

7. Хишаева Ж.Т. Государственная поддержка инновационной деятельности в Казахстане /Ж.Т.Хишаева,К.Б.Тажибекова//Вестник Университета «Туран». –2016. –№4. – С. 23–27.
8. Устойчивость развития национальной экономики в современных геополитических и геоэкономических условиях / под ред. Д.М. Мадияровой, Ж.Б. Рахметулиной. – Астана: ЕНУ им. Л.Н. Гумилева, 2015. – 257с.

Digital money at the present stage: Key risks and Development direction

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Abstract

The article explores modern trends in the development of digital money. The purpose of the article is to identify and analyze the risks of digital money, and to study scientific approaches and tools for managing these risks. The authors use general scientific and special research methods, including comparative legal analysis and a systematization method, as well as methods of economic theory: positive analysis and scientific abstraction. The research highlights the strategic challenges and guidelines in the development of digital money in the Kazakhstan and shows the difference and common features of digital and electronic money. Based on a comparative analysis of private and national digital money, we conclude that the digital money of Central Banks is more flexible and more reliable for consumers than private cryptocurrencies. We systematize the risks of digital money circulation at the micro, mezzo and macro levels, as well as identify the essential tools for managing them. The authors note that exogenous risk management tools are more typical for private cryptocurrencies, and endogenous tools will apply to digital money of central banks, in particular, the development of an appropriate configuration of Central Bank digital currency. The study may be useful for digital money users, as well as government agencies implementing policies and regulations on the issue and circulation of digital money in Kazakhstan.

Keywords: digital money; cryptocurrency; central banks; risks; banking system; payment systems.

Money is a familiar attribute of any economic system. On the one hand, they act as an equivalent and perform a number of economic functions; on the other, they are a general and legal category, the subject of state power and state regulation; and on the third, they are the subject of agreements and habits of economic entities that always strive to find them more profitable and convenient for use the form.

It should be noted that a new phenomenon contributing to the transformation of payment and monetary systems can be called the formation of such an institution as digital money, which is also often called differently: digital currencies, network money, cryptocurrencies. In this context, the designated "digital money" is understood

as "a combination of two elements: an asset and an exchange mechanism that allows payments and settlements using distributed ledger technology" [1, p. 2].

The cryptocurrency market is actively developing. There are already more than 2 thousand types of issued private digital currencies. So, the most popular of them are: Bitcoin (market capitalization is more than 172 billion US dollars), Ethereum (market capitalization is about 22 billion US dollars), XRP (market capitalization is about 9 billion US dollars), Bitcoin Cash (market capitalization is about 4.3 billion US dollars), Litecoin (market capitalization is more than \$2.8 billion)1.

In some countries, there is a precedent for issuing cryptocurrencies by a central bank (for example, in Venezuela). In a number of other countries, the issue of issuing national digital money is being raised, for example, E-Crona in Sweden [2] or Fedcoin in the USA [3]. Thus, along with decentralized private digital currencies, national digital money issued by central banks also appears [4].

Despite the fact that in recent years, increased attention has been paid to digital money in scientific publications [5-7], nevertheless, many aspects of the development of digital money remain fragmentary. In particular, today there is no unified systematization of the risks of circulation of digital money at various levels of economic processes. Scientific approaches and tools for managing these risks have not been developed, which creates obstacles for public authorities in implementing the policy of regulating the circulation of digital money. This article is devoted to the study of trends in the development of digital money and the risks associated with them.

Private digital money (cryptocurrencies): Their varieties and inherent risks

Analyzing the possible forms and instruments of payments, we note that, despite the ongoing technological and institutional transformation, there is one official form of monetary unit in Kazakhstan - the Kazakhstani tenge, fixed by law. At the same time, cash and non-cash money (including electronic money) act as payment instruments, which is established by the legislation and rules of the Bank of Kazakhstan. From the point of view of the implementation of the technology of payment instruments, the continuation of the development of electronic forms can be forms of payments implemented using digital technologies.

