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IMPLEMENTATION OF NATIONAL DIGITAL CURRENCIES: POTENTIAL IMPACT ON THE FINANCIAL SYSTEM AND PROSPECTS FOR INTEGRATION WITH INTERNATIONAL PAYMENT SYSTEMS

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ABSTRACT

The purpose of the study is to assess the prospects and possible consequences of the introduction of digital tenge in the economy of Kazakhstan.

Methodology. The research methodology includes a sequential consideration of the development of digital currencies in different countries, analysing the development and features of the digital tenge, as well as determining the prospects and consequences of the use of digital tenge in Kazakhstan.

Originality / value. The relevance of this research is driven by the rapid development of digital technologies and their integration into the global financial system. The introduction of CBDCs involves not only technical and economic aspects but also regulation, security, and their impact on traditional financial systems and society. The research problem is the need to comprehensively analyse the implications of the introduction of national digital currencies for macroeconomic stability, the banking sector, monetary policy and transaction privacy. Particular attention is required to assess how national digital currencies may affect traditional banking operations, in particular banks' deposit bases and their ability to lend. There is uncertainty about how the introduction of CBDCs will affect international payments and settlement systems, as well as the financial system's resilience to cyberattacks and fraud. Another aspect of the problem concerns the legal framework necessary to ensure the effective functioning and security of national digital currencies, as well as the protection of users' rights. No less important is the issue of balancing the need for transparency of financial transactions to combat crime and the need to protect users' privacy.

Findings: assessment of the advantages and risks of the introduction of national digital currencies; analysis of pilot projects and approbation of the digital tenge; study of the impact of the digital tenge on the financial system and economy of Kazakhstan; identification of prospects for the integration of the digital tenge with international payment systems.

Keywords: digital currency, central bank, blockchain, cryptocurrencies, Visa, Mastercard.

INTRODUCTION

In light of the growing popularity of cryptocurrencies, central banks of many countries have initiated the process of creating digital analogues of their national currencies, known as central bank digital currencies (CBDCs). This initiative raises many questions among both professional market participants and ordinary citizens, including those residing in Kazakhstan. One of the key questions is the need for such currencies, given that cashless transactions already constitute a fast-growing segment of the financial market, reaching almost 80 %, according to the Association of Financiers.

Digital currency and cryptocurrency are phenomena of global significance in the modern world, arousing interest among a wide range of users and specialists. Allen S. points out that despite the common misconception that confuses these concepts, cryptocurrency is just one of the many representations of digital currency, which in turn is a currency in digital form [1]. This form of currency is capable of capturing ownership and

performing value transformation within a particular network. An important aspect is the existence of fiat digital currency issued by central banks on the basis of national credit, which reflects its special role and importance.

The Bank for International Settlements defines fiat digital currency as central bank digital currency (CBDC), emphasising its uniqueness compared to traditional forms of currency. The peculiarity of fiat digital currency is its ability to be issued not only on the basis of blockchain technology, but also through traditional centralised central bank account systems [2].

Definitions of CBDC are diverse and depend on the context of their use by international organisations and scholars. Common to all is the understanding of CBDC as a new form of central bank currency, different from traditional reserves or settlement balances. According to Boar S., - 'this new form can provide a decentralised exchange of value and can be used in both retail and wholesale transactions, representing a digital asset for payments and settlements' [3].

As part of the development of digital financial technologies, central banks distinguish two main types of central bank digital currencies (CBDCs) - retail and wholesale. Retail CBDCs are intended for use by the general public and aim to fulfil all the general functions of traditional currency, while wholesale CBDCs serve to ensure transactions between financial institutions and the central bank. The peculiarity of CBDC classification is manifested in the different approaches to the realisation of these digital currencies, reflected in theoretical developments about the taxonomy of money.

M. Bech notes that in the context of retail CBDC, two main forms are distinguished: account-based and token-based [4]. Account-based retail CBDCs provide the opportunity for all households and businesses to maintain deposit accounts directly with the central bank, which is a significant innovation for individual users. This approach differs from the wholesale use of digital money, where commercial banks and other financial institutions already apply digital funds in the form of reserves or account balances with central banks. In this way, account-based retail CBDCs enhance public access to digital financial services provided by the central bank [5].

