

# The Essence and Role of Electronic Money: Specifics of Legal Regulation

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## Abstract

**[Purpose]** The purpose of the study is to conduct legal analysis on the legal regulation problems concerning the concept of “electronic money” and the development of the modern monetary system of Kazakhstan based on the digitalisation of certain processes in the modern state.

**[Methodology/approach/design]** Based on the legal and general scientific research methods, an analysis of the existing legal framework and other documents in the studied area was carried out. Also, a comparative-structural analysis of individual norms of legal acts of the Commonwealth of Independent States countries was made.

**[Findings]** The issues of legal regulation and the incorporation of various concepts related to electronic money circulation into the laws of individual countries were examined based on the focus of the study. The idea of introducing a single digital electronic currency into Kazakhstan's national payment system, which would be backed by government finances and the obligations of the country's National Bank, was also substantiated. The arguments

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in support of this initiative by Kazakhstan's "main" bank and the country's government to launch a pilot process for the introduction of the digital tenge were formulated. This process will operate in circulation along with other cash and non-cash fiat currencies. In this regard, the chosen subject of the study is certainly promising for further scientific and theoretical deepening. This includes a further study of the prospects of digitalisation of the country's monetary system. Furthermore, a legal approach to the issue has revealed particular shortcomings in the enshrining of certain terms in Kazakhstan's legislation.

**Keywords:** Electronic Means of Payment. Cryptocurrency. Blockchain. Electronic Payment Systems. Electronic Money.

## INTRODUCTION

The subject of the study is relevant from a theoretical point of view. There is a lack of a comprehensive scientific concept for the development of electronic money and electronic payment systems in the world and individual countries and regions. Originally, the formation of a certain number of electronic money systems was often initiated by privately owned financial institutions with little support and interest from public financial authorities and institutions. As a result, the whole monetary system of the state was imbalanced: the introduction of electronic payment systems was ahead of the development of legislation and methodological apparatus regulating economic, social and legal relations of subjects in the field of electronic payments and settlements from a practical point of view (BLAHUTA et al., 2019; HRYNKO et al., 2021; TRUSOVA et al., 2020).

The subject of the study is also relevant in practical terms, as electronic money turnover causes the emergence of risks at the macro and micro levels. This requires the creation of an adequate and effective system of electronic money turnover regulation and the monitoring and oversight mechanism in the state. Hence the importance of and need for the study of the problems associated with electronic money and the cryptocurrency phenomenon.

There is a fairly large number of studies and dissertations by various specialists and scholars related to the regulation and use of electronic money. They focus on the legal basis and the nature of this legal and financial phenomenon. In particular, some experts consider e-money as an element of the distribution of financial and legal power in society. It is also seen as an instrument of a decentralised governance structure that transforms civil and credit-banking sector legislation within a country, and modernises international relations (AJEVSKIS and VITOLA, 2010; CRITTENDEN, 2020). Furthermore, scholars address the legal regulation of the digital payment system in the legislation of the European Union (REULE and HÄRDLE, 2021; PETUKHINA et al., 2021). M. Fourcade and J. Gordon (2020) study the development of the state's digital sphere and the legal regulation of new payment systems in the world. The issue of the

need for regulation of private electronic network platforms is also frequently raised (XU, 2020).

The practical and scientific relevance of the study lies in the raised role of electronic money issues and in the use of relevant regulatory sources to identify law enforcement problems in the field of electronic money circulation. The originality of the study is determined by the involvement of legal documents of recent years, the works of scholars 2019-2021 on the spread of cryptocurrency in the world, the importance of using blockchain in modern global and national monetary systems, the creation and development of electronic means of payment as “new” types of money.

The purpose of the study is to investigate the normative characteristics, legal nature, and organisational and functional role of electronic money, cryptocurrency and blockchains in the modern financial processes of Kazakhstan. The tasks of this study that need to be solved include: giving a comparative legal characteristic of the legal concept of “electronic money” based on the study of its legislative consolidation in various countries; investigating the drawbacks of legal regulation of e-money turnover in Kazakhstan; to explore the issues of introduction in the country of a new digital currency – digital tenge as an important tool of the virtual state payment system.

