

ESSENCE OF LEGAL RECOGNITION OF THE SMART CONTRACT IN THE LIGHT OF AMERICAN SOLUTIONS²

SUMMARY

The article addresses blockchain and the smart contract technology based on it, which is important for the modern economy. It shows solutions that have been implemented in the United States, mainly at the state level. All of them give legal recognition to the use of smart contracts in trade. This authorization of blockchain technology and smart contracts triggers material legal consequences. Although smart contracts may be traded in business relations without specific legislative solutions, their introduction enhances the parties' legal certainty and security of trade, and builds a stable platform for the development of this technology.

1. PRELIMINARY REMARKS

The development of new technologies and digital solutions contributes to the progress of computerisation of further areas of life and is the driving force behind the contemporary economic reality. Blockchain (also referenced as the chain of blocks) is one of the technologies possibly most potent to influence social and economic realities. It implements the concept whereby intermediaries are eliminated from market transactions by replacing a trusted third party with a "trust machine", that is system architecture. The transaction is to be irreversible, which will bring a number of economic benefits, ranging from reducing transaction costs, through greater efficiency, to increasing user security³. A chain of blocks is a distributed register, decentralised and keeping information of all system users in parallel. With

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² Artykuł przetłumaczony ze środków finansowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego na działalność upowszechniającą naukę (DUN), nr decyzji 810/P-DUN/2018. Article translated from funds financed by the Ministry of Science and Higher Education for the dissemination of science (DUN), Decision No. 810 / P-DUN / 2018.

³ S. Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, 2008, available at bitcoin.org.

authorisation based on cryptographic mechanisms, transactions proceed safely and in a decentralised manner⁴.

Transactions made by users are referenced as smart contracts⁵. As tentatively defined by the author of the idea, smart contracts constitute a computerized transaction protocol implementing the terms of the contract⁶. Smart contract is in fact software that examines whether certain conditions have been met and accordingly executes a transaction that is not only automatic, but also irreversible. Apparently, the irreversibility of the transaction, through the use of a chain of blocks mechanism, allows the software to qualify a smart contract⁷. It is worth noting that a smart contract is not necessarily tantamount to a contract in the legal sense⁸. Its legal qualification will be case-based. It can be considered a tool to implement the contract, and in some circumstances, the programming language of the smart contract itself will constitute the content of the contract⁹. The concept of smart contracts is most common in the context of technology dispersed registers, however, automated contracts do not need blockchain to be implemented. Without blockchain technology advantages, however, they are exposed to problems that arise in centralized databases, such as easy interference in data and changing them¹⁰.

The potential application of the above technical solutions is very wide. First, their implementation may bring most benefits to *fintech*. However, the concept of block chain has been implemented primarily in cryptocurrencies, including bitcoin, the mechanism of which is a reference point, for the constructors of the technologies in question. Although the problem of blockchain regulation has often been identified with the standardisation of cryptocurrencies status and legal and fiscal aspects of their trading, this article discusses the specific regulatory context of the technology in question, namely the legal recognition of the block chain as a register and authorization to use it to conclude smart contracts.

⁴ See more about this issue: M. Hulicki, P. Lustofin, *Wykorzystanie koncepcji blockchain w realizacji zobowiązań umownych, Człowiek w Cyberprzestrzeni*, Issue 1/2017, p. 28-53.

⁵ The literature also uses another term for this technology, such as intelligent contracts, smart contracts.

⁶ N. Szabo, *Smart Contracts*, 1994.

⁷ Irreversibility of transactions is only potential, as appropriate conditions may cause appropriate changes in the registry, see the *hard fork* issues and the scenario of a 51% "attack", which was held in May 2019 for Bitcoin Cash.

⁸ See M. KÖLVART (et al.), *Smart Contracts*, [in:] *The Future of Law and eTechnologies*, T. KERIKMÄE, A. RULL (ed.), Springer 2016, p. 135. See also L. LAUSLAHTI (et al.), *Smart Contracts—How will Blockchain Technology Affect Contractual Practices?* The Research Institute of the Finnish Economy, ETLA Reports, Nr 68, 9.01.2017 r., p. 13.

⁹ M. Hulicki, P. Lustofin, *Wykorzystanie koncepcji blockchain w realizacji zobowiązań umownych, Człowiek w Cyberprzestrzeni*, Issue 1/2017, p. 47.

¹⁰ E. Ganne, *Can Blockchain revolutionize international trade?*, World Trade Organisation, Geneva 2018, p. 13.

