"THE VALUE OF SMART CONTRACTS IN REGULATING FOREIGN ECONOMIC TRANSACTIONS"

Kurbonova Mushtariy

Student at Tashkent State University of Law

Tashkent, Uzbekistan

Email: lee.prend.k@gmail.com

A B S T R A C T

In this article, the author addresses the legal aspects of the conclusion of international agreements between the subjects of private law, in particular smart contracts. Systemic analyzes of private-level contracts based on the practice of German law and a number of other states, as well as on the basis of a comparative analysis method with a written form of contracts, positive and negative aspects of the nature of smart-contracts were revealed. The concluding opinions on the impact of smart contracts for foreign economic stability are given, and to the prospect of the individual relations of subjects in the Republic of Uzbekistan.

Introduction

In the first decades of the XXI century, accelerated development manifested itself in the field of "innovative technologies". These technologies have a positive impact on the modernization of the social sciences, namely, contractual relations in private international law (hereinafter referred to as IPL), which are the subject of our article. Accordingly, contractual relations in IPL have separate forms of conclusion,

one of which is **smart contracts**. In turn, we are interested in that aspect of legal relations that affect the economic stimulation of states through the conclusion of the previously mentioned form of treaties, in turn, complicated by a foreign element.

Because this article resolves issues related to the enforcement of contractual relations under smart contracts, we undertake to describe the legal nature of these contracts. The term "smart contracts" Nick Szabo, who back in 1996 defined a smart or smart contract as «a set of promises in digital form, including protocols under which the Parties fulfill their other promises, introduced it." We can say that we are talking about the settlement of relations between the parties by securing their expressed will in the form of a certain code that is suitable for computer reading [1]. Thus, under the concept under consideration, introduced for the first time in 1996 by Nick Szabo, we understand that the obligations and rights under the concluded agreement will be a set of corresponding codes and ciphers, in other words, a systematized agreement in digital format.

In accordance with our interest in international agreements on the conclusion of agreements based on smart contracts, and above all, we undertake to consider the legal nature of **foreign economic transactions**, since the latter determine the boundaries of legal relations that will be regulated within the framework of the concluded contract. This is also due to the fact that foreign economic contracts differ in their legal base, determined by the composition of subjects, based on the sphere of law (public or private). Consequently, foreign economic transactions are transactions in which at least one of the parties is a foreign person or the object of the contract being concluded is located on the territory of another state. According to the dissertation research work of A.V. Glebin, transactions should be understood as actions of legal entities and citizens of the state in question, which are aimed at establishing, changing and terminating rights and obligations. Meanwhile, foreign economic activity means foreign trade, investment and other areas of specialization, including industrial cooperation for the cross-border exchange of goods, information, works, services, the results of intellectual activity (or the rights to such work) [2, P. 4-5]. Consequently, trans-economic activity includes such forms of interaction of subjects as trade exchange, joint entrepreneurship, provision of services, financial and banking operations and technical and economic cooperation consistently carried out using various types of foreign trade transactions. As is customary in economic science, the types of foreign trade transactions are unilateral, bilateral and multilateral agreements.

Main part

Let us conduct a parallel review of the smart contracting environment, along with a discussion of the above problems in this area. As we discussed in the introduction, a smart contract is a self-executing contract and its conclusion takes place in a virtual environment - in the blockchain. In turn, smart contracts have the following **characteristics**:

• smart contracts consist of "if…, then…" conditions, as a result of the execution of which information is written to the distributed ledger, leading to a change in its state. For example, between the parties under a reasonable contract, two cases were selected (case **A** and case **B**), in which economic responsibility occurs, therefore, the clauses of violations of the terms of the contract were reduced to case **A**, therefore, the smart contract will automatically calculate the consequences that should allow the violating counterparty, otherwise the contract will be considered terminated.

• the rules for the execution of smart contracts cannot be changed after agreement with all participants. For example, a smart contract that ensures the conduct of an ICO will provide an investment-attracting company with access to investor funds only when a certain total investment volume is reached. Consequently, the tasks of the smart contract are prescriptively assigned for the implementation of ICO actions. Nevertheless, this is a temporary trend until that time, advanced technologies for concluding smart contracts have not yet been developed, which will ensure its flexibility, constructiveness and the inclusion of the properties of checking goods supplied to the counterparty under the concluded agreement into qualitative and quantitative units.