Digital currencies enable instant payments worldwide, eliminating the need for intermediaries and reducing transaction time and cost. They provide access to financial services to a wide range of people, including the unbanked and remote areas where traditional banking services may be unavailable or limited. Through the use of blockchain technology and cryptography, digital currencies can offer improved security measures and reduced risks of fraud and counterfeiting [6]. Transactions with digital currencies are easily traceable, which provides a high degree of transparency and can help combat money laundering and other illegal financial activities. Digital currencies offer low-cost and accessible financial services, such as money transfers, bill payments and savings, for those traditionally excluded from the financial system. The absence of intermediaries and lower transaction processing costs can significantly reduce the overall cost of financial transactions for both businesses and end users [7].

Digital currencies offer significant opportunities to transform and modernise the global financial system, making it more inclusive, efficient and secure. However, realising these benefits requires careful regulation and risk management related to the privacy, security and stability of the financial system.

Hu T. points out that token-based retail CBDCs, in turn, embody the concept of storing value in tokens that circulate in a decentralised environment. In this context, the key difference between a token-based tool and an account-based tool lies in the object of verification and the subject who cares about the result of this verification [8]. For token-based retail CBDCs, the primary concern of the recipient is to verify the authenticity and validity of the token, which implies risks of electronic forgery. In the case of account-based instruments, the importance of verification falls on the sender of the funds, who must verify the authenticity of the recipient's identity, thus minimising the risks of identity theft.

The transition to CBDCs could lead to significant changes in the banking sector and monetary policy mechanisms. There is a risk that in a crisis people will prefer to keep funds in CBDCs instead of deposits in commercial banks, which will increase the phenomenon of 'flight to quality' and may undermine the stability of the financial system [9]. Digital currencies potentially increase the government's ability to monitor citizens' financial transactions, which raises concerns about privacy and personal data protection. The digital nature of CBDCs makes them vulnerable to cyberattacks, including hacking, fraud, and malware distribution. These threats can undermine trust in the financial system and harm users.

Financial stability also acts as a key factor in favour of CBDC implementation. In the context of the pandemic financial crisis and distrust between financial institutions, CBDCs offer an alternative mechanism to provide liquidity and maintain confidence in the financial system [10]. Unlike traditional reserves and cash, CBDCs can directly support households and small businesses, reducing dependence on intermediaries and improving overall financial stability. The protection of citizens' funds from counterfeiting and other forms of illegal activities acts as an important aspect in favour of CBDCs. The adoption of digital currencies can significantly reduce the risks associated with physical money, including counterfeiting and theft. The blockchain technology underlying many CBDCs provides a high level of transaction security and transparency, enabling fraud prevention and improved control over the flow of funds [11].

An additional motivation for the development of CBDCs is the desire to reduce reliance on cash and encourage a shift to digital payments. Reducing the use of cash can also help to combat the underground economy, strengthen anti-money laundering (AML) and countering the financing of terrorism (CFT), and increase tax revenues through more accurate recording of transactions.

The research problem is the need to comprehensively analyse the implications of the introduction of national digital currencies for macroeconomic stability, the banking sector, monetary policy and transaction privacy. Particular attention is required to assess how national digital currencies may affect traditional banking operations, in particular banks' deposit bases and their ability to lend. There is uncertainty about how the introduction of CBDCs will affect international payments and settlement systems, as well as the financial system's resilience to cyberattacks and fraud. Another aspect of the challenge concerns the regulatory and legal framework necessary to ensure the effective functioning and security of national digital currencies, as well as the protection of users' rights. Equally important is the issue of balancing the need for transparency in financial transactions to combat crime with the need to protect user privacy.

THE MAIN PART OF THE STUDY

Research Methods. Various research methods have been employed in this paper. First of all, it is a literature review, which has extensively analysed relevant works and studies related to government initiatives to introduce digital currency. The comparative analysis helped in identifying the experiences of developed countries in introducing digital national currencies.

