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Can the Digital Ruble Shield Russia From Western Sanctions?

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Contents

Summary	1
Introduction	3
Russia's Efforts Toward Currency Digitalization	5
Cross-Border Transactions	7
Lagging Behind China	8
State Control and Public Distrust	10
Technological Challenges	12
Conclusion	13
About the Author	15
Notes	17
Carnegie Russia Eurasia Center	23

Summary

In recent years, central banks in several major countries, including Russia and the United States, have been exploring the creation of digital assets, commonly known as central bank digital currencies (CBDCs).

Russian policy discussions about the creation of a digital ruble center on its potential utility for facilitating international trade and mitigating the impact of sanctions. The advantages for Russia of CBDCs, including enhanced cross-border payment capabilities and reduced transaction costs, are fairly straightforward. They could provide Russia with alternatives to traditional payment systems like SWIFT that it lost access to as a result of Western economic sanctions introduced in the wake of the full-scale invasion of Ukraine in early 2022.

The digital ruble project initiated by the Russian central bank in 2020 has progressed rapidly, with real-world testing involving several commercial banks and clients now under way. Positioned as a retail CBDC, the digital ruble is intended to integrate seamlessly into everyday transactions. However, several important challenges persist, ranging from public skepticism toward CBDCs and concerns over state surveillance to integration costs for banks and the difficulties of aligning the digital ruble with international CBDC standards.

More broadly, Russia's CBDC efforts face competition from countries like China, which has made more progress in testing a CBDC and its associated infrastructure. China has also made more strides in fostering international collaboration. That state of affairs may ultimately increase Russia's overall dependence on China. Meanwhile, Russia is trying to galvanize efforts within the BRICS group of countries to promote CBDC usage and alternative ways of making cross-border payments. The potential success of Russia and China in this field does not pose an immediate threat to either the dominance of the U.S. dollar or the viability of the existing Western sanctions regime, but it does pave the way for gradual yet significant changes to the global financial system as we know it.

Introduction

The unprecedented Western sanctions campaign since February 2022 has significantly affected Russia's international settlements and payments infrastructure.¹ Russian businesses have been forced to invent temporary solutions and switch to alternative currencies, which often increases transaction costs. Despite concerted Russian efforts to circumvent sanctions, including by forging partnerships with third-party nations, the obstacles created by a coalition of G7 countries have disrupted foreign trade operations and deepened Russia's reliance on China.

Western banks swiftly severed ties with Russian entities almost immediately after the full-scale invasion of Ukraine. Following the release of a U.S. executive order in December 2023 that created a framework for imposing secondary sanctions on facilitators of transactions linked to the Russian defense sector,² banks in China and parts of the Middle East reduced their exposure to Russian counterparties. This intensified pressure has left Russian companies grappling with heightened transactional challenges.

Russian financial authorities are trying to devise solutions to a tricky problem that is intertwined with the intricacies of international settlements and payments.³ For many Russian companies, international payments are hindered by sanctions. Additionally, foreign banks often choose to refuse transactions or close accounts for Russian firms, avoiding the costly burden of compliance. The Kremlin and the central bank are discussing a range of possible options with the Russian private and financial sector.⁴ They have already granted businesses the flexibility to use various options, including digital assets and cryptocurrencies for overseas activities.⁵

As the authorities seek to mitigate the impact of sanctions, the logical next step could be the adoption of central bank digital currencies to facilitate cross-border payments. Part of their motivation is the fact that Russia's main trading partner, China, is already extremely advanced in this field. Crucially, transactions in CBDCs do not require the use of the SWIFT international payment network, from which a large part of the Russian banking system was disconnected in 2022. Originally conceived solely as a financial technology innovation, CBDCs are being increasingly seen through a political lens as well, as a result of sanctions.

