Legal Framework for Providing/Obtaning Financing in Blockchain. Russian Perspective

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ABSTRACT
The article contains analysis of the financing procedures which are already performed today in blockchain and regulation of financial obligations (loan and credit agreements) as they exist as of today in the Russian law in order to find ways to legitimize the blockchain financial transactions.

Development of blockchain technology and contributory crypto instruments will keep on going together with legitimization of the said technology by the governments and penetration into social life.

The paper proceeds as follows. First it is taking an attempt to estimate the new reality in legal terms taking into consideration appearance of new kind of objects (crypto assets).

Secondly, it describes existing technical possibilities for acquiring financing in crypto market.

The authors look into lending relationship structure: focus on legal capability of a smart-contract mechanism when acquiring loans within blockchain.

As regulation of crypto assets is mostly considered as a cross-border issue this article is mostly focused on Russian part of a puzzle (legislation, case law and doctrinal approaches) that could be a significant input into understanding the logics of the regulatory approach in this part of the world.

As noted by Usman W. Chohan, MBA, the literature can at best be described as emergent, and as an area of significant academic inquiry in theyears to come.

Keywords: *cryptocurrency, loan, credit, centralized platform, decentralized platform, smart-contract, legal capacity*

1. METHODOLOGY OF THE RESEARCH

Methodology of the research is mainly comparative analysis of material legal regulation of lending relationship in various jurisdictions and of the objective features of the relations springing up in digital and non-digital environment.

2. CRYPTO LENDING RELATIONSHIP STRUCTURE

At first sight we have credit (loan) contractual relationship between a person at law and a smart-contract. While legal capacity of the former is not challenged and is understandable by the basics of private, civil-law approaches, a civil law theorist observing the functioning of blockchain financing processes would raise a question if a smart-contract, being a set of algorithms can be considered as an agent in civil (financing) relationship and be vested with legal capacity.

To be defined as a kind of legal relationship formed between a user and a smart-contract, elements making up any legal relationship are required as well as relevant legal regulation.
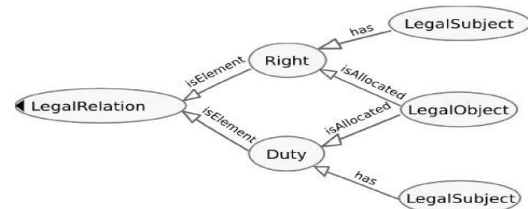

Figure 1 Structure of legal relationship

From natural law point of view any legal relation should contain three elements (Figure 1):
1. Subject (legal agent);
2. Legal relation contents (legal rights and obligations) and structure
3. Object of the legal relationship.

The subject of legal relationship according to a natural law concept can only be a conscious human person or a group thereof.

But as noted by Gladden, "Building on advances in artificial intelligence, cryptography, and machine ethics, […] it is possible to design artificially intelligent cryptocurrencies that are not ethically neutral but which autonomously regulate their own use in a way that reflects the ethical values of particular human beings."

A smart-contract is not a human conscious person possessing a will. In order to define a smart-contract as a

subject of legal relations its technical peculiarities should be considered.

The general objectives of smart contract design are to satisfy common contractual conditions (such as payment terms, liens, confidentiality, and even enforcement), minimize exceptions both malicious and accidental, and minimize the need for trusted intermediaries.

It consists of a certain number of interdependent conditions which if not satisfied will not generate any further events or actions (juridical facts) which means no constitutive fact giving rise to new rights or obligations of parties is possible.

As cause-and-effect linkage is always in the core of any smart-contract, the number of conditions and algorithms contained in the protocol will define the scope of operations carried out by a smart contract.

Such an algorithm is fixed by its developer so that a smart-contract is a result of a conscious activity of a human person and constitutes a means for implementation of developer's intent while the latter willingly introduces to it the list of conditions that would best serve to satisfy his interest and thereby the developer defines the limits of legal capacity to be effectuated by the smart-contract mechanism. The scope of such rights will be defined by the kind of legal relationship a smart-contract is created to enter. As Walsh notices, a smart contract is effectively a way to build the enforcement or performance of a financial contract onto blockchain.

Subject matter (object) of a relationship in distributed network is presented by a digital asset possessing property features which is recognized by Russian case-law.

For example, in a bankruptcy case courts satisfied demands of a bankruptcy manager to transfer cryptocurrency to bankruptcy estate along with real estate objects.

In other cases courts come to following conclusions:

1.Bitcoin and other cryptocurrencies can be referred to a special kind of currency

2. Cryptocurrency does not constitute a legal means of payment on the territory of the Russian Federation.

The latter coincides with the view expressed by the House of Commons of the British Parliament

They stress that lack of basic definitions in law doesn't give to enforcers and legal professionals precise legal understanding of blockchain technology as a new environment giving rise to a new type of legal relations.

In Russia legal definitions of cryptocurrency and tokens, mining, validator, distributed ledger and digital transactions are contained in a law «On digital financial assets».

