITAL CURRENCY MODEL IN THE CONTEXT OF COUNTRY'S ECONOMIC SECURITY

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Abstract

The article reveals the content and essence of modern monetary theory (MMT) and the digital currency of central banks (CBDC). The issues of economic and national security of Russia in the case of the implementation of the digital ruble project based on the D model are disclosed. The relationship between MMT and CBDC shows, that CBDC is the basic MMT tool that allows ensuring the differentiation of modern states into monetary-sovereign and monetary-non-sovereign countries. It shows the desire of the leading economies of the modern world to put into practice the opportunities provided by MMT and CBDC. The result of the public discussion of the digital ruble project in Russia is presented. To preserve the monetary sovereignty of the modern and economic security of Russia, the B model is preferred. It provides the Bank of Russia with full control over payments in digital currency and eliminates problems in cross-border payments. The subsequent transition from Model B to model C seems appropriate for modern Russia. Accelerating the adoption of a positive decision on the introduction of the digital ruble in Russia upon completion of testing of the digital ruble platform will contribute not only to ensuring the monetary sovereignty of the Russian state, but also to the real internationalization of the Russian ruble not only within the framework of the Union of Russia and Belarus, but also the Eurasian Economic Union.

Keywords: Central bank digital currency, digital ruble platform, economic security, modern monetary theory, sovereignty

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1. Introduction

In the context of the transformation of the capitalist economic system into an integrated economic system, that is, into a system of socially-oriented or inclusive capitalism. When, according to modern monetary theory, hereinafter MMT, modern states are differentiated into monetary-sovereign and monetary-non-sovereign, it is important to define the general contours of the new paradigm of managing the economic security of a modern state in the context of MMT and the digital currency of central banks, hereinafter CBDC.

The relevance of the study is caused by the fact that within the framework of the state, the development of monetary circulation has been carried out and is still being carried out, following the three main theories of money and their modifications. In the last decade, on the one hand, the development of digital means of payment, including private cryptocurrencies and CBDC, has been gaining momentum. On the other hand, in the theory of money, there is an increase in MMT, radically changing the idea of monetary circulation both in terms of the goal and its starting point or beginning. The law of monetary circulation itself, formulated by Marx and Engels (1959), is being updated. The basic foundations of MMT were laid by Abba Lerner (Wray, 1990). At its core, MMT is a further development of the post-Keynesian concept of the quantitative theory of money, based on research (Innes, 1913; Keynes, 2012; Knapp, 1924) and other scientists of the twentieth century. MMT was developed in the works (Mosler, 2012; Mitchell & Mosler, 2006; Wray, 2015). MMT is the most discussed topic in financial and scientific circles today, and this is evidenced by the resolution of the US Senate adopted in May 2019 condemning MMT, which added popularity to it (Moiseev, 2019).

2. Problem Statement

CBDC as a new form of money, under the provisions of MMT, can harm the economic and national security of a modern state. We are talking about a conscious choice of the CBDC implementation model – retail or wholesale.

It was this circumstance that was the basis for choosing the purpose of this study – an assessment of the relationship and analysis of the nature of the interdependence between CBDC and MMT, and their impact on the economic and national security of modern Russia.

3. Research Questions

In MMT, the beginning of the monetary circulation process is considered with public expenditures, and for this, the state must have the right to issue money in the necessary amount to carry out its functions and tasks. Then, based on the public expenditures carried out, the process of forming state revenues is carried out based on the tax system being built and private savings. To substantiate this message, two types of modern states are distinguished in MMT – a monetary sovereign state (hereinafter, MSS) and a monetary non-sovereign state (hereinafter, MNSS). At the same time, the MSS issues its national currency and does not impose self-restrictions on the monetary issue, and its monetary policy is removed from the influence of other states, and the MNSS puts its monetary policy, including the issue of its

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national currency, dependent on the currencies of foreign states and the situation in the field of international monetary-credit relations.

MMT proceeds from the monopoly of the monetary-sovereign state on the issue of money, which is ensured, firstly, by the primacy of public spending over its income. So public spending precedes public revenue in a monetary–sovereign state. Secondly, the exhaustion of production capacity leads to an increase in the index of prices for products. Thirdly, government expenditures depend neither on the amount of money from taxpayers and private investors of government securities nor on the size of the key rate and foreign exchange reserves of the central bank. Fourth, there is an inverse dependence between the level of the tax burden and the level of employment of the population. Fifth is taxation, which is the root cause of unemployment in a monetary sovereign state.

MMT considers state taxation as the basis of a sovereign monetary system, which provides the possibility of concentrating social financial resources for the state to execute its functions and tasks, and the formation of private savings.