• smart contracts are created using programming languages, as a result of which the possibilities of discrepancies are minimized, while the range of possible contract rules is limited by the logic that lends itself to strict algorithms at the program code level. It should be noted that the "languages" of smart contracts are very different from the language of the contract being concluded. The choice of programming language depends on the technology you plan to use to create smart contracts. Projects based on distributed ledger technology assume the use of a language that is compatible with specific blockchain platforms. The most famous programming language for smart contracts is Solidity (used in Ethereum). In addition, smart contracts are written in Go (used in the Hyperledger fabric), Java, Kotlin (Corda R3) and others [3, P. 35]. As previously stated, smart contract languages created on a particular platform have specific "forms" and are fundamentally different from the traditional contract language (for example, the language of contracts between legal entities such as "Southern Pack, LLC" and "Curry Food & Net, LLC" the English language was defined, while Solidity was chosen by the parties to conclude the smart contract, which is used in the Ethereum platform. As you can see, the spectrum of the programming language has a narrower composition than the traditional language of contracts: English, French, Italian, Russian, German and many other languages of the world. But this tendency in relation to a small choice of programming languages is variable, since the legal relationship under smart contracts is under development and modification, thereby significant hopes are expected to ensure complete confidentiality of data; a variety of platforms or their unification; further developed programming languages available in languages other than English). We add that this programming language has tools for solving any computational problem. Moreover, this whole set of tools gives the system a certain autonomy.

• the environment for conducting smart contracts provides a reliable verification mechanism, which is transparent from the standpoint of confirming the correctness and authenticity of monitoring operations, and at the same time minimizes the disclosure of data to the verifier and the third persons [4, PP. 4-5]. This feature of systematized contracts provides protection to the greatest extent when conducting economic and commercial transactions with foreign counterparties, being ignorant of their loyalty, preventing cases of non-fulfilment of the contract concluded between the parties.

At this stage, we will consider it is possible to conditionally divide contracts, which in one way or another have a certain element of "rationality", into the following categories:

• **paper (electronic) form with an automated system of monetary transactions**. In this situation, the contract is drawn up in a hybrid form, with the advantage of drawing up a contract in a paper version, while the smart contract performs the function of transferring transactions;

• **paper (electronic) form with elements that are performed automatically**. The contract is

drawn up in a hybrid form, while the smart contract performs the function of an auxiliary automated contract in the blockchain (note here not all functions can be automatic, only some of them like enforcing the terms of the contract through the system environment and others, because negotiating the receipt of goods, and the implementation of an inspection for its integrity today is impossible to execute in a smart contract);

• **paper (electronic) form and its exact copy recorded by computer code**. The contract is fully drawn up in paper or electronic form, after which all clauses of the contract are copied into a smart contract for further protection and storage of data in the blockchain chains;

• **the contract is completely in the form of a computer program**. Today, the number of such contracts is growing, which are fully drafted as smart contracts, but some inconveniences should be noted. Consequently, one of them is (as stated in the paragraph above) the impossibility of negotiating in the blockchain environment; secondly, the complexity of the process of changing the terms of a smart contract, for which it is necessary for the parties to have to re-create a smart contract, entering all the conditions from the beginning, or such an opportunity may not occur at all (not all platforms support such a permission, in this regard, many users prefer use the services of Ethereum). Here it makes sense to cite as an example the way of establishing legal relations in the "machine-to-machine" format (M2M), in which the importance of finding a reliable counterparty disappears, since trust in this plan is awarded to the system itself.

As has developed in practice, the fulfilment of the conditions laid down in smart contracts often depends on information located in third-party information systems. To obtain data from external sources and use them within the system based on distributed registers, including for the operation of smart contracts, specialized services are used - "oracles". Oracles are the main mechanism for connecting the ledger with the outside world so that the smart contract knows what is happening on the blockchain. In this case, the task of the oracle is to interpret the information as truthful and consistent for the smart contract. In turn, blockchain is a database that is provided with an automated environment, without a single centre; a method for implementing a network of distributed ledgers, in which data on completed transactions are structured in the form of a chain (sequence) of related blocks of transactions. Information is stored and updated simultaneously on different devices [5].

