

THE ROLE AND DEVELOPMENT PROSPECTS OF ELECTRONIC MONEY IN THE NATIONAL PAYMENT SYSTEM

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Formulation of the problem. The application of electronic money plays a strategic role in the national payment system. It increases the share of cashless payments, expands financial inclusion, and ensures the security of payment operations. In Azerbaijan, the electronic money ecosystem has been formed mainly due to the development of payment systems by the Central Bank, the expansion of the fintech sector, and the promotion of digital payment services. *The purpose of the study* is to analyze the role and prospects of development of electronic money in the national payment system. *The object of the study* is the organizational, methodological and technological aspects of strengthening internal control systems through the implementation of modern digital technologies and innovative monitoring tools. *Research methods.* Using a descriptive-analytical methodology based on secondary data, regulatory documents, corporate reports, and international assessments, the paper evaluates the extent to which digitalization, automation, data analytics, and continuous control mechanisms have strengthened internal control effectiveness. *The main hypothesis.* Electronic money institutions enhance the speed of transactions, reduce operational costs, and strengthen the resilience of the national payment system. *Present of the main material.* This paper analyzes the current state of electronic money, its impact on the national payment system, and its future development prospects based on the official materials of the Central Bank. The study shows that the legal framework, real-time payment systems, cybersecurity, and fintech innovations constitute the main directions for the further development of electronic money. *Originality and practical significance.* Despite progress, the country faces shortages of domestic investment, technological dependence on imported high-tech equipment, the need to modernize digital networks, and challenges related to social adaptation of workers in traditional sectors. *Conclusions and prospects for further research.* In conclusion, it can be stated that electronic money has become one of the key strategic trends in the development of Azerbaijan's national payment system. The broader adoption of electronic money provides a significant impetus for the country's financial stability, the growth of the digital economy, and the development of a cashless society model. Therefore, the development of electronic money plays a decisive role not only in the financial sector but also in shaping the country's overall digital future.

Keywords:

electronic money, national payment system, Central Bank, fintech, digital payments, financial inclusion.

РОЛЬ ТА ПЕРСПЕКТИВИ РОЗВИТКУ ЕЛЕКТРОННИХ ГРОШЕЙ У НАЦІОНАЛЬНІЙ ПЛАТІЖНІЙ СИСТЕМІ

Постановка проблеми. Застосування електронних грошей відіграє стратегічну роль у національній платіжній системі. Це збільшує частку безготівкових платежів, розширює фінансову інклюзію

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та забезпечує безпеку платіжних операцій. В Азербайджані екосистема електронних грошей сформувалася головним чином завдяки розвитку платіжних систем Центральним банком, розширенню фінтех-сектора та просуванню цифрових платіжних послуг. *Метою дослідження є аналіз ролі та перспектив розвитку електронних грошей у національній платіжній системі. Об'єктом дослідження є організаційні, методологічні та технологічні аспекти зміцнення систем внутрішнього контролю шляхом впровадження сучасних цифрових технологій та інноваційних інструментів моніторингу. Методи дослідження.* Використовуючи описово-аналітичну методологію, засновану на вторинних даних, нормативних документах, корпоративних звітах та міжнародних оцінках, у статті оцінюється ступінь, до якої цифровізація, автоматизація, аналітика даних та механізми постійного контролю посилили ефективність внутрішнього контролю. *Основна гіпотеза.* Установи електронних грошей підвищують швидкість транзакцій, знижують операційні витрати та зміцнюють стійкість національної платіжної системи. *Виклад основного матеріалу.* У цій статті аналізується сучасний стан електронних грошей, їх вплив на національну платіжну систему та перспективи її подальшого розвитку на основі офіційних матеріалів Центрального банку. Дослідження показує, що правова база, системи платежів у режимі реального часу, кібербезпека та фінтех-інновації складають основні напрямки подальшого розвитку електронних грошей. *Оригінальність та практична значущість.* Незважаючи на прогрес, країна стикається з дефіцитом внутрішніх інвестицій, технологічною залежністю від імпортного високотехнологічного обладнання, необхідністю модернізації цифрових мереж та викликами, пов'язаними із соціальною адаптацією працівників у традиційних секторах. *Висновки та перспективи подальших досліджень.* На завершення можна констатувати, що електронні гроші стали однією з ключових стратегічних тенденцій розвитку національної платіжної системи Азербайджану. Ширше впровадження електронних грошей забезпечує значний поштовх для фінансової стабільності країни, зростання цифрової економіки та розвитку моделі безготівкового суспільства. Тому розвиток електронних грошей відіграє вирішальну роль не лише у фінансовому секторі, але й у формуванні загального цифрового майбутнього країни.