In 2024, Russia holds the BRICS presidency. One of the key points on Russia's agenda for the BRICS+ leaders' summit in Kazan in October is the creation and promotion of the BRICS Bridge system, a platform for settlements in CBDC.⁶ This effort encompasses the sovereignty of cross-border settlements and the creation of joint payment mechanisms that do not use SWIFT and are inaccessible to Western regulators. Of course, BRICS+ is not in a position to undermine the dominance of the U.S. dollar in the global financial system in the near term. And while the issue of cross-border payments may be critical for Russia, China's leaders are not terribly preoccupied by the fact that the threat of secondary sanctions is affecting the behavior of their country's financial institutions—at least for now.

So far, technology-related sanctions have had a very limited impact on the development of the digital ruble. On the one hand, Russia has shown that it can adapt to such challenges. On the other hand, a CBDC is not a panacea for circumventing sanctions, especially since Russian efforts are still only at the testing stage. But given that financial sanctions are creating bottlenecks even as Russian cooperation with China is increasing, the G7 countries have started to keep an eye on CBDCs. The U.S. Office of Foreign Assets Control (OFAC) has already sanctioned crypto exchanges and the Russian developer of a digital financial asset platform. So far, nothing related to CBDCs has been targeted by U.S. or European Union (EU) sanctions policymakers.

Amid these external pressures, Russia also faces challenges in the form of public distrust of this novel form of currency and banks' reservations regarding CBDCs. Despite the fairly advanced level of financial services available on the Russian market, average Russians are extremely wary of relying on financial mechanisms and infrastructure that are forced on them by the state.

This paper examines the current status of the digital ruble and whether it could serve as a strategic tool for the Kremlin to navigate sanctions, given the complexities surrounding its implementation.

Russia's Efforts Toward Currency Digitalization

The Bank for International Settlements found that of eighty-six central banks surveyed, 93 percent of them were engaged in some form of work on a CBDC, but the issue is broader still.⁷ 134 countries are exploring CBDCs, among which the Bahamas, Jamaica, and Nigeria have officially launched CBDCs.⁸ In the meantime, China, Brazil, and India are actively piloting CBDC projects.⁹

CBDCs are effectively a central bank cryptocurrency. Unlike ordinary crypto, CBDCs are issued by the state, represented by the central bank. This state issuance is what completes the transformation of a digital asset into money. There are generally three types of CBDC, and each serves its own purposes: retail, designed to work as a digital currency equivalent and available to the general public, thus allowing users to make everyday payments and transactions; wholesale, intended for use between financial institutions such as banks or large corporates, and not meant for direct access by the general public; and hybrid, which combines features from both of these approaches.¹⁰

Among the main advantages of CBDCs are: a reduction in transaction costs, including through reducing the burden on banks and payment systems; improvement of accessibility and sustainability of retail payments; and increased opportunities for cross-border payments (if residents of one country have access to the CBDC of another country).¹¹ In terms of architecture, there are two types: direct (interaction between the CBDC user and the central bank) and two-tier (interaction between the CBDC user and the central bank occurs through intermediaries, usually commercial banks).¹²

In 2020, the Bank of Russia began its journey toward the introduction of a digital ruble, progressing from conceptualization to real-world testing with various banks within a span of three years. In August 2023, the central bank launched an experiment involving thirteen banks to evaluate payment transactions using digital rubles.¹³ Opting for the retail CBDC model, the digital ruble is designed to be securely stored in specialized wallets directly managed by the Bank of Russia. This arrangement grants the central bank complete oversight over the issuance and circulation of digital rubles. Importantly, the exchangeability of digital rubles for either physical cash or non-cash equivalents (that is, bank deposits) will occur at a fixed ratio of 1:1.

Operating within a two-tier system, individuals may conduct transactions using digital rubles through designated bank applications. Presently, an active testing phase involves twelve banks and select clients, with plans for expansion in 2024 to include nineteen additional banks and a broader user base.¹⁴ Widespread integration of the digital ruble into everyday financial practices is slated for 2025.¹⁵ It is worth noting that the issuance of the digital ruble won't involve the emission of additional currency, but will represent a restructuring of the money supply, redistributing portions of cash and deposits in favor of the CBDC.¹⁶ This means that the issuance of the digital ruble will be inflation neutral

and will have no impact on banks' balance sheets. The digital ruble will use a secure and transparent system like blockchain to keep track of the currency. In this system, "tokens" will act as digital units representing the ruble for transactions.