In practice, a common example of the use of smart contracts, which accounts for the initial placement of digital tokens (Initial Coin Offering, ICO - a form of attracting investment through the issuance and sale of digital tokens for fiat money (funds not backed by gold and other precious metals) or other cryptocurrencies). In the process of ICO reproduction, there are cases when companies create their own digital tokens on one of the existing platforms based on distributed ledger technology, for example, Ethereum. After that, the tokens are sold to each willing participant, thereby ensuring the flow of investments in the project that produces the ICO.

Scheme[1]

```
contract TokenExchange
{
  mapping (address => uint) balances;

  function BuyTokens() payable
  {
    balances[msg.sender] += msg.value;
  }

  function SellTokens(uint amount)
  {
    if (balances[msg.sender] >= amount)
    {
      if (msg.sender.call.value(amount)() == false) // send money to caller
        throw;
      balances[msg.sender] -= amount;
    }
  }
}
```

In this scheme, we can see the private key, the data of which is placed in the token, from which the data in digital form follows (codes are blurred to avoid confidentiality breaches), followed by the number of digital assets listed, then the data of the addressee (recipient of the assets), in addition, the diagram contains some conditions in the form "if ... then" or "false ... true"; and also do not forget about the open source (certificate).

In his work, Lukoyanov N.V. gives the following example, which states that a smart contract for the initial placement of digital assets - the so-called tokens - may contain an offer to purchase an asset for fiat currency provided by states or exchange cryptocurrency for the proposed asset, indicating the exchange rate, methods of payment and execution of the contract. Thus, the web page is specific and complete, including, contains the essential terms of the contract, and can be considered an offer. An offer to conclude a smart contract, executed in the form of a web page without restricting access, can be recognized in some legal order as "public", that is, addressed to an indefinite circle of persons (for example, Russia, Germany, France) [6, P. 29] , but in fact, in the article we will consider exclusively firm offers, which have a confidential nature of the conclusion (the parties have the right to access the data under the agreement, and in exceptional cases access by third parties is allowed only with the will of the parties).

Therefore, smart contracts are self-executing contracts with predefined terms and conditions for all parties.For example, there are parties **A** and **B** who conclude an agreement with each other on the basis of a smart contract, while:

─ there is no need for a third party to be involved in the person of a lawyer, government or any other party by proxy;

─ transaction costs and time for a number of processes that could be spent on concluding a traditional agreement between these parties are reduced (funds transfer is carried out automatically in a matter of minutes, while there are several stages for this process in traditional contracts like transferring

---

[1] https://me-en.kasperskiy.com/blog/ethereum-ico/9691/

funds through banks, filling out a number of documents, waiting for the other party to confirm the payment, and others; all transaction data is tracked from the moment the smart contract is concluded to the present moment, is automatically created and stored instantly);

— the cost of commissions when concluding smart contracts (transaction fees of the main blockchain network) is significantly reduced, than when concluding traditional contracts, the parties spend funds for using the services of intermediaries, transaction fees are much higher than for smart contracts. Therefore, let us summarize the drawn comparative line of smart contracts and traditional contracts in the form of a table.

Table²

	Smart contract	**Traditional contract**
Third party	None	lawyers, government, relatives and other persons by power of attorney
Execution time	in minutes	from 1 day to several months
Remittance	automatically (electronic currency)	manual process (traditional currency: dollar, euro, ruble, sum)
Archiving	short process, automatically	consists of several stages
Security	cryptographically secure, maximum	limited, often non-confidential
Cost	Cheap	Expensive
Signature	digital signature (EDC)	manual process

A clear example would be comparing a smart contract with vending machines. Therefore, let us imagine a customer who selects a specific product (carbonated water) from a vending machine, and after making a payment ($ 1), presses on the corresponding button (B3) in it, the lever, in turn, set in motion due to the button B3, instructs the vending machine to push out the purchased item. A smart contract works in the described sequence. All the terms and conditions of such agreements are spelled out in the code that are stored in the blockchain nodes, and it seems impossible to change these codes, as argued above.