Ключові слова:

електронні гроші, національна платіжна система, центральний банк, фінтех, цифрові платежі, фінансова інклюзія.

Formulation of the problem. The rapid digitalization of the modern global economy has expanded the functional capabilities of national payment systems and necessitated the application of innovative technologies to increase the speed and security of payments. In this context, electronic money (e-money) plays an important role as a strategic element of the national payment system. Electronic money is not only a payment instrument, but also a component of the digital economy that changes the financial behavior of economic entities, increases the speed of financial circulation and leads to an increase in non-cash payments. The increase in the share of non-cash payments, the development of digital banking and mobile payment systems have further increased the importance of electronic money.

The introduction and development of electronic money in the Azerbaijani economy is connected with several main factors: the state's digital transformation strategy, the Central Bank's reforms in the field of payment systems, and the dynamic development of the fintech ecosystem. The "Digital Government" project implemented in the country in recent years, the introduction of electronic identification systems,

mobile wallets, and increasing the accessibility of payment services have accelerated the activity of electronic money. At the same time, these measures increase the security of payments, increase the speed of transactions, and significantly expand the share of non-cash payments.

Analysis of recent research and publications. The practical significance of the results lies in their potential use when forming state policies on green development, developing energy security strategies, and forecasting economic impacts. The study also contributes to understanding how structural reforms can support long-term sustainable growth.

The purpose of the study is to analyze the role and prospects of development of electronic money in the national payment system.

Presentation of the main research material. The Central Bank's Digital Payments Strategy (2021–2025) provides the legal, technical and administrative framework for the regulation and development of electronic money in the national payment system. Within the framework of the strategy, important steps have been taken to license electronic money institutions (EPIs), implement real-time payment systems, improve cybersecurity standards and support



fintech solutions. These measures are important in terms of the financial stability of electronic money, transparency of transactions and the formation of a competitive environment.

Assessment of the development prospects of electronic money in the national payment system is important from both an economic and technological perspective. The purpose of this study is to analyze the current state of electronic money in Azerbaijan, determine its role in the national payment system and indicate future development directions. The article analyzes both the regulatory and legal framework and the official statistical materials of the Central Bank. At the same time, the activities of electronic money institutions, the efficiency of operations, risk management and technological innovations are extensively examined.

In addition, the development of electronic money is accelerating the introduction of innovative technologies in the national payment system. Solutions such as artificial intelligence, big data analytics, cloud technologies, and blockchain increase the security and efficiency of electronic money transactions. These technologies also facilitate the tracking of transactions, optimize decision-making processes, and stimulate the expansion of electronic payment services. These technological innovations, combined with the activities of the Central Bank in the field of risk management and the stability of payment systems, allow the national payment system to become more flexible and resilient.

The object of the study is the national payment system of Azerbaijan and its constituent elements, electronic money institutions, and the subject is the development directions of electronic money and its impact on the national payment system. The study used the annual reports of the Central Bank, statistical indicators on payment systems, legal and regulatory documents, as well as innovative applications in the field of fintech. Comparative analysis, statistical evaluation, empirical observation and analytical modeling were widely used as methodology. The aim of the study is to analyze the current state of electronic money in Azerbaijan, determine its role in the national payment system and indicate future development directions. The object of the study is the national payment system of Azerbaijan and electronic money institutions, and the subject is the development directions of electronic money and its impact on the payment system. The article used the annual reports of the Central Bank, statistical indicators on payment systems, legal

and regulatory documents, as well as innovative applications in the field of fintech. Comparative analysis, statistical evaluation, empirical observation and analytical modeling were widely used as methodology.