The peculiarity of the functioning of modern payment systems, due to the fact that electronic money used by them as settlement and payment instruments, in fact, is their obligation, and creates the illusion of a possible private issue of such money. Such use and quality was described by A. F. Hayek some time ago [8, p. 177], who put forward the idea of the circulation of private money, i.e. money that is issued by non-central banks. At the same time, it should be noted that it is the legality or fiat nature of using an asset as a means of payment that is also important for its functioning as money. It is the possibility of converting such digital money into real money of any state that makes them interesting for investors.

It should be noted that it is currently undergoing a significant transformation of this historical and social institution. So, the main period of development of mankind existed in the system of full-fledged money (commodity and metal). However, recently technological changes have led to significant changes in monetary systems, which entails the emergence of new risks that appear and accompany this process. Despite the widespread consolidation by national legislation of the monopoly right to issue money by central banks, there is a tendency to form private digital money (cryptocurrencies) and decentralized payment systems [9]. At the same time, we believe that such non-fiat digital money is not money in the full understanding of the essence of this institution, which primarily depends on the functions performed. Currently available cryptocurrencies do not perform all the functions of classical money, but are only an intermediate payment equivalent. However, the presence of fiat cryptocurrencies issued by central banks in the future may lead to the development of new types of monetary systems in which digital money is widely used.

There are already several thousand different digital currencies that may differ from each other in their characteristics. For example, depending on the availability of the emission limit. As you know, the most popular cryptocurrency Bitcoin has a release limit. At the same time, for example, Novacoin and PPCoin have been created, which have no limit on the volume of issue [10].

An important quality of cryptocurrencies can be a currency, the registration of users of which is possible after the consent of ICANN, the American company-creator.

Another quality of cryptocurrencies that their creators can emphasize in order to distinguish them from the general mass is security (i.e., the presence of any real asset that underlies the creation) or insecurity. At the same time, this is rather an advertising move for promotion, since the reality of the provision cannot be established. The bulk of cryptocurrencies are unsecured. By their purpose, they are mainly a payment instrument, but they can also be created for the purpose of financing any projects.

With the development and application of technologies in society, the specific risks that can carry the spread of fraud in the Internet space increase. Specially created viruses and malware, and a simple breakdown of equipment or its failure can lead to financial losses. Significant risks are associated with the loss of information (theft of cryptocurrencies, cybersquatting). Thus, "access to personal data is already practically not controlled. In the future, the tools for hacking devices storing confidential information will be improved so much that they can become almost an "absolute weapon"" [11, p. 64].

Thus, it is necessary to focus attention on the identification and qualitative assessment of risks² that are present in the development and use of digital currencies in decentralized payment systems.

Risk management of private digital money circulation

In our opinion, there is a need for state regulation of the circulation of cryptocurrencies in Kazakhstan. At the same time, the adoption of legislation on digital assets and cryptocurrencies in Kazakhstan

has not yet happened, since the opinion of Kazakhstani regulatory structures differs on the conceptual issues of the existence of cryptocurrencies as an ecosystem. Thus, there is no official concept of digital money in Kazakhstan yet. It should be noted that in Kazakhstan the term "cryptocurrency" is not legally fixed, there is a project to introduce the term "digital financial asset" into civil circulation.

At the same time, the presence of cryptocurrencies is a fait accompli that cannot be denied. We will analyze the legal infrastructure surrounding cryptocurrencies in different countries of the world³.

So, if in 2014 only about 40 countries used some elements of regulation of transactions with digital assets, then 5 years later 130 jurisdictions already had their own regulatory acts on this issue. This growth confirms the opinion of the authors of this article about the need for the formation of legal regulation.

An analysis of how different countries legally legalize the cryptocurrency market makes it possible to develop optimal regulatory policies and practices. One of the facts is the diversity of definitions used, which at the same time describe the same objects. For example, there are the following concepts: in Thailand, Argentina, Australia, the term "digital currency" is used; in China, Canada, Taiwan - "virtual goods"; in Lebanon and Italy — "cyber currency"; in Germany — "crypto token"; in Switzerland — "payment token"; in Mexico — "virtual asset"; in Columbia - "electronic currency".

