El estado legal de los tokens y su herencia

The legal status of tokens and their inheritance

DOI: https://doi.org/10.17981/juridcuc.16.1.2020.12

Fecha de Recepción: 05/03/2020. Fecha de Aceptación: 20/03/2020.

Elena Anatolyevna Kirillova
Southwest State University, Kursk (Federation Russia)
elena.an.kirillova@mail.ru

Oleg Evgenyevich Blinkov
Academy of the Federal Penitentiary Service of Russia. Ryazan (Federation Russia)
State University of Humanities and Social Studies. Kolomna (Federation Russia)
812637@mail.ru

Teymur Zulfugarzade
Plekhanov Russian University of Economics. Moscow (Federation Russia)
204271@mail.ru

Aleksandr Vladimirovich Bocharov
Russian State University of Tourism and Services Studies. Cherkizovo. (Federation Russia)
184605@inbox.ru

Artur Yashevich Avdalyan
Russian State University of Tourism and Services Studies. Cherkizovo (Federation Russia)
648096@mail.ru

Para citar este artículo:

Resumen
Este artículo analiza el estado legal de los tokens, sus características específicas y distintivas, así como la posibilidad de herencia de este activo digital. El objetivo del estudio es analizar la naturaleza legal y la clasificación de los tokens, así como las especialidades de su herencia. En esta investigación, se han utilizado los métodos de recopilación y estudio de singularidades, generalización, abstracción científica, cognición de leyes objetivas, objetividad, especificidad y pluralismo. En el estudio se ha concluido que el token es una entrada en el registro de bloques de transacciones (blockchain), otro sistema de información distribuida que verifica que el propietario del token tiene derechos sobre objetos de derechos civiles y (o) es una criptomoneda. Se ha demostrado que los tokens, por su naturaleza legal, son unidad del precio digital en las acciones de individuos en proyectos empresariales, así como en el capital autorizado de la empresa: un análogo del precio digital de valores no certificados; análogo del precio digital de otros objetos de derechos civiles. Se ha propuesto una clasificación de tokens y se ha argumentado la necesidad de crear un repositorio electrónico contenido códigos del acceso para activos digitales, después de la muerte del testador, estos códigos pueden presentarse a los herederos por testamento o ley, si el testador no ha hecho las disposiciones testamentarias correspondientes durante su vida. Estas conclusiones y sugerencias ayudarán a resolver en la práctica los problemas de calificación legal del token y resolver problemas de herencia en esta área.

Palabras clave: Criptomoneda; estado legal; heredero; tecnología de blockchain; tecnología digital; token.

Abstract
This article considers the legal status of tokens, their specific and distinctive features, as well as the possibility of inheriting this digital asset. The study aims at analyzing the legal nature and classification of tokens, as well as the specifics of their inheritance. While conducting this research, it has been used the methods of collecting and studying singularities, generalization, scientific abstraction, cognition of objective laws, objectivity, specificity and pluralism. It has been concluded that a token is an entry in the blockchain registry or other distributed information systems, which certifies that the token owner is entitled to civil law protections and (or) is a cryptocurrency. It has been proved that tokens by their legal nature are digital units of accounting in the participating interest shares of entrepreneurial projects and authorized capitals of any company, digital price analogues of uncertificated securities and other objects of civil law. It has been developed a classification of tokens and emphasized the need to create an electronic data warehouse that contains access codes for these digital assets. After the testator’s death, these codes can be given to the heir by testament or by law in case the testator did not draw up the corresponding testament during their life. These conclusions and suggestions will allow to legally qualify tokens and resolve inheritance issues in this area.

Keywords: Blockchain technology; cryptocurrency; digital technologies; heir; legal status; token.
INTRODUCTION

The rapid development of information technologies conditions the formation of new objects of civil law, including digital assets, electronic means of payment, digitized creative products, software, cryptocurrency, smart contracts, tokens, etc. The lack of understanding and proper legal regulation of modern technologies hinder the implementation of their practical component. Their legal recognition and enshrinement are conditioned by the need to create the possibility of subjective rights to these objects that could be exercised and protected by the methods established by civil law (Kotlyarov, 2018). One of the main debatable issues is the possibility of inheriting digital objects. However, litigation practice has not been fully formed in this area and this problem will need to be resolved at the legislative level in the nearest future.