## MATERIALS AND METHODS

The theoretical-scientific study of the subject matter was carried out in several logical, task- and goal-oriented stages. Firstly, the first stage of the study was to identify and highlight relevant issues and questions required to elaborate on the use of various terms and concepts in the legislation of Belarus, Armenia, Kyrgyzstan, Kazakhstan and other countries relating to electronic (virtual) money processes in the circulation of national and other currencies. Furthermore, the issue of studying the specifics of promoting electronic money as a country's payment system instrument was raised. The methodological tools of the study were also formulated and defined. They were used to analyse and summarise the findings of the study concerning the internal content of certain documents. For example, the Report of the National Bank of the Republic of Kazakhstan for public discussions “Digital tenge” (2021); Resolution of the Board of the National Bank of the Republic of Kazakhstan No. 133 “On approval of the Program for the development of the national payment system in the Republic of Kazakhstan until 2025” (2020).

The second stage of the theoretical and methodological study involved content analysis of the findings. It also included a study of summarised data from scientific sources, normative literature and the results of terminology analysis concerning legal concepts related to electronic money circulation, digital payment

systems and virtual money (cryptocurrency and bitcoins). Some aspects related to the regulation of the concept of “e-money” in the legislation of different countries, including Belarus, Armenia and Kyrgyzstan, were also described in detail. The scope of the study did not allow for involving all sources of legislation in Europe, Asia, America, etc. However, even a superficial examination of the regulations of the European Union, United States of America (USA), United Kingdom, Singapore and other countries led to the conclusion that there is a lack of common understanding in terminology. Diversity in the interpretation of “electronic money” by legislators and enforcers was also noted either in its expansion (i.e., recognising all electronic means of payment as such) or its unjustified narrowing towards certain types of fiat money.

General logical and generally scientific methods of cognition of legal and political processes and phenomena were widely used in this study. This included the analysis of scientific works and other information (to identify specific problems of a legal definition of “electronic money”), synthesis of various findings, and generalisation of the research results. The tools for the concretisation of legal categories and processes enabled the identification of specific features concerning the legal regulation and consolidation of the fundamentals of electronic money circulation and digital payment systems in the modern national legislation of Kazakhstan. The formal-legal method was used to study the specific legal processes, and the acts of legislation in the country regulating the relations in the examined area. The method of comparative political science and comparative law was necessary to highlight the principal provisions of legislative acts and other governing documents of different Commonwealth of Independent States (CIS) and other countries when analysing the introduction of digital national currency.

Content analysis as a specific research method involved examining the internal content of individual regulatory documents. The final stage involved summarising the findings of the study to formulate an original position regarding the identified problematic elements. The methodological toolkit used in this study has produced results of a scientific and problematic nature that have unquestionable legal value.

To achieve the purpose and tasks of this study, the specifics of the regulation of electronic money circulation in Kazakhstan and other countries were investigated. In addition, certain features of digital means of payment were considered to illustrate the role of electronic money in the monetary policy of the state. This explains the increased interest of the legislator in establishing the legal foundations of this sphere.

## RESULTS

The organisational and legal specifics and problems of regulating the circulation of electronic means of payment are linked directly to the definition of the nature and content of the legal concept of “electronic money”. The terms related to electronic money and the role of electronic payment systems in the functioning of the banking and monetary structures of national states and institutions of the international community are also highlighted. The concepts of “electronic means of payment”, “electronic money”, “blockchain”, “cryptocurrency”, “digital currency”, “information and communication technology”, etc. differ in their legislative and other official wording in different national systems. However, they still essentially share common characteristics and attributes.

For example, the legislation of Belarus provides terminology for electronic money circulation and digital payments in two main acts – Law of the Republic of Belarus No. 455-Z “On Information, Informatization and Information Protection” (2008) and Resolution of the Board of the National Bank of the Republic of Belarus No. 201 “On approval of the Rules for conducting operations with electronic money” (2003). These acts clarify certain legal concepts and provide the wording in the field of electronic payments: “electronic wallet”, defined by the legislator as a special plastic card, other technical or information technology device, or computer software that provides access to monetary information and contains electronic money; “pre-paid card” as a type of electronic wallet for conducting special cashless transactions in info kiosks, bank and other self-service payment terminals; “e-money exchange”, defined by the legislator as a special virtual operation of an intangible digital nature for the exchange of electronic money (PROSKURNINA et al., 2021). At the same time, the concept of electronic money itself is not enshrined in the legislation of this country or the draft law “On Payment Systems and Payment Services”. It can be found in the Banking Republican Code of Belarus, which defines electronic money as special digital monetary units of value put into circulation in exchange for cash or non-cash financial instruments, and monetary obligations between different entities (IDRYSHEVA, 2021).