It should be noted that regulators in all countries understand the possible risks of using digital currencies. Many regulators attract public attention and are concerned about the problems of combating money laundering and possible financing of extremist and terrorist organizations using cryptocurrencies. In addition, the Recommendations of the Financial Action Task Force on Money Laundering (FATF) have been developed, which summarize the current practice of turnover of digital financial assets.⁴ For example, in some countries (for example, Australia and Canada), there are already amendments to the laws on combating illegal activities, such as money laundering and terrorism, and attention is being drawn to the relevant risks. These jurisdictions have included cryptocurrency markets in the objects that need to be monitored and have outlined due diligence requirements for banks and other financial institutions operating in designated markets.

Regulators of countries such as Belgium, South Africa and the United Kingdom, realizing the riskiness of cryptocurrencies, issued information messages and warnings to the public about the "pitfalls" of investing in cryptocurrencies, but considered that the size of the cryptocurrency market is of no concern and justify regulation and/or prohibition at this stage.

A number of countries regulate cryptocurrencies as a mechanism for raising funds (ICO⁵). Of the jurisdictions that use the ICO mechanism, China and Pakistan ban them completely, while most countries tend to focus on regulating them. The majority of jurisdictions do not recognize cryptocurrencies as legal tender, but see the potential in the blockchain technology underlying them. Developing a regulatory regime favorable for cryptocurrencies, they are trying to use them as a means of attracting investments in technology companies (Spain, Belarus, Luxembourg). A special

approach is observed in some states that seek to develop their own cryptocurrency system (Marshall Islands, Venezuela, Lithuania). One of the emerging issues when resolving investments in cryptocurrencies is taxation. Since the profit received from the extraction or sale of cryptocurrencies is classified as income or capital gains, this is treated as a taxable object. However, there is also no unity of tax regulators on this issue.

Thus, the presence of different jurisdictions and points of view creates the problem of creating complete and consistent rules for regulating a single turnover of digital financial assets that would take into account the requirements of national laws and business practices.

Based on the conducted research and a brief analysis of possible directions and regimes of crypto-currency regulation, we note that financial investments can carry significant risks for investors (market, country, legal). At the same time, we believe that citizens have the right to dispose of their own legally earned funds independently, without any restrictions. Today, there are no successful examples of issuing their own digital money among the central banks of developed countries, but there are pilot projects to create them. China, Sweden and South Korea came closest to issuing digital currencies. Developing countries are demonstrating a more active position on the issue of national digital money. So, one attempt to issue a national digital currency was made by Venezuela in 2018, but the experiment ended unsuccessful. In addition to Venezuela, Senegal, Uruguay and Tunisia announced the release of their own digital money. In Kazakhstan, the Central Bank is currently exploring the possibility of launching its own digital currency.⁷ According to a survey conducted by the Bank for International Settlements among 63 central banks (41 in developing economies), the following motivational incentives for issuing national digital currencies by developing countries can be identified by priority: (1) the effectiveness of national payments; (2) financial inclusion; (3) risk-free payments; (4) other purposes; (5) financial stability; (6) implementation of monetary policy; (7) efficiency of international payments⁸. If we compare the release priorities digitally- between the central banks of developed and developing countries, the issues of payment security and financial stability will be more relevant for developed countries, while the issues of payment efficiency and financial inclusion will be of greater priority for developing countries. At the same time, the use of digital money for the implementation of monetary policy is not super-urgent for central banks of either developed or developing countries.

Conclusion

1. The article considered two current trends in the development of money — the rapid emergence of private digital money (cryptocurrencies) and the gradual emergence of the first digital money of central banks. The main incentives for the issuance of digital currencies by central banks of developing countries are the efficiency of payments and financial inclusion.