The central idea in MMT is a complete state monopoly on the issue of money in MSS, both cash and non-cash. It is for the realization of this goal that the idea of creating and implementing CBDC as the third form of modern money has been implemented, and in fact, we are not talking about an additional digital form of cash and non-cash money, but about a brand new form of money, which allows us to solve in the future the issue of complete monopolization of monetary emission by the state through the displacement of cash and non-cash money from circulation (Tsakaev & Saidov, 2021).

Central banks and many scientists present CBDC as an additional form of the national currency, issued in digital form, combining the properties of cash and non-cash means of payment, and equivalent to cash and non-cash forms of money. Thus, the emergence of CBDC, according to the report of the Bank of Russia on digital rubles (CBR, 2020), hereinafter referred to as the Report, is caused by the need to use digital money both online and offline.

The Russian megaregulator of the national financial market in the Report submitted for public discussion the following four models of digitalization of the Russian ruble: Model A – single-level model, wholesale; Model B – single-level model, retail; Model C – two-level retail model, in which financial organizations are transit agents; Model D – two-level retail model, in which financial organizations are parties to the settlement. At the same time, the right choice between "retail" or "wholesale" CBDC models for state-wide implementation affects the possibilities of transformation of this state into MSS or MNSS.

In the context of the transition of the modern world to the digital form of money, the Copernicus-Gresham Law (The Great Russian Encyclopedia, 2005), which states that bad money displaces good money from circulation, is undergoing a serious transformation as well. Namely, it can be argued that "good money" in the sense of "digital money" will displace "bad money" from circulation, both cash, and non-cash. At the same time, in 1992, Hans Tietmeyer, former president of Deutsche Bundesbank, mentioned Nicolaus Copernicus, who in 1529 wrote: "I noticed that in countries where there is good money in circulation, art and business flourish, wealth is everywhere, while laziness and indifference are observed in countries where bad money is in circulation" (Krivoshei & Semerikova, 2021, p. 71). According to Hans Tietmeyer, this statement of Copernicus is still true today, and the digital currency excludes counterfeiting and unjustified emission of money. A group of central banks from six

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economically developed countries (Canada, England, Japan, the USA, Switzerland, and Sweden), the European Monetary Union, and the Bank for International Settlements have been working together since October 2020 to study digital CBDC technologies for the population or "retail" CBDC. The result of the annual work of this Group together with BIS is their conclusion that, firstly, CBDC in the monetary system of the state will strengthen public confidence in money and support public welfare. Secondly, CBDC, which fully meets the fundamental principles, can become an important tool for central banks in improving financial stability, and using new technologies to serve the population. Thirdly, international cooperation on CBDC can pave the way for improving cross-border payments. Fourth, the CBDC is likely to have a broad impact on public policy issues beyond the traditional powers of central banks.

In the Russian Federation, the topic of digitalization of the ruble has been discussed since 2020 in a certain sequence, following the publication by the Bank of Russia of the Digital Ruble report (CBR, 2020) for public consultations. In April 2021, the Bank of Russia published its Concept of the digital ruble (CBR, 2021a), and on December 20, 2021, the Bank of Russia announced the creation of a prototype of the digital ruble platform (DRP) (Interfax, 2021). In January 2022, the Bank of Russia started developing proposals to amend the legislation of the Russian Federation. In the first quarter of 2022 – the launch of testing a prototype of the digital ruble platform – further, DRP. Currently, the Bank of Russia has started testing a DRP prototype.

The Bank of Russia will test the PCR prototype throughout 2022, together with commercial banks and the Federal Treasury. At the same time, the formation of DRP is planned in phases. At the beginning (the first phase), credit institutions and the fed Treasury will be digitally connected so C2C, C2B, B2C, B2B, G2B, B2G, C2G, and G2C operations will be conducted within the platform. Then (in the second phase), the remaining financial intermediaries will be connected to the platform, and the offline mode of DRP operation will be introduced. Simultaneously, the exchange of the digital ruble for foreign currency and the opening of wallets to non-resident customers will be provided.

The publication of the Report, according to the data of the Bank of Russia (CBR, 2021a), had a great resonance in Russian society. Thus, as of April 1, 2021, the Bank of Russia received assessments and proposals from 196 respondents, and nationwide discussions were held with the participation of business, government, and the public. In particular, the websites of the Association of Banks of Russia, the Association of Fintech, and the Analytical Center "Forum" were engaged as communication platforms. In addition, discussions were held in the Federal Assembly – the State Duma, and the Federation Council.