By starting actual CBDC tests, Russia has advanced further than the EU, where the European Central Bank (ECB) is still in the preparatory phase of testing the digital euro, let alone the United States, which has not yet made a decision on whether to pursue or implement a CBDC.¹⁷

Like Russia, the ECB is working on a retail version of a digital currency within a two-tier architecture, using banks as intermediaries between individuals and the ECB. The preparatory phase includes finalizing the digital euro rulebook and selecting providers that could potentially develop a digital euro platform and infrastructure.¹⁸ The decision on whether to ultimately issue a digital euro will be made at a later stage.

What is the difference between CBDC and cryptocurrencies?

Money combines three functions: a means of circulation (payment), a means of saving, and a unit of account. Many assets can be used for exchange from time to time, that is, they can act as a means of circulation. But in order to become a means of saving, they must already have a stable value. Finally, only widely recognized means of saving can serve as a measure of value, the unit of account through which the prices of goods, services, and assets are determined. The value of fiat money, which is not backed by precious metal such as gold, is based on trust in those who create it—commercial banks—and in the regulators who ensure the stability of the monetary system and thus that money fulfills its basic functions. Today, all money is fiat in origin.

Since 2000, the evolution of financial and payment technologies has ushered in a novel class of digital assets. The best-known examples of money surrogates today include cryptocurrencies and stablecoins. Cryptocurrencies are digital assets that are recorded automatically without the involvement of banks or other regulators: each user keeps a copy of a list of records of all transactions with a given cryptocurrency since its inception. Stablecoins are cryptocurrencies with additional built-in mechanisms to maintain the stability of their value: for example, by depositing fiat collateral at a 1:1 ratio or through issuer transactions similar to currency interventions.

In reality, stablecoins and cryptocurrencies are not quite money. Money is a social agreement: we accept money in transactions because we expect other people to accept that money from us afterwards. The money we know as fiat money, the currencies that are issued by central banks,

currently represent the only money that has universal acceptance in the economy. That is not how cryptocurrencies and stablecoins work. CBDCs, however, are also issued by the central bank, making them a full-fledged form of money.

The collapse of the TerraUSD stablecoin and its “twin” Luna in May 2022, when the value of the third largest stablecoin, which should have always been \$1, collapsed to almost zero in just a few days, was the biggest shock in the crypto sector to date.¹⁹ The prices of many other cryptocurrencies have collapsed by 90 percent or more from their peaks in 2021. The drop in value and flight from illiquid cryptoassets underscores the risks to financial stability. Regulators such as the U.S. Securities and Exchange Commission have emphasized that addressing these risks, along with various types of scams and fraud, is an urgent policy challenge.

Cross-Border Transactions

One of the main advantages of CBDCs is the opportunity to significantly simplify and accelerate cross-border settlements (provided that the appropriate infrastructure is created). Outlining three scenarios for CBDC development, the International Monetary Fund singles out cross-border operations in each of them.²⁰ Their parameters and volumes can be regulated by international agreements. Such transactions will not require traditional interbank interaction, which means there will be no need to use SWIFT.

Following the cutting off from SWIFT of major Russian banks, the Russian authorities are looking for a systemic solution for those involved in international economic activity. Use of cross-border transfers to a CBDC may provide an attractive solution, especially since the Bank of Russia intends to make the digital ruble platform interoperable with other CBDC platforms. Even before February 2022, Bank of Russia officials had hinted that this decision was a way to reduce Russia’s dependence on SWIFT.²¹

Foreign banks may be able to open digital ruble accounts from 2025, according to draft instructions from the Russian central bank.²² Such an opportunity should primarily interest foreign banks that service international economic activity. By connecting to the Bank of Russia platform, they will be able to open accounts in digital rubles under the same principle as correspondent accounts. However, if the digital ruble or operations involving it become a target for Western sanctions, foreign banks will lose any desire to work with it.