Compared, for example, to Switzerland and Singapore where financial authorities give clear definitions of the phenomena mentioned above, the Central bank of Russia states that cryptocurrency transactions in the Russian Federation are conducted outside the scope of official legal regulation. Cryptocurrencies are neither guaranteed nor supported by the Bank of Russia. Therefore, and because of variance in legal approaches unfortunately judicial acts do not give a clear cut understanding of a digital economy sphere newly introduced to Russian society.

Still the courts seem embarrassed by the lack of understanding and seeing no ways to assess technical underlying of cryptocurrencies cases.

So, the court denied token issuer's claim that the holder of the platform where ICO was held, transfers cryptocurrency (ETH) the latter received for the issuer's tokens, to the issuer's electronic wallet, concluding that the claimant didn't present no evidence to prove that certain types of cryptocurrency ever belonged to the claimant (the issuer).

Consequently, relations springing up in a distributed network including smart-contract mechanism can be considered as legal although they are only on their way of receiving relevant legal regulation yet.

A characteristic of the object as property by the case-law allow to qualify this relations as civil law relations under Russian legislation. However, fixation and confirmation of the rights to this property remain problematic.

II. Investing cryptocurrency was enabled by cryptocurrency wallets and exchanges. These platforms, akin to broker-dealers for virtual currency, are the entities through which many investors hold and trade cryptocurrency.

As Bryan Zhangm Co-founder and Executive Director (Interim) at Cambridge Centre for Alternative Finance said, the lines between exchanges and wallets are increasingly 'blurred' and a multitude of cryptocurrencies, not just bitcoin, are now supported by a growing ecosystem, fulfilling an array of functions.

Platforms allowing to obtain crypto financing are divided into:

1. Centralized platforms (CPs)

2. Decentralized platforms (DPs)

There are two criteria by which the division is made:

first - the way a user obtains a loan: through interaction with a business entity or financial institution or with a smart-contract algorithm;

secondly - what function a smart-contract fulfills in the process of granting a loan (credit) (as smart-contract can be either a loan agreement in itself or loan agreement/ depository).

A scheme for obtaining financing is offered by CPs is quite similar to traditional financing relations with financial institutions. Technology underlying CPs functioning, their peculiarities and differences from traditional financial institutions can easily be seen when analyzing one well-known platforms for crypto financing - Nexo.

The CPs' special features compared to traditional financial institutions can be described as follows:

First, all operations involving digital assets are carried out in a distributed blockchain network.

CP Nexo is a cryptofinancing platform in Ethereum blockchain. The founder of Nexo is a bulgarian FinTech company Credissimo. The company was engaged in moment lending and financing e-commerce. Credissimo introduced an option of loan repayment with bitcoins. In 2018 the company registered NEXO domain and started rendering a service of financing in cryptocurrency.

Secondly, the scope of persons capable to have a recourse to cryptocurrency lending and requirements therefor.

Any cryptoasset owner (holder) can have a recourse to NEXO services.

As a collaterall cryptocurrency, tokens and stablecoins are accepted. Each platform sets the list of supported assets.

Thirdly, this is a means of keeping the digital asset transferred as a collateral for performing an obligation.

Digital wallets do not exactly contain digital coins but the records of transactions completed.

Figures of the public key are generated in such a way that they do not allow to restore the private key but allow to figure out the owner of the wallet.

Therefore, the public key remains available for the network. For instance, to complete a transaction on BTC blockchain a user composes it identifying all the details like a sender's account number, transaction amount, receiver's account number. The account here is a wallet's address. Transaction record's hash is encrypted by a private key.

A hash is a function that converts an input of letters and numbers into an encrypted output of a fixed length. A hash is created using an algorithm and is essential to blockchain management in cryptocurrency.

Decentralized finance is a structured space set up on the basis of Etherium blockchain, consisting of a system of financial instruments set up in blockchain. In other words DeFi is a blockchain projection of a traditional financial field. DeFi space is divided into platforms depending on a type of financial services offered of which most popular are:

- Open source protocols;
- platforms for tokens issuance and investments;
- cryptocurrency forecasting;
- exchanges;
- stablecoins.

Open lending protocol is an open-source smart-contract. Keeping in mind the criteria underlying the division of financing platforms, the financing with the help of smart-contract mechanism is in the basis of the decentralized platforms' functioning. In order to look into the main features of DP work we are analyzing MakerDAO protocol as an example.

MakerDAO is a decentralized open source platform for granting cryptocurrency loans based on Ethereum blockchain. MakerDAO is also a decentralized autonomous organization (DAO). The platform is run by MKR-tokens holders. The platform issues two types of tokens MKR and DAI, of which only DAI is a stablecoin.

Paradigm of the platform's functioning is rather simple. To obtain a loan a user opens up a CDP-account which constitutes a smart-contract and after that the user transfers ETH to this smart-contract. The smart-contract defines quantity and value of the assets of the ETH collateralized and creates on the basis of the preprogrammed percentage DAI stablecoin to lend it to the user.