Results and Discussion. In response to the growing interest and digitisation of currencies, many central banks have stepped up research and experimentation with CBDCs. The results of a survey conducted by the Bank for International Settlements in the second half of 2019 showed that a significant proportion of central banks are involved in CBDC-related projects. The survey revealed a shift from theoretical research to practical experimentation and pilot project development, indicating the near-term prospect of CBDC implementation in public use.

The introduction of digital tenge will have a positive impact on people's well-being as well as on macroeconomic and financial stability. The probability that the population will support the development of digital tenge is 67 %. Conversely, changes in the welfare of the population caused by the introduction of new benefits from district heating have a blind effect. With zero interest rate on deposits, digital tenge will be used by the population as a form of payment. Over time, the optimal demand for digital tenge will be between 5.7 % and 6.2 % of the country's gross domestic product. In this case, the introduction of digital tenge will have a small impact on second-tier banks' revenues.

However, the introduction of central bank digital currencies represents an innovative step in the development of the global financial system, but is accompanied by a number of potential risks that need to be taken into account (Figure 1).

The transition to CBDCs may lead to significant changes in the banking sector and monetary policy mechanisms. There is a risk that in a crisis people will choose to hold funds in CBDCs instead of deposits in commercial banks, which will increase the phenomenon of ‘flight to quality’ and may undermine the stability of the financial system. Digital currencies potentially increase the government's ability to monitor citizens' financial transactions, which raises concerns about privacy and personal data protection. The digital nature of CBDCs makes them vulnerable to cyberattacks, including hacking, fraud, and malware distribution. These threats can undermine trust in the financial system and damage the user experience.

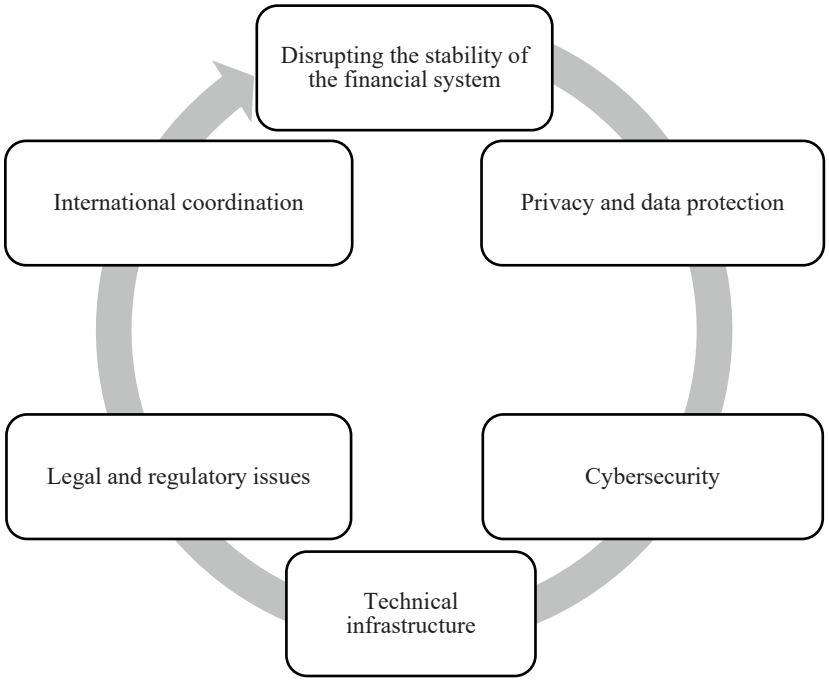

Figure 1 – Risks of digital currency adoption

Note – compiled by the author on the basis of the source [12]

It is important to recognise that in terms of the method of issue, the issuance of digital currency does not technically involve a direct increase in the money supply. The constant currency will be applied to National Bank bonds at a given exchange rate of 1 to 1. As a result, the tenge exchange rate is forecasted to have no impact on the total demand for cash in the economy. As a result, the inflationary process will be guarded by the National Bank [13].

