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Assessment of the development of digital financial assets in the Russian Federation based on the analysis of international data on digital assets

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Abstract

The advent of distributed ledger (DLT) technology has given rise to the digital financial assets (DFA) market in the Russian Federation, facilitating the use of blockchain technology, smart contracts and the emergence of the digital rights market. The DFA market is undergoing a period of rapid growth, despite being in its infancy and constrained by Russian legislation. The author's thesis is that the development of the DFA market is a reflection of the development of the digital asset market in the world. The author classifies and compares digital assets globally and within the Russian Federation in order to provide a more comprehensive analysis of the market. In addition, identify the trends of digital assets globally and proposes the reuse of the most successful token classes in accordance with Russian legislation for companies based in the Russian Federation.

Keywords: Digital assets, digital asset classification, trend analysis, using digital asset in Russian Federation

1. Main text

2. Introduction

A number of foreign and domestic fundamental studies are devoted to the development of DLT technologies and their application in financial markets. These can be divided into two main subgroups:

1) The study of digital currencies, their concept and potential practical application in the Russian Federation [1], [2], in China [3] and India, and

2) The study examined digital assets that are not payment instruments, how they are used in financial markets [4], real estate [5], financial markets and the relationship between digital currency indices, financial markets and financial stability by Jiménez et al [6]. This paper examines the development of the digital financial assets market in the Russian Federation, drawing upon insights from the global digital financial assets market.

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The process of organizing the issuance of DFAs is one of the most universal ways of transforming the financial market in the area of investment. This process is closely linked to the development of internet and mobile technologies, as well as online platforms for trading securities, currencies and other financial instruments. This process is referred to as asset tokenization (in the ICO context), which is sometimes referred to as the digitization of rights. It is inextricably linked to the use of end-to-end distributed ledger technology (DLT) and blockchain. Bartoletti and Pompianu [7] examine various smart contract platforms and highlight the reduction of barriers to the issuance of digital tokens that can be traded.

Asset tokenization is applicable to a diverse range of assets, encompassing both classical securities (such as shares, promissory notes, bonds, and depository certificates) and claim rights to monetary liabilities (including rights to regular mortgage payments, rights to square metres in a building under construction, and intellectual rights to art objects). In tokenization, it is possible to issue a different number of assets, and to use fragmentation of the underlying asset (into parts), which allows for the management of the minimum size of assets that can be attracted to the investment market.

The relevance of this direction is determined by the general development of information technologies and, in particular, by the availability of the Internet and blockchain solutions. A significant number of countries have adopted a policy of purposeful expansion of public access to digital financial services at both the national and international levels. The utilization of distributed ledger technologies enables the transformation and reorganization of operational processes. The application of this technology results in an increase in economic efficiency, as evidenced by a reduction in the number of intermediaries involved in trading operations, a reduction in the cost of storing information during transactions and settlements, a reduction in the settlement time to a few seconds or minutes, the establishment of a minimum (affordable) entry threshold for issuers and investors, the simplicity of procedures for placing tokenized assets, and the attraction of additional market liquidity due to mass. Furthermore, the use of smart contracts to automate processes and products is a notable benefit.

The objective of this paper is to:

1. The objective of this paper is to propose a model for the classification of tokens issued in the Russian Federation in accordance with the Russian legislation.
2. The objective is to compare the proposed classification with the existing classification of tokens on the Russian market and to propose the most successful classes of tokens to be reused in accordance with Russian legislation for company’s resident in the Russian Federation. For each class of tokens, the parameters affecting the price must be determined. The most stable classes of tokens are identified.
3. The types of tokens that are most actively growing and, at the same time, have a real connection with assets and financial flows are determined on the basis of the proposed model.
4. Additionally, the objective is to maximize the company's profit through the implementation of digital financial assets derived from the data analysis of the principal cryptocurrency tokens in the market. This issue will be addressed in the subsequent study.

3. Main text

Let us look at the types of digital rights that can be used to raise finance. For this purpose, let us consider the existing relations, some parallels between classical financial market instruments and digital rights. According to the results of the research carried out, the assets listed in the table below can be issued at present in accordance with the legislation of the Russian Federation.

Table 1. Digital rights in Russian Federation.