However, a collateral should always exceed the amount of the loan. DAI is a stablecoin having ETH as an underlying asset, while, for instance Tether has fiat money as an underlying and thus to some extent depends on the bank where fiat is stored.

MKR tokens are security-tokens with additional utility-features. They are used for the platform administration and protocol recapitalization After a user opens a CDP-account payment of a commission for the period of MKR-tokens loan becomes due. Thereby the platform provides MKR-

holders with profit. After the commission is paid MKR is burned out to artificially create lack thereof. And high value of MKR is maintained.

MKR-holders define collateral-loan ratio and the percentage commissioned by voting. It's them who define further development of the platform and it's them who have primary interest in the platform's efficiency.

Should the amount of collateralized ETH be not equal to the amount of received DAI, the platform makes MKR and sells the token at the market (debt auction).

Thereby correlation between ETH and DAI at the platform is balanced. Thus, decisions made by the MKR holders define the extent to which their interests are satisfied.

3. LEGAL ISSUES OF CRYPTOCURRENCY FINANCING IN RUSSIAN PRIVATE (CIVIL) LAW CONTEXT

In order to find ways to legitimize financing operations with cryptocurrency it seems reasonable to contrast civil law governed relationships having lending of financial assets in the core in a non-digital environment and financing mechanisms in digital space – within distributed blockchain.

Legal nature of a bank credit agreement traditionally gives rise to many discussions. In particular, they point to the difference of academic approaches in Russian doctrine towards these institutions: some researchers consider a credit agreement to be a case of a loan agreement. While others state that a credit agreement should be seen as a separate specific kind of obligations. There is also a point of view qualifying credit agreement as a preliminary agreement to make a series of loan agreements afterwards.

The fourth point of view states that a credit agreement is a kind of a loan agreement but compared to the latter it can be both real and consensual.

Credit agreement's substantial and comprehensive condition is payment for the amount granted (interest) while in case of a loan agreement payment of bank interest is not obligatory.

Any legal agent can be party to a loan agreement while credit agreement requires that a creditor is only a bank or a credit organization licensed by public authorities (special agent).

A financial organization (creditor) is to provide funds (a credit) (art. 819 Cc of the RF), which makes a difference between a loan and a credit agreement. Credit agreement in Russian regulation is seen to be regulated by private law rules together with those of financial law that bear imperative character.

Comparing to the EU practice we address to the norms of German Civil Code where a term "loan agreement" is used in paragraph 488 (Darlehensvertrag) to define legal relationship arising with regard to granting of obtaining financing without specifying the scope of legal agents participating therein.

Even though paragraph 491 "Consumer loan" of the said act mentions that such an agreement is made between an entrepreneur (professional in the market) and a consumer. The German Civil code make no distinction between lending and credit relationship.

Countries of the European Union traditionally belonging to continental system of law tend to share this approach.

Contemplations of the Chekh scholar Dr. Rita Sic-Simon coincide with the views of Russian civilists in terms of that credit agreements constitute a preliminary agreements for loan agreements to be made within their framework.

Very similar situation is observed in British consumer-loans regulation where a creditor according to very strictly observed and detailed conditions for lending to individuals is required to furnish the customer or prospective borrower with "preagreement" information in a precisely stipulated form before the agreement is concluded.

Dr. Sic-Simon points out that the division of loan and credit agreements is sooner a Check Republic's and Hungary's socialistic legacy.

Such opinion can probably be explained by modification of Chekh and Hungarian national civil regulation due to the influence of EU directives.

Similar approach and wording defining a status of a consumer credit as a loan which corresponds to world practice moving towards merging of this two categories, can also be found in works of certain Russian scholars.

Although in Russian doctrine there existed several opinions stating that recognition of loan agreement characteristics as coinciding with those of bank credit agreement is false, the trend in legislation and doctrine development in the world confirms that bank credit and loan agreements are in their substance congeneric.

In case financing is provided in blockchain, conditions governing loans to be made are as a rule presented at the creditor-organizations' web-sites. So before a borrower

enters the legal relations by acquiring fiat or crypto funds to his digital wallet, he will already have an understanding of legal framework in which the relations will be functioning. As to the rights and obligations connected to the use and repayment of the funds received arise once they have come in the receiver's account and assets offered as a collateral has been transferred to a platform's cold wallet. This case demonstrates the features of a real loan agreement.

So in the centralized platforms financing can be obtained both in digital assets and non-cash fiat money while in DPs a loan can only be granted in digital assets recognized as property in Russia.

Basing on doctrinal criteria for differing a loan from a credit we can conclude that in digital environment borrowing through DPs would sooner be classified as a loan while borrowing through CPs correspond more to the notion of credit.

4. CONCLUSION

Obtaining financing in blockchain from legal point of view could be classified as a kind of legal relationship lying in between loan agreements and bank credit agreements according to the doctrinal and practical approaches accepted in many countries of continental law system including Russia.

However technical peculiarities of such mechanisms (like smart-contracts, centralized and decentralized platforms) should be taken in consideration when elaborating relevant legal acts.

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