When the National Bank changes the base interest rate, the amount of liquidity changes due to the complementarity of cash and DC. Banks will respond by changing lending rates, this will lead to changes in spending and investment. This will eventually affect GDP and inflation rates.

DC will have a positive impact on monetary regulators, giving them a distinct advantage in financial sector development. Firstly, it will facilitate cashless transactions, especially in areas with limited internet access. Second, by making the DC method of financing budget expenditures unique, the transparency of targeted budget spending will be enhanced. As part of the pilot, the National Bank has initiated testing of programmability of special purpose tokens that can be linked to specific goods and transactions will be tracked. Third, DC will facilitate and reduce the costs of cross-border payment systems for bulk commodities. In scenarios involving financial transactions, smart contracts and tokenisation will reduce the number of parties involved. Fourth, the DC platform will empower second-tier banks and payment institutions to create new products and business models using smart contracts and programming capabilities. Fifth, the rise in popularity of decentralised finance and tokenisation of digital assets will be significant.

Digital currency will have high settlement speeds, 24/7 availability, successful transactions with low probability of failure, offline payments and the ability to interconnect with other digital platforms. Individual second-tier banks have developed an e-money system limited to a closed environment. Another challenge is that in case of financial instability, DC operators may prohibit the holding of digital assets or impose additional regulations to maintain stability and balance in the financial market [14].

The implementation of the digital tenge introduction project will have a positive impact on the financial market in the following aspects:

− increase the accessibility of payment services for the population by reducing costs and the ability to conduct offline transactions using the digital tenge in areas with limited internet access. In the future, this will accelerate the digitalisation of non-financial business activities and increase the turnover of goods and services;

− increase competition in Kazakhstan's financial market by launching new financial products;

− increase global competitiveness of financial markets, ensure transparency of payments, as well as expand cross-border payments and reduce their cost through further development of digital infrastructure and the possibility of its integration with similar systems in other countries.

Currently, the National Bank and financial market participants are jointly responding to risks. Digital currencies may pose operational risks related to information security and cyber-attacks. Anti-money laundering and terrorist financing risks. Banks face liquidity risks when reallocating funds between current accounts and e-wallets.

The potential impact of the digital tenge on the financial system and economy of Kazakhstan, possible risks and challenges are shown in Table 1.

Table 1 – Potential impact of the digital tenge on the financial system and economy of Kazakhstan, possible risks and challenges

№	Aspects	Potential impact	**Possible risks and challenges**
1	Financial inclusion	Improved access to financial services for remote and underserved regions.	Risks of a digital divide if part of the population cannot adapt to the new technology.
2	Payment security	Enhanced security and transparency of financial transactions through blockchain technology.	High cybersecurity requirements and risk of cyberattacks.
3	Payment system efficiency	Acceleration and cost reduction of cross-border and domestic payments through digital currency.	Need for integration with international payment systems and standards.
4	Financial stability	Reduction of transaction costs and increased speed of money circulation.	Risks of financial system destabilization due to potential large capital flows and speculative operations.
5	Monetary policy	Improved tools for regulating the money supply and monetary conditions in the economy.	Complications in conducting traditional monetary policy, risks of excessive liquidity.
6	Innovations in the financial sector	Stimulation of the development and implementation of new financial products and services based on digital tenge technologies.	Risk of obsolescence of traditional banking services and products, competition with fintech companies.
7	Macroeconomic stability	Potential positive impact on GDP and inflation due to improved efficiency of economic processes.	Possible imbalances in the economy caused by sharp changes in money circulation and demand for digital assets.
8	Transparency of government spending	Increased transparency and targeted use of budgetary funds through the programming of digital tenge.	Challenges related to data confidentiality and privacy, especially in tracking the use of funds.