The current trends in the development of public relations that determine the need for adjusting civil legislation in the field of inheriting digital objects are as follows:

• The complication of objects of civil law;
• The formation of specific objects that cannot be attributed to traditional things;
• The formation of new objects that are not enshrined in civil law.

Within the framework of civil law, the formation of new digital objects of civil rights conditions the doctrinal development of their legal nature and distinctive features. Tokens are the most common digital objects and there is a relevant question of whether tokens (digital assets) can be regarded as independent objects of inheritance. To this day, scholars have comprehensively analyzed the legal nature of tokens but omitted inheritance issues. At the same time, the rapid development of this sphere requires a prompter response of the scientific community to this issue.

LITERATURE REVIEW

Scholars and experts wrote many scientific works on determining the legal status of tokens. Thus, Savelyev (2018) considered some risks of the tokenization and blockchainization of private law. Zachariadis,
Hileman and Scott (2019) examined management and control in distributed account books to better understand challenges blockchain technologies need to overcome in the sphere of financial services. Gürkaynak, Yılmaz, Yeşilaltay and Bengi (2018) analyzed the application of blockchain technologies and examined the legal nature of tokens. Ciaian and Rajcaniova (2018) studied virtual relations, i.e. short-term and long-term evidence related to the legal status of tokens. In addition, other experts tried to determine the legal nature and use of smart contracts but their studies lack comprehensive information on the possibility and status of smart contracts.

**Methodology**

*a. General description*

*(basic principles and methods, description and characteristics)*

The research object is the legal status and specifics of token inheritance that can be used as a digital asset. Throughout the study, we used the methods of collecting and studying singularities, generalization, scientific abstraction and cognition of objective laws. Since there is no systematic secondary data on the legal regulation of tokens and cryptocurrencies, the current study resorted to the manual collection of primary data from traditional sources of information. As a result, we formed an extensive base of facts related to the regulation of tokens and cryptocurrencies. We applied the methods of content analysis to the collected qualitative data. In addition, we determined common topics by analyzing crucial words and passages. Consequently, we distinguished between the main types of tokens and developed an up-to-date classification of tokens that has applied significance. The study is concerned with the specified categories of tokens. While conducting a comparative analysis, we classified tokens as property rights and in some cases as securities. In the course of the study, we disproved the idea that tokens belong to intellectual property or money.

Using the method of objectivity, we managed to comprehensively reflect such legal characteristics of tokens as discreteness and utility. The method of specificity stipulates the ability to resolve the issues of token inheritance.
b. *Algorithm*

To determine the legal status of tokens, we used the pluralistic approach and created the most efficient knowledge system that reflects objective data about the value and possibility of using tokens as objects of civil-law transactions.

While collecting and studying singularities, we used the method of interpreting the current law to determine the legal nature and main features of tokens.

Due to the prognostic method, we made scientifically grounded forecasts on the application of certain requirements to tokens and developed recommendations for law enforcement. Logical-semantic analysis together with the above-mentioned methods allowed us to examine distinctive features of tokens.

c. *Flow chart*

The study was conducted with the help of certain research algorithms that brought the following results. The research algorithm we used is presented in Figure 1.
RESULTS

A token (also meaning a sign or a symbol) is an entry in a distributed ledger (blockchain) through which information is recorded with the help of cryptographic algorithms that ensure the security of the whole system, and can contain almost all types of information (Nofer, Gomber, Hinz & Schiereck, 2017).

A token is a digital asset that provides the investor with rights and advantages in using the product that will be developed with the funds raised during the ICO (initial coin offering) or the opportunity to participate in the activities and development of some project (Bryans, 2014). This is the main difference between tokens and cryptocurrencies. The latter are used as a means of payment for goods, jobs and services. At the same time, tokens and cryptocurrencies are created and used on the platform of a distributed ledger. A cryptocurrency exchange can offer both “classic” cryptocurrencies which are mostly a means of payment (for example, Bitcoin, Ethereum, Litecoin) and tokens placed there during the ICO process (for example, Golem and Augur) (Kirillova, Pavlyuk, Zulfugarzade & Mikhailova, 2018).