This legal concept of electronic money suggested by the Belarusian legislator seems to be excessively voluminous and not quite correct or accurate, as it includes all types of electronic means of payment. Other CIS countries have also enshrined the concept and content of the legal term “electronic money” in their national legislation. In particular, the Law of the Republic of Armenia No. ZR-150 “On Payment and Settlement Systems and Payment and Settlement Organizations” (2004) clause “x” of Article 3 contains the definition of

“electronic money” through a detailed description of its features and functional purpose. It is understood as monetary value, expressing a monetary relation in the form of a claim to the issuer, which has digital content, stored on special information technology devices (MIETHLICH et al., 2021). Also, it refers to various types of electronic payments through information and highly technical means of communication. Article 2 of the Law of the Kyrgyz Republic No. 21 “On the Payment System of the Kyrgyz Republic” (2015) defines the basic legal concepts and categories. Its regulations include a definition of the concept of “electronic money”, which means money, or rather its value is accepted as a means of payment in various areas and stored on special software and hardware devices in digital form. They also provide the definition of the concepts of electronic money issuer and electronic payment documents. The concept of international electronic money and payments is also enshrined in a meaningful way.

At the same time, the issuers of electronic money in the form of e-money are recognized only by banking structures. This is in contrast to the normative consolidation of the concept of issuers in Kazakhstan, where they, according to the Law of the Republic of Kazakhstan No. 11-VI “On Payments and Payment systems” (2016), can be various legal entities issuing e-money, also have the right to redeem digital money. In other words, according to paragraph 2 of Article 42 of the above-mentioned regulatory document, these are the National Bank of the country, second-tier banks, and the national postal operator. The advantage of the content of terminology in Law of the Republic of Kazakhstan No. 11-VI “On Payments and Payment systems” (2016) is the fact that it clearly defines the concepts of an electronic money system, the operator of this system, and functional concepts of use, redemption, issue of the specified digital money. However, the notion of electronic money as certain obligations or property rights is not entirely correct. This is also emphasised by S.K. Idrysheva (2021), a scholar-practitioner, in her insightful and comprehensive comparative legal study of the laws and civil legislation in the CIS countries. According to this scholar, electronic money is a special object of civil rights and represents a special property that has some of the characteristics of things and only some of those liability rights.

Moreover, the disadvantages of the legislative framework concerning electronic money as a financial asset include the provision of paragraph 3 of Article 25 of Law of the Republic of Kazakhstan No. 11-VI “On Payments and Payment Systems” (2016). It specifies separately by enumeration “transmission of electronic money” and the use of “means of electronic payment”. It seems more appropriate to merge these notions by amending this provision and stating it in the following form: “the use of electronic means of payment, including the

transmission of electronic money”. When considering the role of electronic money in modern Kazakhstan, it is necessary to highlight the following directions for improving its organisational and legal basis of functioning. First, as numerous academics and experts have pointed out, there is the problem of tax evasion, concealment of illegal income, and financing of terrorism through the use of cryptocurrency and other electronic means of payment, which are more difficult to identify and trace in today's information world. There is a need to better regulate the process of tracing illegal transactions on the global network and to set regulatory limits on the size of transactions. This is necessary to prevent the use of anonymous digital money to conceal proceeds, launder illicit funds, finance illegal activities, etc. The availability of a variety of electronic money and electronic payment systems (27 such systems were registered by the main bank of Kazakhstan as of 11 May 2020) creates a certain instability in the digital circulation of monetary means of payment. Some of them are listed below (Table 1).