Existing problems in the field of concluding smart contracts. Based on the modern legal practice of developed countries in the field of smart contracts, the following problems were identified in the national legal system of the Republic of Uzbekistan on foreign economic transactions concluded on the basis of the contracts under consideration, lack of: direct or accompanying rules governing the scope of the conclusion of smart contracts; lawyers-specialists in the field of conclusion of smart contracts (on the law of information technology); mechanisms for the regulation of disputes arising from legal relations in the conclusion of smart contracts; and the creation of a single platform that will ensure the most secure and confidential conclusion of contracts between the parties to the transaction.In accordance with the

---

² The table is made by author.

indicated problems in the field of concluding smart contracts in the foreign economic sphere, especially the Republic of Uzbekistan in cooperation with legal entities of foreign states, we undertake to bring some solutions to the above problems based on the scope of consideration of systematized contracts in this article.

Legal the nature of smart contracts. According to international statistics, smart contracts are gaining momentum in private and public relations between legal entities. Along with this, and in proportion to the problems cited, we undertake to consider the direct, accompanying norms on the regulation of legal relations for the conclusion of smart contracts, which are in the international legal basis, respectively, for the emergence of rights and obligations under smart contracts, along with other contracts, an agreement should be reached, which is expressed in the counter expression of the will of the parties. In the countries of the Romano-Germanic and Anglo-Saxon legal systems, there are two stages of concluding contracts: an offer is a "offer" to enter into a contractual relationship, and an acceptance is "acceptance of a counter offer." As noted in Anton Vashkevich's work on smart contracts, in these contracts an "offer" is a web page that contains an offer to conclude an agreement with a link to the program code signed with the offeror's private key and placed in a distributed registry [7]. Consequently, this key generates an electronic digital signature (EDS) and is stored on a key carrier (token), which is protected by a password known only to the owner, through which access to the document is confirmed. In the meantime, using the public key, you can obtain a certificate for purchasing the EPC. As a rule, the form of acceptance of a smart contract is drawn up similarly to its offer - in the form of an electronic message signed with the acceptor's private key. Due to the fact that the "smart" contract is drawn up in the form of an accession agreement, the acceptance of a smart contract is not endowed with the functions of changing its program code, as well as its conditions (there is no possibility of a counter offer). As you can see, this legal relationship is subject to a firm principle, which in English law has its own analogy: take it or leave it. [8, P. 30].

It should also be noted that as a result of the conclusion of smart contracts, a kind of dispute does not arise as the obligations entered into the smart contract are fulfilled instantly in the process of its conclusion. Nevertheless, if the contract was concluded in a hybrid form (in the form of a traditional written contract) and the smart contract performed the function of systematization (see the categories of smart contracts), then the former will be governed by the relevant norms of international or national law, and disputes arising in as a result of non-fulfilment of obligations under the contract, they will be considered in arbitration centres, economic courts, ad hock courts or by mediation.

At this stage, we will consider the sequence and some existing rules for regulating legal relations under automated contracts. Accordingly, when concluding a foreign trade contract, counterparties must determine the applicable law, rights and obligations of counterparties in the event of a dispute between these parties. In the case of a hybrid conclusion of an agreement for a traditional contract, a certain foreign currency will act as a means of payment, and for a smart contract, a cryptocurrency. The applicable law will govern relations under a traditional treaty, as argued earlier, if the language of the treaty is not mentioned, then by the rules of the state of the main language of the treaty.

Note that the kind of foreign economic activity is experiencing the need to consider the meaning, synonyms of a smart contract from the position of the Vienna Convention "on Contracts for the

International Sale of Goods" 1980. In accordance with the 1980 Convention, an international sale and purchase agreement is considered concluded between counterparties whose enterprises are located in foreign countries. The subject of regulation of the Convention is international trade agreements. An essential place in the Convention is given to the conditions relating to the procedure for concluding a sale and purchase agreement and determining the nature of the relevant agreement [9]. It follows that the relevant provisions of the 1980 Convention can be envisaged as cross-cutting international norms for smart contracts. In addition to the aforementioned convention, there is a directly related act as the General Data Protection Regulation, GDPR 2016, adopted by the European Union Regulation, which provides for Article 22, according to which smart contracts can be subject to provisions if the parties do not participate in making a decision when drawing up a "smart »Contract, which is gradually being implemented in German law. In accordance with the above, we want to make a proposal for the development of legal acts, the introduction of mechanisms for their implementation, which will regulate the scope of the adoption of smart contracts and the disputes arising from them, blockchain systems, platforms on which these self-executing contracts will be formed, relationships for implementation and the use of tokens, cryptocurrencies in the Legislation of the Republic of Uzbekistan.