2. BLOCKCHAIN AND SMART CONTRACTS IN AMERICAN LEGISLATION

When considering potential regulatory trends in block chain technology, it is worth to study American solutions, not only because the United States (hereinafter referred to as the USA) has become a global leader in the development of the discussed technology, but above all because the recent years have witnessed a number of rules concerning blockchain and smart contracts introduced at the state level. Individual states compete for the primacy as the friendliest place for the development of IT systems based on blockchain, encouraging investors to develop technologies of dispersed registers in their territory. This could be primarily encouraged by an appropriate investment climate, stemming from advantageous legal and regulatory environment. Whereas the US rule of law comes under the *common law* systems, American legal institutions prove difficult to compare with those of the continental law system. It should be noted, however, that the above solutions disclose specific regulatory trends in blockchain and smart contracts. Some solutions are of model nature, they are applicable also in other systems, and looking ahead, may serve as a model for legislators from other jurisdictions.

No federal level US provisions directly address this issue. The US Congress dealt with several bills, including tax aspects of cryptocurrency¹¹, use of blockchain in healthcare¹², development of a legal definition of blockchain¹³, consumer protection against unfair practices related to virtual currencies¹⁴, and the development of a uniform federal standard for legal consequences, validity and redress in the area of electronic documents, signatures and contracts, which were developed via blockchain¹⁵. Particularly noteworthy is the currently considered bill H.R.528, which exempts from certain financial reporting and licensing requirements blockchain developers and providers of blockchain services that do not take control of consumer funds¹⁶.

Much more varied is the legal status of blockchain legislation at the state level, where many legislative initiatives have already become law. The list of issues dealt with in these states includes the use of specific blockchain solutions as digital safeguards (such as taking control of marijuana production, firearms monitoring, water resources management, or protection of

¹¹ See Bill *H.R.5892: Online Market Protection Act of 2014*, 113th Congress (2013-2014).

¹² See Bill *S.1567: Finding Orphan-disease Remedies With Antifungal Research and Development Act of 2019*, 116-ty Kongres (2019-2020).

¹³ See Bill *H.R.1361 - Blockchain Promotion Act of 2019*, 116th Congress (2019-2020).

¹⁴ See draft resolution *H.Res.1102: Expressing support for digital currencies and blockchain technology*, 115th Congress (2017-2018).

¹⁵ See Bill *H.R.7002: Blockchain Records and Transactions Act of 2018*, 115th Congress (2017-2018).

¹⁶ See Bill *H.R.528: Blockchain Regulatory Certainty Act*, 116th Congress (2019-2020).

election results), limitation on levying of taxes and introducing restrictive rules by local authorities, typification of offences whereby the document is changed via distributed register technologies, mandatory licence for trade in cryptocurrencies, permission to use distributed databases, for keeping corporate registers, identification of shareholders, or allowing them to vote¹⁷.

In this article, we will discuss in detail the legislation of selected states of the USA, which implemented solutions for the legislative recognition of smart contracts.

First, it is worth noting that some states (by way of illustration Vermont, Illinois, Nevada, Arizona, Tennessee) have introduced legal definitions of several terms related to the technology of dispersed registers. The relevant blockchain solutions were first adopted in Vermont (which has even managed to amend them since then). Blockchain was defined there as a cryptographically secure, chronological and decentralized consensus registry or consensus database maintained on the Internet, in a peer-to-peer network, or through other interaction. Blockchain technology, on the other hand, denotes software, hardware, or a collection of hardware that uses or enables blockchain¹⁸. It should be emphasized that this definition includes basic elements of blockchain system architecture (cryptography, decentralization, consensus mechanism), while being neutral in the sense that it remains formulated quite generally, and may be covered by different technological versions of the blockchain chain concept. The pertinence of introducing such definitions comes down to the need to ensure terminological clarity under the relevant legislation. In this context, it should be noted that some terms carry a specific meaning in the block chain system, for example consensus mechanism¹⁹.

Nevertheless, this definition is not universal. For example, in other states, such as Nevada, blockchain is defined as an electronic record of transactions or other data that are: (1) uniformly organised, (2) redundantly maintained or processed, by one or more computers or

¹⁷ H. Morton, *Blockchain State Legislation*, National Conference of State Legislatures, 28.3.2019, source: <http://www.ncsl.org/>

¹⁸ See 12 V.S.A. (Court Procedure) Chapter 81, § 1913 (a): (1) "Blockchain" means a cryptographically secured, chronological, and decentralized consensus ledger or consensus database maintained via Internet, peer-to-peer network, or other interaction. (2) "Blockchain technology" means computer software or hardware or collections of computer software or hardware, or both, that utilize or enable a blockchain.