<b>System of Electronic Means of Payment (Money)</b>	<b>Issuers of Digital Monetary Liabilities</b>	<b>Operators of the Digital Payment System</b>
“Wooppay”, “Qivi Wallet”, “Halyk”, “Homebank Wallet”, “PAYBOX.money”, “ASIAPAY”, “Bloomzed.kz”.	“Halyk Bank of Kazakhstan”.	Limited Liability Partnerships (LLP): “QIWI Kazakhstan”, “WOOPPAY”, “PAYBOX.money”; and directly “Halyk Bank of Kazakhstan”.
“Qivi Wallet”, “Paypoint”, “AllPay”, “Wallet One”, “MyBonus”, “RPS”, “Indigo24”, “Senim”, “AlmaPay”, “Onay Pay”, “About Click”, “Innopay”, “WebMoney Kazakhstan”.	Joint-stock company (JSC) “AsiaCredit Bank”, which uses multiple electronic payment systems in its operations.	LLP: “Hermes Garant Group”, “Innoforce systems”, “MAER Soft”, “RPS Asia”.
“Wooppay”, “Aitu – Payment Solutions”.	JSC “Eurasian Bank”.	LLP: “Aitu – Payment Solutions”, “Wooppay”.
“Wooppay”, “Qivi Wallet”, “Kassa24”, “Wallet One”, “RPS”, “Innopay”, “WebMoney Kazakhstan”, “Silkpay”, “Interpay”.	JSC “Alfa-Bank”.	LLP: “QIWI Kazakhstan”, “WOOPPAY”, “Interpay”, “Aitu – Payment Solutions”.

“Wooppay”.	JSC “Capital Bank Kazakhstan”.	LLP “WOOPPAY”.
“Kassa24”.	“First Heartland Jusan Bank”.	LLP “Kassa24”.
“Wooppay”, “Homepay”.	“Home Credit Bank”.	LLP “WOOPPAY”, “Internet Payment Center”.
“ONE”, “KAZEUROMOBILE”.	JSC “ForteBank”.	LLP “ONE Technologies”, “KAZEUROMOBILE”.
“Kazpost”, “Kaspi Bank”.	JSC: “Kazpost”, “Kaspi Bank”, and others issuing their own electronic funds.	JSC: “Kazpost”, “Kaspi Bank”.

**Table 1** – Modern structure of electronic money and virtual payment systems in Kazakhstan (as of 1 January 2022).

Therefore, the study supports the global trend and initiatives of the National Bank of the Republic to introduce a fiat currency in the form of the digital tenge. It would be an official national currency, along with existing cash and non-cash currency, secured by state guarantees and therefore would require additional normative consolidation and regulation in practice. This initiative was supported by a study of a collective analytical paper by European scientists and experts on the implementation of national and interstate digital currencies in the world. Moreover, it was supported by the achievements of individual countries in this regard (AUER et al., 2020) and a Report of the National Bank of the Republic of Kazakhstan for public discussions on “Digital tenge” (2021) on the justification of the effectiveness and need for a new national currency – the “digital tenge”. Furthermore, paragraph 6.7. Resolution of the Board of the National Bank of the Republic of Kazakhstan No. 133 “On approval of the Program for the development of the national payment system in the Republic of Kazakhstan until 2025” (2020) also includes a provision to develop and promote an initiative to create and introduce electronic national currency, the digital tenge.

At the same time, according to the Report of the National Bank of the Republic of Kazakhstan for public discussions “Digital tenge” (2021), the introduction of a new electronic currency “will ensure further development of the National Payment System and reduce dependence on cash payments”. This type of money has significant advantages and unique technological characteristics: interoperability, i.e., ease of circulation and ability to fully interact with other means of payment; confidentiality and security; the scale of movement and



immediacy of transfers; exchange rate flexibility. The term will also need to be legally defined in the future. According to a report by the National Bank, there is “still no universally accepted definition of the term”. Moreover, there is a significant advantage of digital tenge over such financial instruments and phenomena of the modern information age as “cryptocurrency” and “stablecoin”. The national electronic currency is fully capable of sustaining all monetary functions. In other words, it can be used by all entities in Kazakhstan to pay for any goods and services. Besides, it can be a full-fledged measure of value and a universal nationwide means of circulation, just like cash national currency (AJEVSKIS, 2011).