Conclusion

Because of studying this topic, we concluded that smart contracts are one of the forms of an agreement, in a broad sense. In a narrow sense, these electronic contracts are concluded in real time and have a self-executing nature of activity. There were presented scientific and practical studies of specialists from the field of "smart contracts", through which the tendency of using this form of contractual relations was revealed when concluding economic contracts complicated by a foreign element.

Undoubtedly, this technology will not be able to completely rid the world of intermediaries, but it is already clear that it will significantly simplify the economic turnover, thanks to which modern business models will become more efficient, and transaction costs will be significantly reduced. This is because the relationship associated with the legal regulation of smart contracts is controversial, since this industry of contractual relations is at the stage of rapid development and the absence of norms regulating this area is a matter of time. One should also take into account the tremendous speed of development of software using electronic platforms and the blockchain system, which will provide an opportunity for global digitalization of the state, public, economic and legal spheres, which will simplify the task of establishing their relationship, in particular in the Republic of Uzbekistan.

References

1. Smart contracts among lawyers // URL: https://legalitgroup.com/ru/smart-kontrakty-sredi-yuristov-2/ (date of access: 21.03.2021) [Smart-kontrakty sredi yuristov // URL: https://legalitgroup.com/ru/smart-kontrakty-sredi-yuristov-2/];

2. Glebin A. V. Transactions in foreign economic activity: conceptual apparatus: diss. … Legal sciences: 12.00.03 / Rus. state. hum. Univ. - M., 2016 - 156 p. [Glebin A. V. Sdelki vo vneshneekonomicheskoj deyatelnosti: ponyatijnyj apparat: diss. … yuridicheskih nauk: 12.00.03 / Ros. goc. gum. univ-t. – M., 2016 – 156 s.];

3. Smart contracts: analyte. review, Oct. 2018, Central Bank of the Russian Federation. // URL:

https://www.cbr.ru/ (date of access: 23.03.2021) [Smart-kontrakty: analit. obzor, okt. 2018, Centralnyj bank RF. // URL: https://www.cbr.ru/];

4, 6. Vashkevich A. M. Smart contracts: what, why and how. - M .: Simploer, 2018 - 89 p. [Vashkevich A. M. Smart-kontrakty: chto, zachem i kak. — M.: Simploer, 2018 — 89 s.];

5. Smart contracts among lawyers // URL: https://uz.ligazakon.ua/magazine_ article/EA010426 (date of access: 25.04.2021) [Smart-kontrakty sredi yuristov // URL: https://uz.ligazakon.ua/magazine_article/EA010426];

7. Batychko VT International private law. Lecture notes. Taganrog: TTI SFU, 2011 // URL: http://www.aup.ru/books/m233/8_1.htm (date of access: 22.03.2021) [Batychko V. T. Mezhdunarozhdnoe chastnoe pravo. Konspekt lekcij. Taganrog: TTI YuFU, 2011 // URL: http://www.aup.ru/books/m233/8_1.htm

8. Lukoyanov N.V. Legal aspects of the conclusion, amendment and termination of smart contracts // Legal research. 2018. No. 11. P. 28-35 [Lukoyanov N. V. Pravovye aspekty zaklyucheniya, izmeneniya i prekrasheniya smart-kontraktov // Yuridicheskie issledovaniya. 2018. № 11. S. 28—35];

9. Nepomnyashchy E. G. Organization and regulation of foreign economic activity: Essence, types and mechanism of action of foreign trade contracts. Publishing house: TIUiE, 2007. ─ 176 p. [Nepomnyashij E. G. Organizaciya i regulirovanie vneshneekonomicheskoj deyatelnosti: Sushnost, vidy i mehanizm dejstviya vneshnetorgovyh kontraktov. Izd-vo: TIUiE, 2007. – 176 s. // URL: http://www.aup.ru/books/m227/9_1.htm]