¹⁹ In the context of blockchain, consensus means "the process by which the parties to a blockchain technology network agree to conduct a transaction that is approved by all participants in that network. Consensus guarantees the integrity of each registry copy's data and reduces the risk of unauthorized transactions through the use of cryptographic techniques contained in consensus protocols. K. Piech (ed.), *Leksykon pojęć na temat technologii blockchain i kryptowalut*, Warszawa 2016, p. 8-9.

machines, to ensure the integrity or non-repudiation of recorded transactions or other data²⁰. The state of Arizona's blockchain technology (similarly to the states of New York and Connecticut), where blockchain is standardised as a distributed registry technique, using a distributed, decentralized and replicable database/registry, which can be public or private and may be accessible by permission, or with 'crypto-economic tokens/keys', or without such tokens, whereas the data in such a (blockchain) registry are cryptographically protected, in other words they are unchangeable, verifiable and true²¹. Such a definition may raise concerns because, though prima facie broad in scope, it may have limited practical application, through the use of wording such as 'unchangeability of data', 'controllability' or 'uncensored truth'. In fact, under certain assumptions, the data in the chain of blocks can change and the verification whether the "uncensored truth" may not be applicable in some private type systems²².

Moreover, some states define the concept of distributed registers - in line with the concept of blockchain technology²³. Above all, however, some of them have also standardized that of "smart contract". Several states nearly unisono word it as a computer software, operating through a distributed register, used to automate transactions. Some states even introduce an exemplary catalogue of such transactions, which may include the transfer of assets, their creation, information synchronization, or analysis of user identity to enable them to access specific applications²⁴. Interestingly, alternative definition of smart contract was proposed (and ultimately rejected) in Illinois. Whereby, a smart contract was construed as an agreement stored

²⁰ See 59 N.R.S. (Electronic Records And Transactions), Chapter 719, § 45: *"Blockchain" means an electronic record of transactions or other data which is: 1. Uniformly ordered; 2. Redundantly maintained or processed by one or more computers or machines to guarantee the consistency or nonrepudiation of the recorded transactions or other data.*

²¹ See 44 A.R.S. (Trade and Commerce), Chapter, § 7061 E (1): *"Blockchain Technology" Means Distributed Ledger Technology That Uses A Distributed, Decentralized, Shared And Replicated Ledger, Which May Be Public Or Private, Permissioned Or Permissionless, Or Driven By Tokenized Crypto Economics Or Tokenless. The Data On The Ledger Is Protected With Cryptography, Is Immutable And Auditable And Provides An Uncensored Truth.*

²² In Illinois, a definition is proposed that blockchain means an electronic record created by the use of a decentralised method by multiple parties to verify and store digital records of transactions that are secured by the use of cryptographic hash information about past transactions. See Bill IL HB5553, Blockchain Technology Act § 5, (100th General Assembly of the State of Illinois): *"Blockchain" means an electronic record created by the use of a decentralized method by multiple parties to verify and store a digital record of transactions which is secured by the use of a cryptographic hash of previous transaction information.*

²³ Illinois has also proposed a definition of cryptographic hash. See Bill IL HB5553, Blockchain Technology Act § 5, (100th General Assembly of the State of Illinois).

²⁴ See 47 T.C.A. (Commercial Instruments and Transactions), Chapter 10, § 47-10-201: *"Smart contract" means an event-driven computer program, that executes on an electronic, distributed, decentralized, shared, and replicated ledger that is used to automate transactions, including, but not limited to, transactions that:(A) Take custody over and instruct transfer of assets on that ledger;(B) Create and distribute electronic assets;(C) Synchronize information; or (D) Manage identity and user access to software applications.* Similar solutions are also observed in the legislation of New York, Connecticut and Arizona.

in the form of an electronic record and verified via blockchain²⁵. The difference between the two definitions is paramount, for the legal qualification of a smart contract will be completely different depending whichever has been adopted. In the former, a smart contract is basically an algorithm used in the transaction process, which separates it from the contract, which the parties conclude. Still, in the latter, a smart contract is an agreement, with blockchain being an tool relevant in the context of the way it is stored and verified.

Some states have also adopted solutions designed to authorise the use of smart contracts in the business trade. These rules confirm the validity and legal effect of smart contracts, making them tradable and agreement must not be made inoperative, invalidated, or unenforceable, solely because it contains a smart contract clause²⁶.