The title of the entitlement	**analogue**	**Already produced in the Russian**
And an entry Digital rights that certify monetary claims	bonds	+
	Stocks	-
	Derivatives	-
	bill	-
	Real estate	+
Hybrid digital rights (HDRs) that combine obligations in the form of monetary claims or utilitarian digital rights	Ownership of items/right to receive cash flows on it/right to use it	+
Utilitarian digital rights, which certify the right to demand.	transfer of thing(s)	+
	performance of work and (or) provision of services	-
	transfer of exclusive rights to the results of intellectual activity and (or) rights to use the results of intellectual activity	-
Digital rights, which certify rights under equity securities/right to demand equity securities.	Stocks	+
	Asset securitisation	+
Digital rights, which certify the possibility to participate in the capital of a non-public joint-stock company.	An analogue to stocks, but entirely through digital tokens	-

In Russia, tokens are primarily digital rights that certify rights to something. This potentiality renders it relatively simple to configure any instrument traded on the conventional financial market (securities, derivatives, commodity markets, etc.). The distinguishing feature of this category of digital rights is that transactions are non-deliverable, i.e. settlement-based. This means that the client cannot receive the physical asset itself, but only its cash equivalent. In contrast to hybrid digital rights, which can be used to certify rights to tangible goods, This investment method affords the client the opportunity to receive both the physical equivalent of the goods and the monetary equivalent. This type of right is typically analogous to the financial market, in contrast to utilitarian rights, which permit the transfer of rights to tangible items, intellectual property, and services through tokenization and the utilization of information systems (notably, information system operators or DFA exchange operators). This has the potential to facilitate the advancement of socio-economic and civil-law relations, the organization of accounting, and the transfer of relevant rights in digital form. The potential for digital rights to transform the equity crowdfunding sector is considerable. This includes the possibility of improving the liquidity of investments, lowering barriers to entry for investors and providing a more transparent and secure environment for fundraising.

We will now examine the classification provided by the author, [8], as presented in the table below. An archetype is a distinct class or species of token that is defined by a brief description and the primary characteristics that are inherent to this class of cryptocurrency. The aforementioned characteristics are presented in greater detail and in a structured format in Appendix A.

Table 2. Archetype by Luis

Archetype	Description	Characteristic
cryprocurrency	A token with the ambition to become a widespread digital form of currency.	(Cryptocurrency; Asset-/Usage-/Work-Based; Currency; Digital; Schedulebased/ one-time fixed / discretionary; Use Platform / Stay Long-Term; Spendable; Tradable; (Non-)/Destroyable; (Non-)/Expirable; Fungible; Blockchain Native; New Chain New Code / New Chain Forked Code)
Equity Token	A token which confers to its holder a right to equity-related earnings, such as profitsharing, application rents or platform fees	(Tokenised Security; Asset-/Usage-Based; Toll / Earnings; Physical/Digital/Legal; Schedule-based / one-time fixed / discretionary ; Enter Platform / Use Platform / Stay Long-Term ; Non-Spendable ; (Non-)/Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; (Non-)/Fungible ; Blockchain Native / Protocol / dApp ; New/Forked Code , New / Forked Chain / on top of Protocol)
Funding Token	A token which is perceived as a long-term investment from the holder's perspective, and as a financing vehicle for the project's team and/or the community (bounties).	(Tokenised Security / Utility Token ; Usage-/Work-Based ; Right / Value Exchange / Toll ; Physical/Digital ; Schedule-based / one-time fixed / discretionary ; Enter Platform / Use Platform / Stay Long-Term / Leave Platform ; (Non-)/Spendable ; Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; (Non-)/Fungible ; Blockchain Native / Protocol / dApp ; New/Forked Code , New / Forked Chain / on top of Protocol)
Consensus Token	A token which is used as a reward to nodes which ensure data validation and consensus.	(Utility Token ; Work-Based ; Right / Reward ; Digital ; Schedule-based / one-time fixed ; Enter Platform / Use Platform / Stay Long-Term / Leave Platform ; (Non-)/Spendable ; Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; (Non-)/Fungible ; Blockchain Native / Protocol ; New/Forked Code , New / Forked Chain)
Work Token	A token which is used as reward to users who complete certain actions or exhibit certain behaviour	(Utility Token ; Work-Based ; Right / Reward ; Digital ; Schedule-based / one-time fixed ; Enter Platform / Use Platform / Stay Long-Term / Leave Platform ; (Non-)/Spendable ; Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; (Non-)/Fungible ; Blockchain Native / Protocol / dApp ; New/Forked Code , New / Forked Chain / on top of protocol)
Voting Token	A token which confers a voting right to its holder.	(Utility Token ; Asset-/Usage-Based ; Right ; Physical / Digital ; Schedule-based / one-time fixed / Discretionary ; Use Platform / Stay Long-Term ; Non-Spendable ; (Non-)/Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; (Non-)/Fungible ; Blockchain Native / Protocol / dApp ; New/Forked Code , New / Forked Chain / on top of protocol)
Asset Token	A token which represents asset ownership.	(Utility Token / Tokenised Security ; Asset-Based ; Right / Toll ; Physical / Digital / Legal ; one-time fixed / Discretionary ; Enter Platform / Use Platform / Stay Long-Term ; Spendable ; (Non-)/Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; (Non-)/Fungible ; Blockchain Native / Protocol / dApp ; New/Forked Code , New / Forked Chain / on top of protocol)
Payment Token	A token which is used as internal payment method in the application.	(Utility Token ; Usage-Based ; Right / Value Exchange; Digital ; schedule-based / one-time fixed; Enter Platform / Use Platform / Stay Long-Term ; Spendable ; Tradable ; (Non-)/Destroyable ; (Non-)/Expirable ; Fungible ; Blockchain Native / Protocol / dApp ; New/Forked Code , New / Forked Chain / on top of protocol)