Specific talks on interfacing digital currency platforms are already under way with China, and a pilot could be launched in 2024, according to Anatoly Aksakov, head of the Russian Duma's finance committee.²³ The main risk for Russia is falling into even greater dependency on China.²⁴ In just two years, yuan-denominated trade on the Moscow Exchange (MOEX) went from almost nothing to nearly 54 percent of all transactions on the market.²⁵ In December 2023, 35.8 percent of Russia's exports were purchased in yuan, along with 37 percent of imports. At the same time, exports in foreign currencies reached their highest level since January 2022 (\$2.8 billion of the total \$5.4 billion was settled in yuan).²⁶

Since Biden's December 2023 executive order on secondary sanctions, Russian businesses have increasingly encountered problems in "friendly" countries such as Turkey, the UAE, and China. This pressure campaign means that the yuan will be used even more. Sanctions against the Moscow Exchange and the threat of secondary sanctions have significantly limited the ability of Russian firms to settle cross-border transactions, but have not closed it completely. Shared platform solutions for the digital ruble and RMB could be a solution to this problem. However, having moved much further ahead of Moscow on the CBDC issue, Beijing is unlikely to agree to a Russian solution. It's a crucial matter of independence and economic sovereignty for a country to control the technology behind its digital currency: using another country's technology could give that other country power over the first country's economy.

Lagging Behind China

China has been actively testing a retail version of the digital yuan since 2019,²⁷ and it is considered as cash in circulation. The issuance and management of digital yuan accounts are not directly handled by the People's Bank of China; instead, commercial banks act as intermediaries, interacting with users. The digital yuan has undergone extensive pilot trials, encompassing over a million scenarios within the first two years,²⁸ including utility bill payments, tax payments, tickets for public transport, consumer purchases, and even the converting of digital yuan to paper cash via ATMs.²⁹ By June 2023, digital yuan transactions had surged nearly twentyfold, reaching a total value of 1.8 trillion yuan (approximately \$250 billion), with a total issuance of 16.5 billion yuan.³⁰ While this constitutes only 0.16 percent of the total cash in circulation, that proportion has grown by 20 percent since the end of 2022. Widespread adoption is reflected in the opening of 200 million digital wallets nationwide.

Parallel to the retail digital yuan, China is also developing a wholesale digital currency for financial intermediaries involved in cross-border transactions, primarily banks. Trials of digital yuan transactions with Thailand, Hong Kong, and the UAE have been conducted,³¹ utilizing the Bank for International Settlements' mBridge platform.³² Notably, there is no information regarding the Bank of Russia's participation in these experiments, and joint CBDC projects between Russia and China have not been reported. Both the digital ruble and digital yuan are being developed independently, and they probably will not be compatible as retail CBDCs for the foreseeable future. Most likely the interaction will be built around the wholesale CBDCs.

As part of its BRICS chairmanship, Russia has proposed creating a platform for settlements in digital currencies: the BRICS Bridge. "Technological gateways for settlements in digital currencies of central banks are already in operation," Russian Finance Minister Anton Siluanov has said.³³ In 2022, the BRICS nations signed an agreement to develop a common payment platform, expected to be operational by 2025.³⁴ In February 2024, BRICS finance ministers supported a proposal to create independent channels for settlements between banks of different jurisdictions, but without specifics. For now, such Russian-backed ideas exist mainly as concepts and are not formally part of any BRICS work plan.³⁵

Among the BRICS countries, China's pioneering role in CBDC issuance puts it in a position to set standards for this new form of money: primarily the blockchain on which CBDCs will run, the type of CBDC, and the platform itself. India is piloting both wholesale and retail CBDCs,³⁶ but the Reserve Bank of India has publicly said that there is no rush to implement them on a large scale.³⁷ The technologically advanced Beijing is likely to establish its own terms and rules for the platform's operation, potentially with Moscow playing a supportive role.