Note - compiled by the author based on source [15]

The international expert community is discussing the topic of 'digital flight'. This term implies an unprecedented speed and scale of capital outflows from commercial banks, including cross-border flows, due to the potential advantages of the new currency. Its advantages can be reflected in three aspects: high liquidity due to the possibility of offline payments and security of assets of the National Bank of Kazakhstan instead of a commercial bank. The Digital Tenge will not be attractive from an interest accrual point of view, as the National Bank of Kazakhstan does not consider the possibility of receiving remuneration from the balance of the Digital Tenge. Therefore, in the absence of interest in digital currencies, demand for them by economic agents will be based not on the possibility of more favourable placement of savings and funds on current accounts, but on the choice of the most attractive in terms of efficiency.

With the introduction of the digital tenge, customers' cash can be converted into tenge first without affecting current accounts. Moreover, total customer demand for digital Tenge is limited only by the amount of cash in circulation (there are currently 2.9 trillion Tenge in circulation in Kazakhstan). How the STBs compensate for a possible small drop in trading profits due to the introduction of the digital Tenge also depends to some extent on the size of potential current account flows.

The main objective of the introduction of the digital tenge is to create the necessary infrastructure for the market by providing an additional form of digital currency that can increase the financial accessibility of potential customers and reduce the risks associated with the tenge's 'cryptography'. economy. The proliferation of DeFi (cryptocurrencies and stablecoins), increased transparency of public finances, improved efficiency of social payments, and more.

Other consequences of the introduction of Digital Tenge include volatility of 'paid balances'. This will force commercial banks to set aside more liquidity for contingencies, thereby reducing lending. The National Bank will have to intervene more actively in money markets, provide/utilise more funds than it does now, and replace the current flow of interbank lending.

The loss of liquidity by almost 4 trillion Tenge will require trillions of dollars of symmetric replenishment of lost client funds by the NBK, which will fundamentally increase the STB's dependence on the central bank and force it to increase the total volume of Tenge issuance. Those, who will not be able to get access to the funds of national banks, will be forced to significantly increase the cost of attracting excess liquidity, attracting additional paid deposits in the same amount of loan issuance as before, or force customers to significantly reduce the amount of deposits they place by the same amount.

On the one hand, commercial banks will continue to lack liquidity and will rely on the central bank to provide costly services. The availability of credit will decrease, leading to lower company turnover and investment. The NBK will continue to grow and rapidly monopolise the market.

Digital Tenge may become a competitor to the standard bank current account. For consumers the products are very similar, the main difference is that the guarantor of the current account balance is the bank, whereas in the case of the digital tenge the guarantor is the National Bank. There are reasons for moderate optimism. The NBK stresses that its goal is not to destabilise the banking sector, but rather to develop it by creating innovative products and services based on the digital tenge.

The digital tenge is a new form of currency that has unique features including: programmability, the ability to technologically perform international transactions and smart contracts, and future payments that do not require the Internet. National Bank. A major component of the infrastructure.

Digital cards, which are digital, are issued in partnership with two international payment systems Visa and Mastercard and four additional banks. The cards are the first to be linked to digital accounts in the central bank's digital currency.

'Digital Tenge unlocks the potential of blockchain technology to provide innovative financial services, ensure payment efficiency and build a link between traditional finance and digital assets.' The Digital Tenge system has been launched and will be finalised in the near future. In the future, Kazakhstan will be able to utilise the first products based on it.

Digital tenge platform launched in test mode. The National Bank of the Republic of Kazakhstan created a digital currency for digital accounts of banks participating in the pilot project. On 15 November 2023, the first official transaction using the digital tenge took place during the 11th Congress of Financiers of Kazakhstan.

The digital tenge is another form of national currency issued by the National Bank. In addition, the platform architecture is based on a secondary financial market model. Interaction between consumers and end users (individuals and legal entities) will still be carried out exclusively through financial market participants [16].

Together with the Akimat of Almaty city, the digital currency mechanism was evaluated. It is planned to combine digital tenge with existing international payment methods. That is, the owner of digital tenge has the same rights as any other digital currency, to place it on his digital credit card and pay worldwide. This feature is already being implemented and the National Bank's management demonstrated it to the entire banking community during a financial conference.

The possibilities of integrating the digital tenge with international payment systems are presented in Table 2.