A token is both a digital code of some object and a digital key by which the system determines its owner. This digital key identifies authorized users of the system and grants them access to token transactions. If an unauthorized person tries to enter the system, a token will give a command to the system to block their actions (Bollen, 2013). Thus, tokens perform the function of recognizing an authorized person in any information system.

In addition, the price of objects is encoded in tokens. Using a token as a product, users have the right to make transactions for its payment through a cryptocurrency as a digital unit of accounting in the blockchain system.

The discreteness of tokens is manifested in their specific interaction with subjects (digital environment), universality (almost any information can be recorded) and security (protected by cryptographic algorithms) (Janssen, Weerakkody, Ismagilova, Sivarajah & Irani, 2020).
Tokens can be used in a large number of ways, from fixing a right (the right to use some application, fixing discounts, etc.) to forming a decentralized business model based on a token. In such a business model, each token holder contributes to the development of the whole project (Gürkaynak et al., 2018). These characteristics prove that tokens belong to objects of civil law.

Thus, different legal regimes of the existing objects of civil law can be applied to tokens depending on the scope of rights provided by such tokens.

Scholars offer different classifications of tokens (Lorne et al., 2018). From the viewpoint of civil law, a token can be considered as various objects depending on the characteristics of a particular asset, primarily the scope of rights granted to its owner (Figure 2).

Digital units of accounting in:
- The participating interest shares of entrepreneurial projects; authorized capitals of any company; construction investment; execution of work, provision of services;
- The balance between assets and liabilities of legal entities or companies acting as an asset group

Digital price analogue of uncertificated securities
Digital price analogue of other objects of civil law
Digital monetary symbol

Figure 2. The main types of tokens.
Source: Authors.

From the perspective of applied significance, it is better to distinguish between embedded and bonded tokens.

Embedded tokens (also called cryptocurrencies) are entries about a digital asset. They form the core of the blockchain system and are efficient inside such a system. Embedded tokens are not secured by other resources and do not provide their holders with any laws of obligation (Zachariadis et al., 2019). If tokens perform the function of
a digital monetary symbol, they are considered as a cryptocurrency token, i.e. as a means of payment that can be exchanged for other digital objects or used to pay for the provision of real-life products, jobs or services (through a transaction). A token as a flexible digital (primarily financial) tool gives participants in civil commerce the opportunity to make digital “deals” in cyberspace through transactions (Ciaian and Rajcaniova, 2018). In this case, the object of “sale” can be any property right, including the right to use the good (a thing that is owned).

Bonded tokens are those tokens whose issuer established the underlying asset in the form of a contractual obligation or property right. The most common types of such tokens are presented in the table below (Table 1).

**Table 1.**

*Types of bonded tokens*

- Access tokens fulfill a specific function, for instance, provides the right to use some software. Such tokens are commonly used in the ICO process when a person issues them for further use in the project or platform being developed;
- Share tokens grant their owner a share in some company with or without the relevant corporate rights. In some countries (for example, the USA), it is recognized as an uncertificated security;
- Certificate tokens guarantee one’s right to tangible assets;
- Credit-linked tokens validate a loan issued, therefore a token owner has the right to call in the loan in the future;
- Token-based licenses give their owner the right to receive income from using some product or software.

Source: Authors.

Many types of tokens hinder the ability to determine their legal nature and place among objects of civil law.

Based on the legal classification of objects of civil law, scholars express different opinions on the legal characteristics of tokens (McKinney, Shao, Rosenlieb and Shao, 2015). The qualification of tokens as intellectual deliverables is the most controversial (Sullivan, 2018) since tokens are not the result of creative activity. One of the features of an intellectual deliverable is its creation with the help of human
creative abilities. However, tokens are not created using such abilities. They are made alongside a protocol or code on which tokens run. The tokens themselves are generated by a “machine”. In this context, only a protocol or code can be attributed to an intellectual deliverable rather than tokens.

Tokens cannot be equated to non-cash or electronic money but they can have different functions (for example, they can serve as a means of payment if it is a cryptocurrency token) (Davidson and Block, 2015). However, it is not the only or main function. A cryptocurrency is close in nature to money but is not always regarded as money (Vandezande, 2017).