Importantly, these solutions also address the interests of block chain users by ensuring that a person who uses commercially dispersed registry technology to safeguard information that it holds or is entitled to use retains the same rights to hold or use that information as a person who does not use distributed registry technology (this does not, however, apply to a transaction whose terms explicitly provide for the transfer of the right to hold or use that information)²⁷. This is to ensure that the information in the chain of blocks can be reused, which matters in the context of blockchain technology. On the other hand, effective implementation of such statutory provisions may give rise to legitimate concerns, especially insofar as decentralised public registers over which no operator takes direct control.

It is also worth noting that U.S. lawmakers deal with the evidentiary issues of smart contracts. In this context, it should be noted that the bill was notified in Illinois, where it was assumed that evidence from signature, a document or an agreement may not be refused in court proceedings solely because blockchain was used to this end. Furthermore, if a written document

²⁵ See Bill IL HB5553, Blockchain Technology Act § 5, (100th General Assembly of the State of Illinois): "*Smart contract*" means a contract stored as an electronic record which is verified by the use of a blockchain.

²⁶ See 44 A.R.S. (Trade and Commerce), Chapter, § 7061 C: "*Smart contracts may exist in commerce. A contract relating to a transaction may not be denied legal effect, validity or enforceability solely because that contract contains a smart contract term*". Similar solutions has also found their way to the legislation of Tennessee, Connecticut and New York.

²⁷ See 44 A.R.S. (Trade and Commerce), Chapter, § 7061 D: *(e) Notwithstanding any provision of the general statutes, any person who, in or affecting commerce, uses distributed ledger technology to secure information that such person owns or has the right to use shall retain the same rights of ownership or use with respect to such information as such person would have without the use of distributed ledger technology. Nothing in this section shall be construed to apply to the use of distributed ledger technology to secure information in connection with a transaction to the extent that the terms of such transaction expressly provide for the transfer or rights of ownership or use with respect to such information.* Podobne rozwiązania znalazły się również w prawodawstwie stanów Tennessee, Connecticut i Nowy Jork.

or signature is required by law, the provision of blockchain evidence would meet this requirement²⁸. Most states that standardise this issue also consider blockchain as a form of e-signature and e-document. The model solution implies that a blockchain-secured document or contract is considered to be in electronic form and may be an e-document. Similarly, a signature secured by blockchain is considered to be in electronic form and may constitute an e-signature. Due to this provision, the agreement concluded electronically, also through blockchain – takes the same effect as that concluded in writing. To a large extent, even intuitively, blockchain form can be classified as a broader category of e-documents and e-signatures, but the information of this in the legislation dispels potential legal uncertainty and, consequently, protects against unpredictability of court decisions^{29 30}.

The key solution in the context of laws concerning blockchain and smart contracts is found in the already quoted Vermont legislation. It introduced a legal presumption of blockchain technology-based documents being authentic. Digital recording, which is e-registered on a chain of blocks, is considered authentic if it is confirmed by a written declaration of an eligible person under oath. Such a declaration must confirm the date and time at which the record was entered into and retrieved from the register. This declaration should also confirm that the record was kept in the system as part of a day-to-day business and that it was also created as part of such operation. This includes the presumption of authenticity of a blockchain technology-verified fact or information, time and date of recording, and the recorder. It must be borne in mind that this presumption does not cover mere reliability, validity, or legal status of the fact or notation. These presumptions can solely be used to prove a specific fact, such as authenticity of documents, identity of persons, or ownership titles. However, it is worth noting

²⁸ However, the bill notified in Illinois ("Illinois Blockchain Technology Act"_) also provides for certain restrictions on blockchain use, including where the law requires a contract or other document to be in writing (although such a contract may only be terminated if the blockchain containing the transaction information is not in a form that can be preserved and accurately reproduced for later use by all parties or other persons who are entitled to retain the contract or other document). Smart contracts may also not be used in situations where the law requires a particular form or requirement of a relevant document. See IL HB5553, Blockchain Technology Act § 5, (100th General Assembly of the State of Illinois).

²⁹ See 44 A.R.S. (Trade and Commerce), Chapter, § 7061: "*A record or contract that is secured through blockchain technology is considered to be in an electronic form and to be an electronic record. (...) A signature that is secured through blockchain technology is considered to be in an electronic form and to be an electronic signature.*" Similar solutions were also found in the legislation of Tennessee, Ohio and New York.