Table 2 – Prospects for integration of the digital tenge with international payment systems

№	Aspect	Details
1	*2*	*3*
1	Co-operation with Visa and Mastercard	The digital tenge is already integrated with the international payment systems Visa and Mastercard through the issuance of digital cards linked to digital accounts in digital currency. This allows international transactions and payments to be made using the digital tenge, facilitating cross-border transactions
2	Development of blockchain technology	The use of blockchain technology to support digital tenge transactions provides a high level of security and transparency in transactions. It also enables the development and implementation of smart contracts, which could revolutionise payment and financial settlement mechanisms in the international arena
3	Retail and wholesale cross-border trade	The Digital Tenge platform is designed to facilitate cross-border payments, including retail and wholesale trade. Integration with international payment systems expands the possibilities of using the digital tenge outside Kazakhstan, making it a convenient tool for international merchants and consumers
4	Interaction with regional payment systems	The possibility of creating a unified regional payment platform based on digital tender for the countries of the Eurasian Economic Union is being considered, which will strengthen economic cooperation and reduce dependence on Western financial systems, especially in the context of sanctions
5	Technical and legislative challenges	The need for technical and legislative harmonisation with international standards and systems. EAEU countries face different levels of technological readiness and legislative regulations, which requires coordinated efforts to ensure compatibility and effective integration
Note - compiled by the author on the basis of the conducted research		

In addition, it should be recognised that the actual implementation of wholesale digital currency projects is costly and has technical complexities, as well as potential risks and impacts that cannot be observed during design or implementation. A prerequisite is that countries have technological support and financial and digital experts. The degree of financial infrastructure development must be significant.

Currently, not all EU Member States have the technological capabilities to participate in this type of projects. The main obstacles to the realisation of cross-border digital currency payment projects are the lack of technological progress in the monetary and financial spheres, including the underdevelopment of domestic currency markets and financial instruments, significant fluctuations in the exchange rate of national currencies and the absence of certain international standards for digital assets.

However, given the potential of digital currency to improve the efficiency of payment systems in the EU Economic Union and mitigate the negative effects of Western sanctions, new projects are needed to explore the

concept of national digital securities and a universal digital currency. on universal payment platforms. It seems that this kind of initiatives should become part of the strategic direction of the currency and economic policy of the Eurasian Economic Union in terms of financial and economic integration [17].

The pilot scheme for industry offers a 'digital card' (an analogue of traditional bank cards), as well as a 'digital cheque' (using a POS terminal to pay for services). Research and development (R&D) cycle scenarios include the sale of tokenised assets, the use of 'pedometers' to promote healthy lifestyles, VAT deductions, cross-border payments, and joint scenarios with other digital asset industry players, stock exchanges and government agencies.

The preservation of the bi-currency system (allowing banks to create coins and use them in transactions) is still considered one of the most important goals of the National Bank of the Republic of Kazakhstan. As a result, participation of banks in pilot projects and receiving criticism is important for further development. Due to the novelty of the concept and the complexities involved, it is expected that the number of banks participating in the first phase will be modest. However, the accumulated knowledge will serve as the fastest and most practical way to merge digital tenge with the banking system.

The compatibility of the digital asset and decentralised finance (DeFi) will also be explored. DeFi is a financial system with no banks or other traditional participants. In particular, cross-border transactions (integrated with SWIFT) will be experimented with, which will attempt to use digital currency to conduct transactions with other banks. The developers are teaming up the digital tenge platform with DeFi and other digital currency industry participants to evaluate the issuance of stablecoins, and with stock exchanges to evaluate the potential use of digital currency for securities settlement.

Since the currency platform is implemented based on blockchain technology, digital currencies can be used to trade cryptocurrencies and other digital assets. In addition, the National Bank is among the first three major central banks in the world to test the SWIFT cross-border payments platform and plans to develop international payments together with 25 other central banks. At the first stage of using the digital tenge, Kazakhstanis need to open a special bank card. In the future, it will be possible to open an account with a valid card - expected to happen next year. Digital currency can be converted into electronic currency and paper currency and vice versa.