Iran is also a potential partner, given existing agreements between Moscow and Tehran to interface the Russian Mir and Iranian Shetab payment systems, but the size of cross-border trade remains modest.³⁸ Although a policy decision has been taken to enable the interoperability of payment systems, implementing an IT solution and fine-tuning processes to synchronize transactions will take additional time and require customization. Additionally, among Russia's neighbors, Kazakhstan is actively testing its own CBDC, the digital tenge, with the first transaction taking place in November 2023.³⁹

Still, even if technological compatibility is achieved, challenges such as determining the currency for pricing (currently done through the dollar), managing exchange rates, and addressing currency turnover will need to be resolved in any collaborative CBDC initiatives.

State Control and Public Distrust

Under current legislation, the digital ruble will have a phased rollout, initially for individual settlements and subsequently to be extended for corporate use. Notably, during the initial stage, commercial banks will be precluded from issuing loans in digital rubles. Instead, those banks will be able to establish digital ruble wallets for clients on a specialized platform. The banks will only be intermediaries, and digital ruble transactions will not require them to create additional reserves. The balances of clients' wallets on the digital ruble platform will not be reflected on the banks' balance sheets, ensuring a clear demarcation of assets. The safety of funds within these wallets will be guaranteed by the Bank of Russia. This also means that all digital ruble circulation will be under state control and surveillance.

Crucially, the digital ruble will not accrue interest in these wallets, distinguishing it from traditional savings mechanisms. Consequently, the digital ruble's primary utility lies in facilitating settlements rather than serving as a savings instrument. This delineation raises questions about its categorization as true "money" in the traditional sense, positioning it more as a monetary means of payment.

The digital ruble's functionality is expected to extend to offline payments, as assured by the Bank of Russia, although practical testing of this capability is yet to be conducted and is anticipated over the next eighteen months.⁴⁰

One of the main questions is whether there will be demand from individuals for this type of money. Thirty-four percent of respondents to a CFA Institute global survey were against the launch of a CBDC in their country.⁴¹ Russia's central bank itself is modeling very cautious possible demand for its CBDC. The two main risks here are inflation and the public's fear of greater vulnerability to the state. According to a 2023 poll by the state-run VTsIOM sociological institute, 70 percent of Russians are aware of the launch of the digital ruble, but only 30 percent would like to use it.⁴² Unsurprisingly, roughly half of respondents could not answer a question about the purpose of digital currency. Due to the lack of interest on deposits in digital rubles or cashback (as in the case of non-cash rubles), the new type of money is likely seen as less attractive for saving and more vulnerable to inflation.

The second risk associated with the digital ruble revolves around the potential complete de-anonymization of transactions. While this feature, in theory, could curtail opportunities for corruption, tax evasion, and other financial crimes, it concurrently raises concerns about heightened government interference in people's private lives. The central bank's directive outlines that Russians wishing to obtain an electronic wallet must be registered on the Gosuslugi website—an online platform

for state services operated by the Russian government—and possess at least a simple electronic signature.⁴³ In other words, without a Gosuslugi account, citizens will not have access to the digital ruble. People registered with Gosuslugi are now receiving electronic conscription notices, which further dampens popular enthusiasm.⁴⁴

Another issue surrounding Gosuslugi's involvement that could prompt further public reluctance is a constant increase in fraudulent use. Exact figures are not disclosed, but according to a police spokesperson in Tatarstan, one of Russia's largest regions, complaints that Gosuslugi accounts have been hacked are received daily.⁴⁵ Additionally, the central bank retains the authority to restrict access to digital rubles in the event of emergency situations or operational failures, with an obligation to provide approximate timelines for the restoration of access on its website.