2. At the same time, each of the new forms of money has its own characteristics and unique risks for consumers, the banking system and the state as a whole. So, for private digital money, risks for consumers and the state as a whole will be more relevant. In turn, for the circulation of central bank digital money for a wide range of users, the risks of financial intermediaries will be more important, since they will be in charge of deposits (deposits) in commercial banks. Accordingly, this can lead to a significant outflow of funds from commercial banks to the central bank during periods of financial instability.

3. The study developed classifications of the risks of circulation of private and central bank digital money and proposed appropriate economic and legal tools to reduce them. It is necessary to use tools that will weaken the influence of central banks' digital money on the banking system.

4. According to the authors, at the initial stage, the Bank of Kazakhstan may use a system similar to the Bank of Canada for the test issue of its own digital currency for credit institutions. Such an approach does not carry significant risks for Kazakhstan banks and at the same time creates a prelinks for the release of national digital money in the future for a wide range of users.

List of literature

1. Pfister C. Monetary policy and digital currencies: Much ado about nothing? Banque de France Working Paper. 2017;(642). URL: <https://publications.banque->

france.fr/sites/default/files/medias/documents/ dt-642.pdf

2. Skingsley C. Should the Riksbank issue e-krona? Speech at Fintech Stockholm. Nov. 16, 2016. URL: <https://www.bis.org/review/r161128a.pdf> (дата обращения: 18.05.2020).

3. Koning J. P. Fedcoin: A central bank-issued cryptocurrency. R 3 Report. 2016. URL: https://www.r3.com/wp-content/uploads/2017/06/fedcoin_central-bank_R_3.pdf (дата обращения: 18.05.2020).

4. Bordo M. D., Levin A. T. Central bank digital currency and the future of monetary policy. NBER Working Paper.

2017;(23711). URL: <https://www.nber.org/papers/w23711.pdf>

5. Liu Y., Tsyvinski A. Risk and returns of cryptocurrency. SSRN Electronic Journal. 2018. DOI: 10.2139/ssrn.3226952

6. Adrian T., Mancini-Griffoli T. The rise of digital money. IMF Fintech Note. 2019;(19/01). DOI: 10.5089/9781498324908.063

7. Ali R., Narula N. Redesigning digital money: What can we learn from a decade of cryptocurrencies? MIT Digital

Currency Initiative. 2020. URL: <https://dci.mit.edu/research/2020/1/22/redesigning-digital-money-what-can-we-learn-from-a-decade-of-cryptocurrencies-by-robleh-ali-and-neha-narula-of-the-digital-currency-initiative>

8. Хайек Ф. А. Пагубная самонадеянность. Ошибки социализма. Пер. с англ. М.: Новости/Catallaxy; 1992.

Digital transformation of the economy and business

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Abstract: Starting as digitalization, the process of introducing digital technologies in various sectors of the economy has taken on a comprehensive scale. The "race of technological re-equipment" has already begun, and its main content is the digital transformation of business [1]. Platform solutions and networking principles of doing business are spreading. It both works and brings benefits to companies, radically transforming business processes, and forming entire ecosystems. World experts agree that only digital technologies in the coming years will be a driver of economic development in almost all spheres of human life, and the volume of the digital economy by 2023 will be 23 trillion dollars. Integration of technologies into the real world has led to the fact that they are so tightly integrated into the processes of production, doing business, training and public administration that further growth is impossible to imagine without "digital". And amid the COVID-19 pandemic, the rapid digital transformation of entire industries has become not just a necessity, but a measure to survive. Today we need to talk not about the digital transformation of the traditional economy, but about the formation of a new exponentially accelerating economy, the existence of which is impossible without digital technologies, a digital society and a system of global relations.

The purpose of this article is to identify the key processes of digital transformation as a complex dynamic environment with high uncertainty, which will allow companies to form an understanding of the modern economy and achieve exponential growth.

Key words: Digital economy, transformation, digital technologies, state, economy, innovations.