CONCLUSION

The introduction of the digital tenge in Kazakhstan has the potential to significantly transform the country's financial system by providing new opportunities to improve the efficiency, accessibility and security of financial transactions. The digital tenge is expected to speed up both domestic and cross-border payments, reduce their cost and facilitate access to financial services for people in remote areas. The innovation also contributes to improving the transparency of government spending and optimising the allocation of budget funds due to the programmability of digital currency.

However, the introduction of digital currency carries a number of risks and challenges. There is a risk of a digital divide, where a part of the population may not be ready for the transition to the new system, which will require additional training and digital literacy efforts.

Cybersecurity risks also increase with the introduction of digital technologies into the financial infrastructure. In addition, changes in monetary policy and possible fluctuations in financial stability require careful regulation and monitoring by the National Bank. Socio-economic consequences, such as the impact on the welfare of the population and macroeconomic stability, require detailed analyses and approaches that take into account the specifics of the Kazakhstani economy. It should also be borne in mind that the digital Tenge may cause changes in the market structure, affecting the operations and profits of commercial banks, which requires a careful approach to regulating and supporting the financial sector during the transition period.

The integration of the digital Tenge with international payment systems presents significant opportunities for Kazakhstan, improving global financial connectivity and the availability of cross-border transactions for its citizens and businesses. Co-operation with systems such as Visa and Mastercard, as well as the development of its own digital cards linked to digital accounts, promises to simplify and speed up payment processes, making them more secure and less costly.

Digital Tenge is also driving innovation in financial services, opening the door to the use of smart contracts and integration with decentralised financial systems (DeFi). This will not only improve operational efficiency,

but also enhance transparency in financial transactions, which is critical to increasing confidence in financial systems at the national and international levels. At the same time, digital currency projects have high technical and cybersecurity requirements. This requires significant investments in infrastructure and professional resources, as well as the development of robust rules for interacting with international partners and managing risks related to transactions and data privacy.

Further implementation and scaling of the digital tenge project will require a deep understanding of international standards and alignment with other countries' digital currency regulations and legislation. Success will also depend on Kazakhstan's ability to integrate into existing financial and economic systems while maintaining independence and alignment with national interests. This creates the preconditions for closer economic integration at the regional and global levels, opening up new opportunities for economic growth and strengthening international relations.

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ҰЛТТЫҚ ЦИФРЛЫҚ ВАЛЮТАЛАРДЫ ЕНГІЗУ: ҚАРЖЫ ЖҮЙЕСІНЕ ӘЛЕУЕТТІ ӘСЕР ЕТУ ЖӘНЕ ХАЛЫҚАРАЛЫҚ ТӨЛЕМ ЖҮЙЕЛЕРІМЕН ИНТЕГРАЦИЯЛАУ ПЕРСПЕКТИВАЛАРЫ

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АҢДАТПА

Зерттеу мақсаты – Қазақстан экономикасына цифрлық теңгені енгізудің перспективалары мен ықтимал салдарын бағалау.

Зерттеу әдістемесі әртүрлі елдердегі цифрлық валюталардың дамуын дәйекті түрде қарастыруды, цифрлық теңгенің дамуы мен ерекшеліктерін талдауды, сондай-ақ Қазақстанда цифрлық теңгені пайдаланудың перспективалары мен салдарын анықтауды қамтиды.