In fact, tokens can be considered as a security when they have typical features of a security (credit-linked tokens or share tokens). Regulations in some countries, including the USA, Australia and Singapore, allow to qualify tokens as securities and apply special legislation to the ICO process, its participants and tokens issued. After the ICO process, even the so-called “utility” tokens can be traded on a cryptocurrency exchange along with bitcoins and other virtual currencies (Grinberg, 2011). This circumstance highlights the investment nature of these assets, which aligns them with securities.

Tokens are always used through a legal claim from another person. It means that these assets are regulated by laws of obligations rather than the right to use the good which utilizes a different regime and does not reflect the essence and practical component of tokens. Accordingly, the most reasonable approach is to attribute tokens to property rights. Being entries in the transaction block registry, tokens give their holder the right to demand a service, a discount, the right to use the program, etc. from the issuer of such tokens; therefore, tokens belong to the sphere of property rights.

**DISCUSSION**

The legalization of digital rights conditions their development but does not eliminate the difficulties that arise in the process of transferring these rights in the order of succession. First of all, there is
uncertainty in the scope of rights included in inheritance since the concept of subjective digital rights is very broad and has various digital assets as its object.

A token is a “digital designation of the right to an object of law”. Since tokens certify the right to another object, there is a logical question what is included into mass of the succession: a token or some other object it designates, a thing or an exclusive right (Zharova and Ian, 2018).

When inheriting tokens, it is necessary to consider the fact that digital rights can be transferred from one person to another in the order of universal succession, “on the same conditions as the objects themselves, whose ownership they confirm” (de Graaf, 2019). This is explained by the independent economic value of a digital asset. In this regard, such an asset is not a password or login but a certified right to an object encrypted in this asset, controlling “the powers to access the code and dispose of the digital asset” (Wang, Liu, Guan and Sui, 2015).

Upon analyzing the main properties and functions of tokens, we concluded that they can be an independent object of inheritance. At the same time, heirs can realize the possibilities laid down in tokens with respect to the corresponding object, for example, by exercising the right of ownership of some real estate property certified by tokens. Payment tokens serve as a cryptocurrency and are used to pay for a product or service provided by a token issuer; therefore, they can also be an object of inheritance (Mazzorana-Kremer, 2019).

However, such recognition does not solve the problem of inheriting tokens since the technical side of circulating digital rights complicates both the establishment of a digital asset by the testator and the heir’s access to it.

First, the emission of tokens is not subject to formalities, for example, the preparation and registration of prospectuses, except for the situation when their issue is regulated by the law on securities of the corresponding state. In other cases, the issuer only needs to draw up a simple document called “white paper” containing a business plan (Savelyev, 2018).
Second, tokens are digital rights recorded in distributed registries and transferred to other persons without any intermediaries. This means that the issue of tokens, their pricing and turnover do not imply external control from a government agency or an investment bank. A blockchain is a type of distributed registries that enables network users to store and maintain data (Low and Teo, 2018).

These technical features allow greater freedom of circulation of the object attached to tokens and require practically no expenses from participants in transactions. For instance, the right to a land plot cannot be transferred without an entry in the relevant register. If this right is tied to a token, the requirement of state registration ceases to be valid upon transferring the right from one person to another.

At the same time, the above-mentioned features complicate the inheritance of digital rights. First of all, the decentralized operation of a distributed registry without unified management and control practically excludes both the heir’s receipt of the information on digital financial assets that belonged to the testator (there is no one to state their availability) and the possibility of forced access to such assets. If the testator did not leave the corresponding information and access code, from the legal perspective tokens are included into mass of the succession and transferred to their heirs. From the technical viewpoint, tokens are not inherited since heirs do not have unique access to the distributed registry and consequently do not have digital rights. The owner of digital rights is a person “who has the ability to dispose of such rights in conformity with the rules of a certain information system”. If the subject does not have such an opportunity due to technical reasons, they cannot become owners of digital rights (Corbet, Lucey, Urquhart and Yarovaya, 2019).