Many countries around the world are already testing digital official money or considering introducing a national digital currency. In particular, Russia, represented by the Central Bank, unveiled the concept of the digital ruble in 2020 and it is being actively discussed; China is in the active stage of developing and testing a Digital Currency Electronic Payment (DC/EP) platform, and the digital yuan has already been tested in 2020 in four metropolises; the Monetary Authority of Singapore is already in the final stages of testing and implementing a new digital currency. There are cross-border projects on wholesale digital currencies between the following countries: Hong Kong-Thailand, Singapore-Canada, Europe-Japan, and United Arab Emirates-Saudi Arabia (REPORT OF THE..., 2021). Consequently, the prospects for the development of Kazakhstan's monetary and financial system based on the digitalisation of national currency circulation seem quite positive for the following reasons: improving the system of mutual payments among various entities, increasing the availability of financial services, and developing cross-border payment systems.

## DISCUSSION

Electronic payment systems, virtual currencies, electronic “wallets” and other high-tech financial information tools and resources have become the subject of study by various experts and scholars in terms of their security as a means of payment, legal and other government regulation and oversight, legitimacy of their use in practice, problems and prospects for the international circulation market. There is a considerable number of studies by foreign experts and scholars related to the regulation and use of electronic money. Such studies are aimed at examining the legal basis and nature of this legal and financial phenomenon.

The publication by C. Crittenden (2020) (chairman of the study group) contains the most comprehensive information on the activities of the working group. It studied the specifics of electronic means of payment in California and other regions of the USA and the specifics of regulating the turnover of information payment resources. Specialists have drawn conclusions about the

significance, importance and role of using special wire transfers for the business community in California and the State government, based on a study of various official documents, government regulations, information resources regulations, and electronic payment systems. They have also analysed the security of e-money in different sectors of public life. This group of scholars and practitioners came to an interesting and important conclusion that in today's world, blockchain technology has moved far beyond the interests of the “computer scientists” and public advocates of cryptocurrency that initially caused its emergence and formation (TANIRBERGENOVA et al., 2021; MYTROFANOV et al., 2022). Nowadays, electronic money influences the distribution of power in society, promotes decentralised administration, supports the development of “sovereign identity” and “confidentiality of personal data”, and transforms credit banking and other legislation in various countries and regions (TRUSOVA et al., 2021; GHARAIIBEH et al., 2012).

Another specialist from the USA, M. Muhetaer (2021), has studied the stability and state regulation of government monetary policy. He has analysed and investigated in depth the impact of cryptocurrency on the state of the country's banking sector. According to this scholar, the welfare of the USA depends directly on defining the nature and role of electronic money circulation in the modern banking system. Therefore, it is necessary to modernise the regulatory framework for this type of modern money. The impact of e-finance on government monetary policy lies in the modernisation of lending and monetary instruments through the development of special official instructions in this area, which have a legal basis for the regulation of financial processes in the country.

A team of experts from the University of Alabama at Birmingham and a practitioner from the Department of Plastic Surgery at a New York hospital are studying the impact of the legitimacy of cryptocurrency use in medical organisations as a means of paying for treatment. At the same time, they explain the nature and definition of this type of electronic means of payment: “it is a decentralised digital form of payment that is encrypted and protected by blockchain technology”. There is also a study of the need for legal support regarding the circulation of electronic payments in the medical field in the USA. In 2018-2021, cryptocurrency as an electronic means of payment for services in this field “has been used by many medical specialities, including urology, plastic and reconstructive surgery, and dermatology” (ZAZA et al., 2021).

Within the framework of examining laws on foreign capital investment of businesses in the country, the possibility of investing electronic money in the Chinese economy, and regulations on the security of personal data in electronic circulation, Chinese banking expert M. Zhang (2020) makes a valid point about the shortcomings of regulations on intangible (virtual) money turnover in the

monetary policy of the Chinese. He notes the importance of legal directives from the State's Supreme People's Court to clarify and supplement legislative initiatives regarding the stabilisation of terminology and the legal enshrinement of the concept of “electronic money”. German scholar P. Schwartz (2021) considers the problems of legal regulation of intervention by state and law enforcement agencies to examine confidential citizen data and control telecommunications networks. He raises the question of the universality and independence of electronic money from governmental regulations. The scholar also addresses issues of legal regulation of electronic money circulation in Germany, considering current changes to legal regulations to ensure the security of users of electronic payment systems and online banking.