Early on, there were concerns that the state might mandate the use of digital rubles for certain payments, such as pensions.⁴⁶ A precedent was set when, in response to international sanctions in 2014, Russia developed a national payment system and introduced the Mir card as a rival to Visa and Mastercard. By 2018, any state payments were exclusively credited to Mir cards, compelling a significant portion of the state sector to adopt domestic payment cards.⁴⁷ Given this historical context and the novelty of digital ruble technology, there are apprehensions that it might be initially treated as an experimental means of payment for the next few years.

Additional concerns center on the possibility that the digital ruble may become an element of the architecture of surveillance and control of public spending.⁴⁸ There has been speculation that digital rubles provided as part of state social payments will have an “expiration date” or that they will be “colored,” meaning they can only be spent on certain items and in a certain place.⁴⁹ For example, payments allocated to large families and earmarked for the children could only be spent on children's items. This means that redirecting so-called “colored funds” even within the state budget may become problematic. The authorities, however, have promised that digital money will not have a shelf life.

Some statist and conservative voices in the Russian leadership favor issuing rubles to pay for certain expenditures.⁵⁰ The launch of the digital ruble may encourage them to think about digital issuance, for example, for military-related expenditures. The Bank of Russia's position on this issue is the same as with regular emission. Targeted spending is only the first step in spending money. In the cost of a tank or a road, a significant part is made up of wages, materials, and logistics. Funds allocated for specific purposes enter the economy and begin to circulate freely, sparking demand for a wide range of goods and services fairly quickly. And since supply cannot adjust to demand with such speed, prices will rise. Accordingly, it can be concluded that the government's economic bloc is likely to oppose the use of the digital ruble to pay for additional government spending.

Technological Challenges

According to the Russian central bank's financial market development strategy, the introduction of the digital ruble should happen by 2030.⁵¹ The Bank of Russia has said that sanctions have accelerated the timing of the digital ruble project: the launch of a pilot project using real transactions and clients was brought forward from 2024 to 2023, since Russia desperately needs to develop an alternative way of making settlements and payments.⁵² The tests included operations to buy and sell digital rubles from a non-cash account, transfers to digital wallets between individuals, transfers to wallets in other banks, and payments to legal entities.

The platform solution for the digital ruble is being developed in-house by the central bank,⁵³ and therefore takes into account the risks of tougher sanctions, including restrictions on the operation of the IT sector and the export to Russia of key technologies needed by the financial sector. The central bank has experience in creating and designing payment systems with sanctions in mind: in response to the 2014 restrictions, a Russian analog of SWIFT—the Financial Messaging System (SPFS)—was created.⁵⁴ This part of a national payment system also includes a subsidiary of the central bank: JSC NSPK (on the sanctions list since February 2024).⁵⁵ All domestic payments made with bank cards using international payment systems are processed through JSC NSPK.⁵⁶ Moreover, the use of SWIFT within Russia has been legally prohibited since 2023.⁵⁷ The obligation of banks to conduct all payments via SPFS has significantly mitigated the effect of sanctions on ordinary Russians: despite the withdrawal of Visa and Mastercard from Russia, payments using those cards within the country are still possible.

Since 2019, Russia has also been operating the Faster Payment System (SBP),⁵⁸ which allows citizens to instantly transfer money to each other by cell phone number, and pay for purchases and utilities services with the help of a QR code, for example. Fast payment systems could become an important element of CBDC infrastructure.⁵⁹

In order to connect to the platform, credit organizations will need to fine-tune their own IT systems. The cost of implementing the digital ruble is estimated at hundreds of millions of rubles, most of which will be spent on information security and building a gateway between the Bank of Russia and the credit organization.⁶⁰ The bank does not need to deploy blockchain technology, but does require a secure connection to the central bank's platform. That is because every transaction using the digital ruble is signed with a highly secure electronic digital signature. The more digital rubles are transacted and the bigger the banks' customer base, the higher the cost of the IT system and its security.⁶¹ The task of adjusting local IT systems for digital ruble usage does not look insurmountable, but it will add to the existing IT issues that banks are having to deal with because of the war and sanctions. Russian banks are still in the process of switching to domestic automated management systems, resolving the issue of contactless payments, and persuading the government to postpone the mandatory transition to domestic hardware.⁶²

In December 2023, the Bank of Russia published security requirements for participants in the digital ruble platform.⁶³ So far, they apply only to banks that will work with the retail digital ruble. Thus, the digital certificate for electronic signatures of users will have to be located in the certification center of the Bank of Russia, and participants of the digital ruble platform must organize the control of message integrity and their transmission through encrypted channels in accordance with the requirements of the Federal Security Service.