Electronic money strengthens financial transparency by increasing the traceability and accountability of payments in the country, while also expanding the scope for control over the informal economy. This leads to simplification of payment processes and reduction of transaction costs, especially for micro and small entrepreneurs. The increase in the share of non-cash payments increases the speed of payments and directly affects the efficiency of the business environment. Electronic money also accelerates the formation of a digital financial culture among the young population and technologically literate users. Mobile payments, P2P transfers and electronic wallets have become part of everyday life, increasing users' demand for digital services. This trend also gives impetus to the development of the digital economy in the country and stimulates the modernization of the payment infrastructure.

The Central Bank's mechanisms for regulating and monitoring risks in electronic money ensure the reliability of payment systems, as well as create conditions for the development of new fintech projects. Electronic money infrastructure strengthens competition in the banking system and encourages innovative models of payment services. At the same time, electronic money systems facilitate the population's access to financial services in the regions, increase digital payment opportunities for users without bank accounts, and enhance social inclusion.

This study analyzes the impact of electronic money on the national payment system not only in the context of the current situation, but also shows its long-term development prospects, its contribution to the modernization of the payment infrastructure in the country, and its support for the strengthening of the digital economy. In this regard, electronic money is of strategic importance by increasing both the stability of the payment system and the accessibility of financial services in the country.

Electronic money, as one of the modern elements of the national payment system, plays an important role in the digitalization of the economy and in increasing the accessibility of financial services. Through electronic money accounts, payment transactions can be carried out more quickly, securely, and transparently.

This creates additional value for the national economy while also ensuring greater convenience in financial operations for both the population and entrepreneurs. Over the past five years, the number of electronic payments and electronic money accounts in Azerbaijan has increased significantly. According to the annual reports of the Central Bank, the number of electronic money accounts was around 120 thousand in 2018, whereas by 2023 it had reached 700 thousand. This represents an average annual growth of approximately 35–50% and indicates the rapid development of the digital payment infrastructure in the country.

The electronic money infrastructure within Azerbaijan's national payment system is mainly associated with mobile payments, P2P transfers, and the digitalization of public services. The activities of electronic money institutions are carried out particularly through fintech companies such as PashaPay, eManat, and Payriff, and these institutions are regulated and licensed by the Central Bank. These regulatory mechanisms ensure the reliability of payment systems while also stimulating the development of new fintech projects. The implementation of electronic money strengthens competition within the banking system and enables the formation of innovative models of payment services. At the same time, electronic money systems facilitate access to financial services for people living in regions and for those who do not have bank accounts, thereby increasing social inclusion and expanding the share of cashless payments.

The implementation of electronic money within the national payment system also contributes to reducing transaction costs and improving financial transparency. Transactions carried out through electronic payment instruments are generally faster and more convenient for economic entities, including both individuals and businesses. In addition, digital payment systems facilitate the tracking and monitoring of financial operations, which simplifies auditing processes and strengthens financial accountability. This is particularly important in the digitalization of government and commercial payments. At the same time, the monitoring and stress-testing mechanisms implemented by the Central Bank play an important role in ensuring the stability and reliability of electronic money systems. These regulatory measures help identify potential risks within the payment infrastructure and contribute to maintaining the security and efficiency of the national payment system.

Azerbaijan's electronic money ecosystem is also developing through the implementation of technological innovations. Artificial intelligence, big data analytics, cloud technologies, and blockchain technologies increase the security of electronic payment transactions, facilitate the monitoring of operations, and optimize decision-making processes. These technological capabilities make risk management in the Central Bank's payment systems more effective and enhance the resilience of payment infrastructures.

The increasing share of cashless payments demonstrates the strategic impact of electronic money on the national payment system. From 2018 to 2023, the proportion of cashless payments in total transactions rose from 20% to 60%. This growth reflects a shift in the country's payment culture and a rising demand for electronic payment services. Moreover, electronic money creates innovative opportunities for the financial sector, enhances the competitiveness of banks and fintech companies, and drives the adoption of new payment solutions.