Another scholar, W.M. Maurer (2021), has an interesting perspective on the specifics of regulation and state control of the movement of electronic payments via mobile devices and social media. He believes that the state should not restrict the developers of new payment information tools with any legal or control measures. According to him, the future of the world's paperless monetary system lies in these tools. He develops a peculiar terminology in the field of electronic money, modernising the current academic concepts of “mobile money” and “social currency”, and giving them a certain value and risk content. In this context, one can state that the concept of “social currency” has been studied in science and law before, but there is still no general terminological, let alone legal, the definition of it.

Mobile money is recognised by many scholars as a multi-functional and innovative medium and a tool designed to make use of the most relevant financial services by transferring money through cellular and mobile phone operators using phones and other portable devices. M. Fourcade and J. Gordon (2020) consider the issues of the relationship between state regulation of the information and digital sphere and the development of new payment systems in the world. A Chinese expert from the University of California examines a specialised electronic means of payment and turnover in social global networks, Bitcoin, as the first decentralised cryptocurrency. In revealing its investment potential, he studies and notes particular aspects of the need for state regulation of money circulation regarding various electronic network platforms (XU, 2020).

A group of European academics sees the emergence of new electronic means of payment, particularly cryptocurrency, as an achievement of the entire European and global community. The scholars have studied the socioeconomic value of new electronic means of payment, the profitability of electronic payment systems, the significance of cryptocurrency in the financial market of goods and services, and normative regulation of virtual money instruments circulation system in the legislation of the European Union countries (REULE and HÄRDLE,

2021; MIETHLICH et al., 2022). Another group of European specialists is calculating selected indicators to clarify the importance of cryptocurrency in the European market and for the functioning of the legitimate and most widespread electronic payment systems. Cryptocurrency is also studied by the authors as a special investment vehicle, alongside traditional investment “portfolios”. They also calculate the legal risks regarding the unstable legal regulation of electronic money turnover in certain European countries (PETUKHINA et al., 2021).

The diversity of ideas and reflections presented in the aforementioned studies shows that there is no consensus and no common scientific understanding of the increasing scale and direction of the e-money impact on the monetary system regulation. This is related to the wide variety of virtual money systems in which electronic means of payment represent different legal natures of financial products, and payment platforms have many varieties. Therefore, the development of a unified regulatory and legal approach to the concept and nature, role and content of electronic money as the most important virtual means of payment and instrument of modern high-tech information monetary turnover is necessary at the global and national levels.

## CONCLUSIONS

One of the problems of legal regulation of electronic money turnover using different electronic payment systems is the lack of uniform terminology in different countries and in the international community and the scientific understanding of certain legal concepts related to the considered issues of the subject. According to the authors, the legal deficiency is the consolidation of the concept of “electronic money” in the legislation of Kazakhstan through the category of the law of obligations (as a type of obligation), rather than as a phenomenon of property nature, namely a special type of property with value and utility for civil circulation. Furthermore, amendments to certain provisions of paragraph 3, Article 25 of Law of the Republic of Kazakhstan No. 11-VI “On Payments and Payment systems” of 26 July 2016 are suggested. These include listing separately “transmission of electronic money” and use of “means of electronic payment”, combining both categories in a single sub-paragraph.

Among the organisational and legal issues of reforming electronic money circulation in Kazakhstan, the problem of introducing digital national currency is raised. The study fully supports it, as it will increase the interoperability of money exchange by introducing digital technologies in the financial policy of the state; provide additional privacy and security measures for holders and owners of the mentioned digital currency; ensure the scale of movement and immediacy of transfers and flexibility in exchange rates. Therefore, it may be useful for studying the issues and areas of improvement of law-making and socio-economic policy of

the authorities of Kazakhstan. The study is aimed at forming a new legislative and regulatory framework for digitalisation and implementation of modern innovative concerning the development of electronic means of payment in the country.

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