The next step is to compare the tokens issued on cryptocurrency exchanges over the history of the blockchain with those issued in the Russian Federation and with the potential for further issuance.

Table 3. Compare digital asset in the world and DFA in Russia.

Token archetype (international classification)	**Equivalent in the jurisdiction of the Russian Federation**
cryprocurrency	CBDC
Equity Token	And an entry Digital rights that certify monetary claims (stocks)
Funding Token	And an entry Digital rights that certify monetary claims (bond)
Consensus Token	-
Work Token	Utilitarian digital rights, which certify the right to demand (transfer of goods, performance of work)
Voting Token	Digital rights, which certify rights under equity securities/right to demand equity securities (stocks)
Asset Token	Hybrid digital rights (HDRs) that combine obligations in the form of monetary claims or utilitarian digital rights, Utilitarian digital rights, which certify the right to demand And an entry Digital rights that certify monetary claims (derivatives, bill, real estate)
Payment Token	-

The analysis leads to the conclusion that a multitude of token configurations can be overutilised in the global arena in accordance with global legislation. In the Russian market, this can be done in accordance with Russian legislation. Further econometric analysis of each type of token on the global market will be conducted in order to determine the growth potential of each token group. The proposed analytics will inform recommendations regarding the optimal use of tokens in the Russian Federation, with the objective of maximizing profits for the company.

The following data will be employed in the empirical study: 1. The following data will be taken into consideration:

1. Crypto-token capitalization
2. Market share (capitalization of the asset from the total)
3. Trading volume
4. Liquidity ratio
5. Fully diluted value
6. TVL – total blocked value
7. Market depth (exchange stack)
8. Number of active token addresses
9. Number of transactions
10. The final category of data to be considered is that of user interest and expectations.
11. Public perception
12. (Market Value to Realised Value,
13. The ratio of network value to transactions is expressed as
14. The ratio of spent output profit is calculated.

The data will be uploaded via the following APIs: https://coinmarketcap.com/ru/, https://subnets.avax.network/, and https://glassnode.com/.

4. Conclusion

The paper identifies the main characteristics of digital assets in the Russian Federation in the context of Russian legislation and proposes a model of classification for digital assets issued in the Russian Federation. This is followed by an analysis of the current global classifications of tokens, which have been proposed by authoritative authors in the past. Finally, the existing classification of tokens in the Russian Federation is compared with that of tokens worldwide. A significant conclusion is reached, indicating that the digital financial assets that can be issued in the Russian Federation encompass the majority of digital assets that have been successfully issued globally to date. The data obtained leads the author to suggest that the development of the DFA market in Russia will mirror the previous global development of digital assets in the world. The paper identifies the main factors that may influence the development of digital assets globally and the sources of data. Furthermore, the author will evaluate the most promising digital assets and, based on the obtained data, formulate recommendations for the development of the DFA market in Russia. Accordingly, the model will allow to identify the types of tokens that are experiencing the most rapid growth and at the same time have a tangible connection with assets and financial flows

Appendix A. Token Classification by Luis

Purpose Parameters	**Class**	Coin / Cryptocurrency		Utility Token		Tokenised Security	
	Function	Asset-Based		Token Usage		Token Work Token	
	Role	Right	Value Exchange	Toll	Reward	Currency	Earnings
Governance Parameters	**Representation**	Physical		Digital		Legal	
	Supply	Schedule-based Pre-mined	scheduled distribution Pre-mined	oneoff distribution		Discretionary	
	Incentive System	Enter Platform	Use Platform	Stay Long-Term		Leave Platform	
Functional Parameters	**Spendability**	Spendable		Non-Spendable			
	Tradability	Tradable		Non-Tradable			
	Burnability	Burnable		Non-Burnable			
	Expirability	Expirable		Non-Expirable			
	Fungibility	Fungible		Non-Fungible			
Technical Parameters	**Layer**	Blockchain (Native)		Protocol (NonNative)		Application (dApp)	
	Chain	New Chain new Code	New Chain, forked Code	Forked Chain, forked Code		Issued on top ofa protocol	

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