Risk management is crucial for ensuring the resilience of electronic money systems. Risks such as cybersecurity threats, fraud, technical disruptions, and liquidity provision are regulated by the Central Bank. Measures including ISO security standards, real-time monitoring, auditing procedures, full reserve requirements, and stress-testing mechanisms are designed to mitigate these risks. These safeguards ensure both the reliability of electronic money transactions and the overall financial stability of the system.

Future development prospects further strengthen the role of electronic money within the national payment system. The implementation of a digital manat, risk management based on artificial intelligence and big data, the expansion of mobile and P2P payments, and the integration of electronic money into public services will enhance the flexibility and efficiency of the national payment system. These measures will not only increase the speed of transactions but also promote financial inclusion and contribute to the development of the fintech sector (Table 1).

Table 1 illustrates the dynamics of electronic money accounts in Azerbaijan from 2018 to 2023. As the data show, there has been a steady and continuous increase in the number of electronic money accounts since 2018.



Table 1 – Number of Electronic Money Accounts in Azerbaijan (2018–2023)

Year	Increase in the Volume of Cashless Payments, %
2018	20
2019	28
2020	36
2021	45
2022	55
2023	60

Source: compiled by the authors

The total number of accounts, which was 120 thousand in 2018, rose to 180 thousand in 2019, reflecting an annual growth rate of 50%. This growth trend continued in 2020, with the number of electronic money accounts reaching 270 thousand.

In 2021, the growth trend further strengthened, with the number of accounts reaching 380 thousand and an annual growth rate of 40%. In 2022, the number of electronic money accounts increased to 520 thousand, and by 2023 it had reached 700 thousand, marking a record growth. These figures reflect the expansion of the electronic payment infrastructure in the country, the growing interest of the population in digital financial services, and the active development of the fintech sector.

The data in the table indicate that the growth rate of electronic money accounts remained high each year from 2018 to 2023, contributing to the strengthening of the digital payment ecosystem. The stability of this growth is attributed both to the implementation of technological innovations and to the widespread adoption of electronic payments among the population. In particular, the expansion of mobile payments, electronic wallets, and P2P transactions has been one of the main factors driving this increase.

Another reason for the sharp increase in the number of electronic money accounts is the reforms implemented by the Central Bank. Improvements in regulatory mechanisms, the licensing of fintech companies, the strengthening of security standards, and the digitalization of payment services have all increased trust in electronic payments. Consequently, these measures have encouraged a greater number of users to open electronic money accounts.

The analysis indicates that the growth of electronic money accounts is not merely a statistical indicator but also a measure of the quality of digitalization within the country's financial system. This process contributes both to the expansion of cashless payments and to increased transparency in economic transactions. The proliferation of electronic money accounts also strengthens financial inclusion, as even individuals without traditional bank accounts can access digital payment systems through electronic money services.

In conclusion, the dynamics presented in Table 1 demonstrate that the role of electronic money in Azerbaijan's national payment system has strengthened each year, accelerating the adoption of electronic payment services and boosting the development pace of the digital economy. This growth trend indicates that in the coming years, electronic money is likely to become one of the key instruments in the country's payment system (Figure 1).

The graph illustrates the dynamics of the share of cashless payments in the total payment volume from 2018 to 2023. The data clearly show that during this period, the share of cashless payments exhibited a steady and continuous increase. This growth is directly related both to the development of electronic money and to the expansion of digital financial services in the country.

In 2018, the share of cashless payments was only 20%, indicating that digital payments had not yet been widely adopted at that time. However, a rapid increase occurred in the following years. By 2019, this share had risen to 28%, and in 2020 it reached 36%. One of the main drivers of this growth during this period was the widespread adoption of mobile payments and electronic wallets, as well as the increase in electronic commerce transactions.