Зерттеудің бірегейлігі / құндылығы. Зерттеудің өзектілігі цифрлық технологиялардың қарқынды дамуына және олардың әлемдік қаржы жүйесіне интеграциялануымен анықталады. Орталық банктің цифрлық валютасын (CBDC) енгізу тек техникалық және экономикалық аспектілерді ғана емес, сонымен қатар реттеу, қауіпсіздік және олардың дәстүрлі қаржы жүйелері мен қоғамға әсерін де қамтиды. Зерттеудің проблемасы макроэкономикалық тұрақтылық, банк секторы, ақша-несие саясаты және транзакциялардың құпиялылығы үшін ұлттық цифрлық валюталарды енгізудің салдарын жан-жақты талдау қажеттілігі болып табылады. Ұлттық цифрлық валюталардың дәстүрлі банктік операцияларға, атап айтқанда банктердің депозиттік базасына және олардың несие беру қабілетіне қалай әсер ететінін бағалауға ерекше назар аудару қажет. CBDC енгізу халықаралық төлем және есеп айырысу жүйелеріне, сондай-ақ қаржы жүйесінің кибершабуылдар мен алаяқтыққа төзімділігіне қалай әсер ететіні туралы белгісіздік бар. Мәселенің тағы бір аспектісі ұлттық цифрлық валюталардың тиімді жұмыс істеуі мен қауіпсіздігін қамтамасыз ету, сондай-ақ пайдаланушылардың құқықтарын қорғау үшін қажетті құқықтық базаға қатысты. Қылмыспен күресу үшін қаржылық операциялардың ашықтығын қамтамасыз ету қажеттілігі мен пайдаланушылардың жеке өмірін қорғау қажеттілігі арасындағы тепе-теңдік мәселесі де маңызды.

Зерттеу нәтижелері: ұлттық цифрлық валюталарды енгізудің артықшылықтары мен тәуекелдерін бағалау; пилоттық жобаларды талдау және цифрлық теңгені сынақтан өткізу; цифрлық теңгенің Қазақстанның қаржы жүйесі мен экономикасына әсерін зерттеу; цифрлық теңгені халықаралық төлем жүйелерімен интеграциялау перспективаларын анықтау.

Түйін сөздер: сандық валюта, орталық банк, блокчейн, криптовалюта, Visa, Mastercard.

ВНЕДРЕНИЕ НАЦИОНАЛЬНЫХ ЦИФРОВЫХ ВАЛЮТ: ПОТЕНЦИАЛЬНОЕ ВЛИЯНИЕ НА ФИНАНСОВУЮ СИСТЕМУ И ПЕРСПЕКТИВЫ ИНТЕГРАЦИИ С МЕЖДУНАРОДНЫМИ ПЛАТЕЖНЫМИ СИСТЕМАМИ

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АННОТАЦИЯ

Цель исследования – оценка перспектив и возможных последствий внедрения цифрового тенге в экономику Казахстана.

Методология исследования включает последовательное рассмотрение развития цифровых валют в различных странах, анализ развития и особенностей цифрового тенге, а также определение перспектив и последствий использования цифрового тенге в Казахстане.

Оригинальность / ценность исследования. Актуальность данного исследования обусловлена стремительным развитием цифровых технологий и их интеграцией в мировую финансовую систему. Введение цифровой валюты центрального банка (CBDC) включает в себя не только технические и экономические аспекты, но и регулирование, безопасность и их влияние на традиционные финансовые системы и общество. Проблема исследования заключается в необходимости всестороннего анализа последствий внедрения национальных цифровых валют для макроэкономической стабильности, банковского сектора, денежно-кредитной политики и конфиденциальности транзакций. Особое внимание требуется уделить оценке того, как национальные цифровые валюты могут повлиять на традиционные банковские операции, в частности на депозитную базу банков и их способность выдавать кредиты. Существует неопределенность в отношении того, как внедрение CBDC повлияет на международные платежные и расчетные системы, а также на устойчивость финансовой системы к кибератакам и мошенничеству. Другой аспект проблемы касается правовой базы, необходимой для обеспечения эффективного функционирования и безопасности национальных цифровых валют, а также защиты прав пользователей. Не менее важным является вопрос о балансе между необходимостью обеспечения прозрачности финансовых операций для борьбы с преступностью и необходимостью защиты конфиденциальности пользователей.

Результаты исследования: оценка преимуществ и рисков внедрения национальных цифровых валют; анализ пилотных проектов и апробация цифрового тенге; исследование влияния цифрового тенге на финансовую систему и экономику Казахстана; определение перспектив интеграции цифрового тенге с международными платежными системами.

Ключевые слова: цифровая валюта, центральный банк, блокчейн, криптовалюты, Visa, Mastercard.

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