³⁰ In Nevada, it was explicitly recognised that the term "electronic recording" also includes blockchain (without exception). See 59 N.R.S. (Electronic Records And Transactions), Chapter 719, § 90.

that this presumption also applies to the determination of the contracting parties, contract terms and conditions, performance, validity and legal status³¹.

3. EXAMINATION OF US SOLUTIONS IN THE CONTEXT OF DOMESTIC LEGISLATION

From the above American solutions, a specific model may be formulated of technology legislation based on distributed registers. As mentioned above, in view of the US law specificity, this model may also be applied in other jurisdictions. All those provisions legally recognise the concept of the chain of blocks, dispersed registers and smart contracts. By eliminating legal uncertainty and making blockchain-involving trade safe, they seek to create appropriate legal conditions for the development of these technologies.

In terms of formal application of blockchain solutions, the Polish legal system does not directly stipulate for or feed into specific normative qualification thereof. Thus, the use of blockchain solutions in business transactions is fully legal, as the legislation does not differentiate between such legal situations. Hence, in the current legal status blockchain technology should be viewed *pari passu* other IT instruments employed in business transactions³².

However, it is worth noting the Act of 19 July 2019 amending the Act - Commercial Companies Code and some other acts (Dz.U.-Journal of Laws of 2019, item 1655). As per Article 300³⁰ § 3, introduced thereunder, "the register of shareholders shall be maintained in an electronic form, which may take the form of a dispersed and decentralized database" and reflects solutions that also unfold in the USA. Quoting after the explanatory statement of the Act "this provision is to determine that the requirement of electronic form may be satisfied by the use of *blockchain* technology", in other words, that "this technology constitutes a kind (form) of electronic form"³³. Technology of dispersed registers has been first recognised in the Polish legislation, and *expressis verbis* acknowledged an electronic form. This is not tantamount

³¹ See 12 V.S.A. (Court Procedure) Chapter 81, § 1913.

³² M. Hulicki, P. Lustofin, *Wykorzystanie koncepcji...*, p. 42.

³³ Explanatory notes to the government bill on amending the Act - Commercial Companies Code and certain other acts (12.2.2019, printout 3236), p. 47.

to a claim that no qualification would be possible was it not for such a statutory provision, but the qualification becomes considerably less challengeable in practice and jurisprudence.

Statutory authorisation of smart contracts should be made in a comprehensive manner to ensure harmonious coexistence with well-established legal principles. As already mentioned, a smart contract is computer software that verifies the fulfilment of certain conditions and, as a result, it automatically executes the provisions of the agreement. Automation of the transaction process, that is conclusion, execution and enforcement of the agreement constitutes a distinguishing factor of smart contracts. This software is also autonomous, as it does not need the intervention of a third party to work. In this context, two fundamental legal meanings of smart contracts can be identified, that is it can be an IT tool to conclude an agreement in an electronic manner, or it can be synonymous to the agreement. In American practice, various approaches can be observed, but the determination of the legal significance of a smart contract ranks among the cornerstones of making rules applicable in the area of technologies of dispersed registers more transparent. If a smart contract is deemed actually overlap with the actual agreement, its underlying algorithms may, in fact, determine its provisions. Since a smart contract is by its nature executed automatically (without the participation of a trusted third party), it becomes "extremely effective"³⁴. This means that the benefits from with the implementation of the smart contracts concept (such as reduction of transaction costs, speed and security of transactions) can be offset by a number of legal problems, for instance contractual flexibility, right to terminate such a contract or the protection of personal data, for example the so-called right to be forgotten.

Besides, transaction security is contingent on the quality of the contract's smart algorithm and confidence in the system itself³⁵. The situation in which algorithms supersede legal provisions shifts the regulatory burden to the technology, because in this sense the algorithm expressed in the programming language constitutes the content of legal standards. The algorithms underlying such an agreement must be sufficiently precise, or various forms of abuse may occur and such agreements will fail to bring the expected benefits. Therefore, it is worth noting that legal certainty of the software users, that is the contracting parties, requires that the programming code in which it is expressed be correct, that is in such a way that it will implement the genuine intentions of the parties. The translation of the software language into

³⁴ M. Hulicki, *The Legal Framework And Challenges Of Smart Contract Applications*, 16th International Conference on Artificial Intelligence and Law, 16.06.2017, London, p. 6-7.