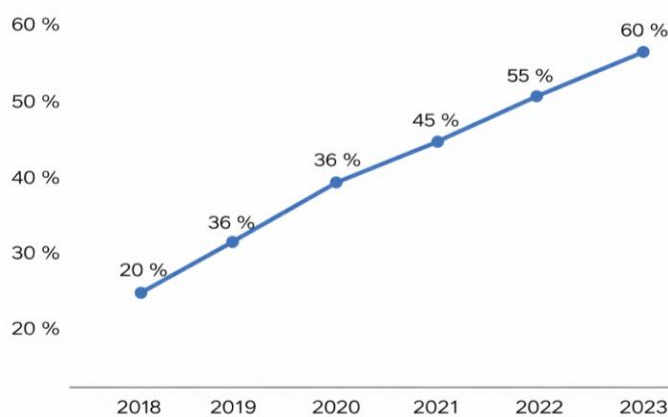


Figure 1 – Growth in the Share of Cashless Payments (2018–2023)

Source: compiled by the authors

In 2021, the share of cashless payments rose to 45%. This increase can be attributed both to the digitalization measures implemented by the Central Bank and to the mandatory growth of electronic payments during the quarantine period. The growth trend continued in 2022, with the share reaching 55%. During this stage, the activities of fintech companies, the digitalization of public services, and the expansion of payment infrastructure played a significant role.

In 2023, the share of cashless payments in the total volume reached 60%, marking a record high. This indicates that cashless payments have become a core component of the country's payment system, with a noticeable decline in the use of cash and an accelerated transition to electronic payment instruments among the population. This growth is also associated with the widespread adoption of electronic money accounts, the development of mobile banking services, and the expansion of POS and online payment infrastructure.

The continuous upward trend shown in the graph indicates that between 2018 and 2023, the country's financial sector underwent profound structural changes, and a digital payment culture began to take shape. The increase in the share of cashless payments not only expands financial inclusion but also enhances the transparency of transactions. Moreover, this shift has a positive impact on the transparency of tax revenues in the state budget and contributes to the reduction of the shadow economy.

Conclusion and the prospect of further research. The conducted research shows that

electronic money is one of the most dynamically developing elements of the national payment system in the modern era, directly influencing the economy. The implementation of electronic money has led to the modernization of the country's payment infrastructure, a deepening of digitalization in financial relations, and a significant increase in the share of cashless payments. Electronic money is not only a technological innovation but also plays a crucial role in the country's financial system as a strategic tool that ensures a qualitative transition to a new stage of economic governance and financial services.

As highlighted in the article, the development of electronic money in Azerbaijan is closely linked to the government's digital transformation policy, reforms in payment systems implemented by the Central Bank, the rapid expansion of the fintech ecosystem, and the formation of a digital payment culture among the public. The swift growth of electronic money accounts and electronic payment instruments reflects the population's increasing interest in digital financial services. Additionally, electronic money systems have opened new opportunities for individuals living in regions without bank accounts, making a significant contribution to the expansion of financial inclusion.

The development of electronic money also holds significant importance for public administration. The digitalization of payments increases the transparency of economic transactions, expands monitoring and oversight capabilities, reduces the size of the shadow economy, and ensures the stability of tax reve-



nues. This, in turn, creates favorable conditions for the more effective implementation of the state's economic policy. At the same time, conducting electronic money transactions in real time reduces operational costs in the business sector, accelerates payment processes, and enables greater flexibility in entrepreneurial activities.

The results of the study indicate that the prospects for the development of electronic money in Azerbaijan are extensive, and this growth is expected to accelerate in the coming years. The introduction of the digital manat, the establishment of AI-based security systems, the deepening of electronic government services, and the liberalization of the fintech sector will further strengthen the role of electronic money in the national payment system. Each of these initiatives will make a significant contribution to the modernization of the country's financial sector, the digital transformation of the economy, and the efficient use of financial services by citizens.

In conclusion, it can be stated that electronic money has become one of the key strategic trends in the development of Azerbaijan's national payment system. The broader adoption of electronic money provides a significant impetus for the country's financial stability, the growth of the digital economy, and the development of a cashless society model. Therefore, the development of electronic money plays a decisive role not only in the financial sector but also in shaping the country's overall digital future.

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