In addition, the technology of transactions in distributed registries virtually eliminates the identification of persons making them. Participants in a distributed registry see only the transaction object (digital asset) but not its owner, whose anonymity is ensured through the creation of a digital wallet (Shanaev, Sharma, Ghimire and Shuraeva, 2020). This wallet is used to record digital assets and is
tied to the IP address of a specific computer. Therefore, if a personal password for a digital wallet is lost, a digital asset inside it is lost as well.

The above-mentioned issue complicates the existing litigation practice. One of the judicial decisions states that “the absence of a controlling center in the cryptocurrency system and the anonymity of cryptocurrency users do not allow to determine the owner of cryptocurrency within some wallet”.

Thus, the issue of establishing the ownership of digital rights and the heir’s access to them remains unresolved from the legal perspective and unsolvable from the technical viewpoint.

To solve this issue in civil law, the regime of securities should be extended to digital assets. Owners of digital assets, in particular tokens, should think of their heirs and fill their testaments with all unique codes to registries that give access to digital assets. Legal regulations in the sphere of inheritance should contain provisions on the testator’s right to transmit information about persons who are entitled to receive access to their digital assets to their custodians. However, this issue should be solved by creating an electronic data warehouse that should contain access codes for digital assets. After the testator’s death, these codes can be transferred to their heirs either by law or by will in case the testator did not draw up the corresponding testament during their life.

**Conclusions**

The current study has proved that tokens by their legal nature are digital units of accounting in the participating interest shares of entrepreneurial projects and authorized capitals of any company, digital price analogues of uncertificated securities and other objects of civil law.

We provided a new definition of tokens that should be understood as an entry in the transaction block registry (blockchain) or other distributed information system, which certifies that the token owner is entitled to civil law protections and/or as a cryptocurrency.
A token is a property right. This interpretation does not exclude the possibility of transforming their certain types into a token as a security. Alternatively, it is possible to legalize some types of tokens (cryptocurrencies, security tokens) as securities.

As a result, we propose the following classification of tokens:

1. Embedded tokens;
2. Bonded tokens:
   a. Access tokens;
   b. Share tokens;
   c. Certificate tokens;
   d. Credit-linked tokens;
   e. Token-based licenses.

Owners of digital assets, including tokens, should think of their heirs and include all unique codes to registries into their testament to provide access to these digital assets. However, the issue of token inheritance should be solved by creating an electronic data warehouse that contains access codes for digital assets. After the testator's death, these codes can be given to the heir by testament or by law in case the testator did not draw up the corresponding testament during their life.

Further studies in this field should focus on the taxation of token owners and the verification of persons who own and use token.

REFERENCES


**Elena Anatolyevna Kirillova**, Candidate of Legal Sciences, Associate Professor, Department of Civil Law, Southwest State University (Kursk, Federation Russia). [https://orcid.org/0000-0001-7137-901X](https://orcid.org/0000-0001-7137-901X)

**Oleg Evgenyevich Blinkov**, Doctor of Law, Professor, Department of Civil Law and Procedure, Academy of the Federal Penitentiary Service of Russia (Ryazan, Federation Russia). State University of Humanities and Social Studies (Kolomna, Federation Russia). [https://orcid.org/0000-0002-3506-2194](https://orcid.org/0000-0002-3506-2194)
PROTECCIÓN CONTRA LA IMPOSICIÓN DE CLÁUSULAS ABUSIVAS POR PARTE DE LA POSICIÓN DOMINANTE EN LA LEGISLACIÓN RUSA: ASPECTOS PARA GARANTIZAR UN EQUILIBRIO DE INTERESES

Teymur Zulfugarzade, Candidate of Legal Sciences, Professor, Associate Professor, Head of the Department of State and Legal Disciplines, Plekhanov Russian University of Economics (Moscow, Federation Russia). https://orcid.org/0000-0002-0778-1511

Aleksandr Vladimirovich Bocharo, Candidate of Law, Associate Professor, Department of Criminal Law and Procedure, Russian State University of Tourism and Services Studies (Cherkizovo, Federation Russia). https://orcid.org/0000-0001-7950-6052

Artur Yashevich Avdalyan, PhD in Law, Associate Professor, Department of Legal Disciplines, Russian State University of Tourism and Services Studies (Cherkizovo, Federation Russia). https://orcid.org/0000-0002-3089-8662