Most respondents supported the initiative of the Bank of Russia to introduce the digital ruble (CBR, 2021a), expressing their position on the issues of the Report and presenting several proposals on approaches to the implementation of the project. The Bank of Russia considered some of them when developing the Concept of the digital ruble. Thus, most respondents, 75 % of 196 respondents, insisted on the introduction of the digital ruble immediately, and as a result, the Bank of Russia started testing a PCR prototype in January 2022. According to (CBR, 2021a) 138 out of 196 respondents or 70.0 % voted in favor of one or another proposed model of the digital ruble. At the same time, 116 respondents, or 84.0 % supported Model D, a two-tier decentralized retail model that preserves the existing monetary system model in Russia. The Bank of Russia noted that Model A was rejected by respondents due to the lack of

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access to digital ruble transactions for the DRP client, so it does not create advantages compared to the existing payment infrastructure in Russia. Model B was rejected because it constitutes that the Bank of Russia takes over customer service on DRP, which forms a single-level monetary system. In turn, Model C was discarded due to the exclusion of financial organizations from the process of interaction of the Bank of Russia with clients on DRP.

The Bank of Russia also received an additional proposal to consider the fifth model – "Model E", which suggests the tokenization of non-cash rubles (TNCR) in circulation within credit institutions and allows further interaction with TNCR on DRP. Regarding this proposal, the Bank of Russia plans to discuss TNCR with market agents at various venues. Meanwhile, according to the clarification remark of the Bank of Russia (CBR, 2021a), firstly, TNCR will not be considered as means of payment. Secondly, the TNCR will not be considered a monetary obligation of the Bank of Russia. Thirdly, TNCR can be issued by commercial banks (for example, Sberbank). Fourth, TNCR will be the monetary obligation of commercial banks. Fifth, the digital ruble is a unique digital code in the wallets of customers on DRP. Sixth, operations with the digital ruble will be carried out through DRP integrated into banking applications. Special digital wallets located on DRP will be developed for the digital ruble. According to the Strategy for the Development of the Russian Financial Market until 2030 (CBR, 2021b), the Bank of Russia will launch the digital ruble in 2030.

The Bank of Russia, referring to the opinion of the majority of survey participants (CBR, 2021a), believes that model D is the most acceptable for Russia, since it provides, firstly, the maximum availability of the digital ruble for customers. Secondly, optimization of the cost of calculations and thereby reducing costs in the economy. Thirdly, the use of the advantages of Russia's two-tier monetary system and the infrastructure of financial institutions in customer service. Fourth, the Bank of Russia opens wallets to financial organizations and the Federal Treasury, and financial organizations open wallets to customers on DRP and make payments through them. Meanwhile, the question arises – how is the banking system of the Russian Federation stronger than the banking systems of Switzerland and France? This allowed the Bank of Russia to implement the CBDC retail model, and the central banks of France and Switzerland to implement the CBDC wholesale model (PLAS Journal, 2021).

In the concept of the digital ruble (CBR, 2021a), the fourth model, Model D (two-level retail), was chosen as the target model of the digital ruble. At the first level of this model, the Bank of Russia is represented in two statuses: a DRP operator and an emitter of digital rubles. Credit organizations are at the second level, they introduce and maintain wallets for their clients on DRP, and the Federal Treasury introduces and maintains wallets for budget organizations on DRP. Model D has the following aspects: The Bank of Russia is the emitter of the digital ruble; the digital ruble is an obligation of the Bank of Russia; the digital ruble is credited to the wallet and non-cash funds are simultaneously debited in the ratio of 1:1, and vice versa; the Bank of Russia opens wallets to financial organizations and the Federal Treasury; financial organizations introduce wallets to their clients and the Federal Treasury to budget organizations; the client can have only one wallet on DRP; wallets of clients in digital rubles are placed on DRP and are not reflected on the balance sheet of financial organizations; interest income on the balance is not accrued on digital rubles placed in wallets; in case of bankruptcy of financial organizations, the funds in the wallet are available to the client through any other financial organization where he is

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serviced. Among the r-CBDC models, the hybrid digital currency system model is the most promising, as it is characterized by the greatest reliability and speed when processing a large number of transactions. And among the w-CBDC models, the system model with a universal digital currency is most suitable for eliminating the main disadvantages of cross-border payments (Kochergin, 2021).

The DRP prototype will provide for the connection of participants with the following functions: the Bank of Russia is the operator of DRP and the issuer of the digital ruble. Credit organizations are DRP participants who make payments via DRP on behalf of their clients. Individuals and legal entities are users of DRP, but they get access to their DRP wallets through credit institutions. The Bank of Russia started testing the DRP prototype in January 2022. In the first phase of implementation, it is supposed to connect credit institutions to DRP and launch C2C transfers. The second phase is to connect the Federal Treasury to the platform, launch smart contracts and C2B, B2C, B2B, C2G, G2C, G2B, B2G operations, ensure the exchange of the digital ruble for foreign currency, and enable non–resident customers to open wallets. The results of testing the DRP prototype will form the basis of the roadmap of the full functional DRP.