³⁵ *Ibidem*, p. 7.

the content of the agreement raises the problem of inadequate knowledge of programming languages³⁶. Drafting and understanding an intelligent contract may require advanced knowledge, which may be particularly problematic for consumers, who may not be able to review what constitutes the actual content thereof³⁷. Moreover, for smart contracts, the situation of consumers may be similar to adhesion contracts, since due to the blockchain-based architecture of the system the parties will not enjoy the freedom to shape the contract itself and will be imposed with specific solutions. However, it is worth recalling that in the Polish legal system the content of the declaration of intent will be interpreted in the context of the circumstances in which it was made, principles of community life and established customs, and more emphasis is placed on the parties' unanimous intentions than on its literal wording. The rules of interpretation of the content of declarations of intent also protect the parties to the agreement concluded in the form of a smart contract. A party being in an unequal transactional position which does not have an in-depth expertise about smart contracts is somewhat protected against abuse by the principle that a legal transaction causes not only such effects as those expressed in it, but also those stemming from the principles of community life. Furthermore, under Article 58 § 2 of the Civil Code, a legal transaction contrary to the principles of community life shall be invalid.

Within the scope of contractual obligations, the smart contract formula may be used also to make and accept declarations of intent, perform legal transactions, but above all, it will serve to automate the process of fulfilling obligations. The civil law appears to be properly adapted to cover also such situations. According to D. Szostek, when concluding an agreement through the smart contract algorithm, the parties make declarations of intent on general principles, and the very fact of expressing it through the software proves irrelevant to attribute the effects of the declaration of intent to them³⁸. According to one of the fundamental principles of civil law, the parties are free to choose the form of an agreement - unless the law requires a specific form - so there should be no doubt about the using dispersed networks and systems to enter into agreements. In the Polish legal system, declarations of intent made through a smart contract may, but do not have to, be in electronic form. If they meet the conditions of Article 78¹, that is they are in electronic form and bear a qualified electronic signature, they will be viewed equivalent to a declaration of intent made in writing. While there should be no doubt that the

³⁶ M. Hulicki, P. Lustofin, *Wykorzystanie koncepcji...*, p. 46.

³⁷ M. Hulicki, *The Legal Framework...*, p. 8.

³⁸ D. Szostek, *Blockchain a prawo*, Warszawa 2018, source: Legalis C.H. Beck, access: 1.9.2019.

dispersed register may constitute a durable carrier on which information is recorded, for an agreement (or other legal transaction) concluded by blockchain to be acknowledged as a documentary form of a legal transaction, one must be able to review the content of such information, and the identity of the person who made the declaration of will in this way must be establishable. Though apparently feasible, this is certainly not a simple task. This implies that, for a greater legal certainty, it would be helpful to mention as part of a legal authorisation to use this technology that an agreement concluded with blockchain may be in a documentary form. Similarly, while a record in a chain of blocks could be acknowledged as an electronic signature, it seems that without appropriate legal amendments, it could not be viewed as a qualified signature that would sanction the electronic form of a legal transaction.

While considering the legitimacy of introducing smart contract solutions, similar to those employed for smart contracts in individual states of the USA, it is worth considering the introduction of legal presumptions regarding the information that has been recorded on the chain of blocks. Although the solution introduced by Vermont in this respect should be considered far-reaching, it would certainly provide greater legal certainty and streamline many court proceedings, to be settled in this field. The introduction of such presumptions could solve a number of evidentiary problems, including whether the agreement has been concluded and is binding, what the unanimous intent of the parties is and what the provisions of the contract are? Moreover, as in Vermont's legislation, such a presumption could extend to a number of factual findings.

4. CONCLUSION

Solutions for smart contracts and more broadly blockchain technology, which were introduced at the state level in the United States, show a model with the legal authorisation of the use of blockchain and smart contracts in the economy as its common denominator. With a view to building a favourable legal environment for the development of this technology, legal uncertainty and unpredictability of court decisions must be eliminated, and solutions for legal recognition of this technology are its main contributing factor. The implementation of some solutions, such as legal presumptions in the area of dispersed register technologies, may increase the practical application of these technologies.

When stipulating for blockchain issues, it is worth remembering that the legislator would often like to provide for nearly every area of human life, including individual elements of economy. New phenomena, new technologies and ideas appear here as a potential field of action for the legislator, which would like to create an ideal situation with particular technologies freely developing and their users protected against any risk of their use. Though it appears reasonable to introduce legislation that would somehow authorise the use of smart contracts in economic relations, those provisions should not be extended so as not to hinder the development of this buoyant area. The solutions presented in this paper may serve as a model for the coverage of key aspects of the implementation of the blockchain concept.

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