It is also conceivable that the introduction of the digital ruble may result in losses for banks. Market players risk losing up to 50 billion rubles a year, according to analysis by Yakov and Partners, a Russian consulting firm that is the de facto successor to McKinsey following that company's exit from the Russian market.⁶⁴ For comparison: card payment processing fees on average amount to 0.5–3 percent of the cost of goods, and the commission for accepting digital rubles could amount to 0.4–0.7 percent.

Conclusion

The introduction and widespread adoption of the digital ruble in Russia have the potential to enhance financial service accessibility for both individuals and businesses. However, the success of the digital ruble is not guaranteed and depends on several factors.

Internationally, Russia faces significant challenges. It lags behind countries like China in the development and testing of CBDCs. China has already conducted extensive trials and collaborated with other nations, putting Russia in a position where it may need to align with Chinese technological solutions due to its delayed entry into large-scale CBDC testing. Additionally, while Russia is making efforts to create alternative payment systems and persuade BRICS partners to move away from Western-dominated financial systems, there has been little indication that BRICS members are willing to follow Russia's lead, especially given the risks of triggering secondary sanctions. This hesitation on the part of the Kremlin's international partners complicates Russia's efforts to gain traction for its digital ruble on a global scale.

Technologically and domestically, Russia faces equally complex hurdles. While the authorities have taken a policy decision to pursue the interoperability of payment systems, implementing the necessary IT solutions and fine-tuning processes for synchronization will take additional time and require extensive customization. Domestically, demand for the digital ruble remains uncertain, and there is potential reluctance from users, particularly if they are forced into adoption via government platforms like Gosuslugi. The central bank will also have to manage the costs that banks will incur to integrate the digital ruble into their existing systems, which could further slow down its adoption.

The debate inside Russia on the possible issuance of digital money to directly fund expenditure is also worth watching, given perennial pressure on the government's economic bloc to loosen the purse strings. In theory, a well-functioning and in-demand CBDC infrastructure could reduce overall economic costs. Savings from the implementation of the digital ruble could range from 100 billion rubles (about \$1 billion) to 320 billion rubles (\$3.3 billion).⁶⁵ So far, the digital ruble's main appeal appears to lie in potentially mitigating the risks posed by international sanctions. The degree of penetration of the digital ruble into the economy is directly proportional to the activity of participants in the process of its implementation and development.

Of course, any cost-cutting and increased efficiency experienced in the Russian economy will redound to the Kremlin, which is now saddled with the enormous costs wrought by the war in Ukraine and Russia's international isolation. Given that, the development of CBDCs raises a number of potential concerns for the viability of the existing Western sanctions regime and Western governments' desire to constrain Russia's economic potential and military reconstitution efforts. Western policymakers will surely closely monitor Russia's efforts to create a CBDC and its potential in cross-border settlements, especially with China and Kazakhstan, given the importance of such countries in ongoing attempts to circumvent sanctions.

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Alexandra Prokopenko is a fellow at the Carnegie Russia Eurasia Center. In her research, she focuses on Russian government policymaking on economic and financial issues. From 2017 until early 2022 Alexandra worked at the Central Bank of Russia and at the Higher School of Economics (HSE) in Moscow. She is a former columnist for Vedomosti. She is a graduate of Moscow State University and holds an MA in Sociology from the University of Manchester. She was a visiting fellow at the Center for Order and Governance in Eastern Europe, Russia, and Central Asia at the German Council on Foreign Relations (DGAP).

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