On September 13, 2021, the Russian Ministry of Finance and the Bank of Russia introduced for public discussion the Strategy for the Development of the Financial Market until 2030 (CBR, 2021b) – hereinafter, the Strategy. And one of the key projects in the field of digitalization in the long term is the launch of the digital ruble. Therefore, it is important to assess the possible consequences correctly and fully for Russia's economic, financial, and national security.

Among the tools of economic security management, in the first place, the list of target indicators should be noted. Thus, in (Ministry of Economic Development of Russia, 2019) and in the Institute of Economics of the Russian Academy of Sciences (Karavaeva et al., 2020), target indicators and their critical values have been defined as tools for managing the economic security of the Russian Federation. A natural question arises – how will these target and critical values change with the introduction of the digital ruble into circulation based on model D (a two-tier retail system in which commercial banks and the Federal Treasury are DRP participants)? This and the above research results allow us to present certain conclusions and proposals in terms of ensuring the financial, economic, and national security of Russia.

4. Purpose of the Study

The purpose of the research within the framework of writing this article is, on the one hand, the formation and substantiation of a working hypothesis about the existence of a link between MMT and CBDC, and that it is aimed at differentiating modern states into monetary-sovereign and monetary-non-sovereign. On the other hand, an assessment of the impact of the choice of the CBDC model on the economic security of a modern state.

Practically, social development is in a state of a new redistribution of property based on the allocation of different state public legal entities in monetary terms. The hypothesis about the appearance on the map of the modern world (in the next 10–15 years) of a set of 5-6 monetary-sovereign states with dependent (monetary-non-sovereign) states gravitating towards them.

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The study was conducted based on a detailed study of existing available sources about CBDC and MMT in scientific and specialized literature, on paper and electronic media, the Internet, and other sources.

5. Research Methods

As applied research methods in the framework of writing this article, we have used both an arsenal of expert assessment methods, including comparison, analogies, and foresight capabilities. The authors compared the postulates of the organization of monetary circulation put forward by MMT with the structure of monetary relations in-state public legal entities that have developed over the past 300 years.

6. Findings

Intentions and practical steps to introduce CBDC in several countries (including Russia) as the third form of modern money, it testifies to the real demand for the basic provisions of MMT, and above all in terms of the complete monopoly of the modern state represented by its central bank on the issue of national digital currency.

The introduction of CBDC as the third form of money (after cash and non-cash) is an act of consistent replacement of existing cash and non-cash money, which have become archaic for the modern state, with more relevant to its strategic interests, and additive to the process of digitalization of public relations.

The question is not whether MMT is a strictly constructed (having its construction model) and objectively justified construction of monetary relations or is it a set of little-related statements. And the fact is that in a critical civilizational period, when, within the framework of the idea of transforming monopolistic capitalism into "inclusive capitalism", the powers that be are trying to solve the problem of redistribution of resources within the framework of the transformation of the world order into monetary-sovereign and monetary-non-sovereign states using CBDC as the basic tool of such transformations.

7. Conclusion

To ensure the economic and national security of Russia, the Bank of Russia, being the mega-regulator of the entire Russian financial market, must exclude and suppress the possibility of using cryptocurrencies in Russia as a means of payment. At the same time, in the context of the content and essence of MMT and CBDC, it is important to prevent the parasitization of cryptocurrencies on Russian cash and non-cash currency (including the digital ruble), within the entire Russian jurisdiction.

It is important to assess and analyze risks in both the banking system and the entire financial system of Russia by the Bank of Russia DRP testing, in terms of ensuring the price and financial stability of the country. How will the introduction of the digital ruble affect the size and structure of deposits of commercial banks in Russia, and the format of the monetary policy of the Bank of Russia? How much the Bank of Russia is ready to ensure the cybersecurity of the digital ruble. These and other issues underlie the adoption of a positive decision on the introduction of the digital ruble into circulation based on the use of the D model.

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From the standpoint of Russia's economic and national security, the digitalization of the Russian ruble should involve two stages. At the initial stage of the transition to the digital ruble, model B seems to be preferable, at the second stage – a smooth transition to model C (which allows the country to maintain a two-tier monetary system, after a complete discharge of ballast at its second level during the operation of model B).

Meanwhile, accelerating the adoption of a positive decision on the introduction of the digital ruble in Russia upon completion of DRP testing will contribute not only to ensuring the monetary sovereignty of the Russian state, but also to the real internationalization of the Russian ruble not only within the framework of the Union of Russia and Belarus, but also the Eurasian Economic Union.

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