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TOKENS AS BONDS

Ministry of Digital Affairs, Blockchain and DLT Working Group

The document, prepared within the Blockchain and DLT Working Group, presents the views of experts who participate in the works of the Financial Instruments Subteam, therefore, it is not the official position of the Minister of Digital Affairs.

Summary

Tokenization is sometimes defined in several different ways that are not always consistent. Mainly because this is about trying to define digital equivalents of differently understood values that we know from 'ordinary' physical life. We may agree to assume that, in the field of financial instruments, tokenization is understood as the process of assigning a digital representation to real assets in a distributed account-book. The blockchain technology allows to define a cryptographically secured convention that ensures the depositing or combining of the economic value of assets as well as the rights that arise from those assets.

Tokenization of assets may include the digital representation of real assets in distributed account-books or the issuance of traditional classes of assets in tokenized form. The use of blockchain, DLT, and smart contracts can bring many potential benefits. Thanks to automation, we expect an increase in efficiency, including improvement in the management of costs and settlements. The time of transactions is likely to be shortened. The properties of blockchain ensure improved transparency and liquidity. On many markets, there is a growing understanding of the fact that an increase in confidence is a strategic benefit.

The blockchain technology will transform financial markets and their infrastructure. The potential for change is now particularly evident when it comes to the raising of capital for small businesses. This expectation ought to be associated with the phenomenon of initial coin offerings (ICO), which intensified in 2016–2018. Also, there are interesting challenges related to post-trade processes, the clearing and settlement of securities.

Funds counted in billions of dollars were made on ICO's wave of popularity, through the issue of cryptocurrencies or other kinds of crypto-assets (including tokens) to the public. The ICO phenomenon raises many regulatory uncertainties, mainly related to the public offer of securities and the trading in financial instruments. In this respect, the key factors are the legal

nature of a token and the possibility of recognizing it as a security or another financial instrument.

Said legal uncertainties (which exist in many jurisdictions) originally led to attempts to structurize ICO and the disposed tokens outside the applicable scheme of public offers. This was done through attempts to avoid classification of a token as a security, e.g., by giving up unambiguously investment-related features of the instrument (such as, e.g., the payment of dividends or other financial benefits related to the financial result of a business venture). Following a significant drop in interest in ICO in the second half of 2018 (which, among other things, may be related to regulatory trends, especially in the US), there was a dramatic decline in the number of offers for the acquisition of tokens outside said procedure for offering securities to the public. However, it seems that now the market trend is towards using the tokens issuance mechanism on an fully regulated basis. More and more often, there is talk of issuance of tokens that are supposed to constitute securities. Many advantages of tokenization of securities on capital markets are being pointed out.

In this approach, tokenization of assets involves creating digital tokens that represent real assets, issued using the blockchain technology. The potential of tokenization is enormous because it may concern any resources or values. In a wide range of financial instruments and assets, it may therefore have complex consequences for participants in the financial market, the infrastructure of this market, and regulatory bodies. This justifies the entering into a discussion about the potential effects of asset tokenization, in terms of both benefits and risks that should be avoided.

Potential benefits include efficiency of costs, settlements, and speed of transactions, as well as greater transparency and liquidity. A strategic benefit could be the stimulating of the activity of retail investors with regard to assets that are difficult for them to access in traditional forms. The deliberations undertaken in this study are intended to help policy makers predict the importance of the risks and benefits associated with the use of bonds tokenization.

However, the possibility of classifying a token as a security, such as a share or bond, is not obvious. In Poland, the doubts are primarily connected with the traditional approach to securities in the civil law, while doctrinal discussions – about, among other things, the dematerialization of securities or the *Numerus Clausus* Principle (limited catalogue) of securities in Polish law – are becoming particularly important. Further doubts concern regulatory matters, in the context of both legal regulations directly derived from EU law (such as the MiFID2) and specific aspects of Polish regulations, e.g., the provisions of the Bonds Act.

This study focuses on the possibility of giving the technological form of tokens to bonds – the classic debt securities commonly used on the market. The study is concerned only with legal matters and is not a comprehensive discussion of the issue. Rather, its aim is to practically verify whether, under current law, it is possible to issue a token that would be a bond (in other words, whether a bond can be a token).

The obligatory dematerialization of bonds introduced in Poland in 2019 was based on a centralized model, most likely underestimating the benefits of safe decentralization that ought to be made possible by the blockchain technology. This study may serve as a starting point for a debate about further evolution of the capital market that will take into account the interests of small businesses and innovative ways of investing.

This study is one of the results of the works of the Blockchain and DLT Working Group that operates as part of the Distributed Ledgers Stream created by Decision No. 7 of the Chairman of the Digital Affairs Committee of the Council of Ministers, dated 10 October 2018, amending the decision on the creation of the "From Paper to Digital Poland" Task Team. A document developed earlier during a workshop of the Coalition for Polish Innovations was used.

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1. Introduction

1.1. Types of tokenization

A clear distinction must be made between the two concepts:

- → The concept of the native token which constitutes the relevant bond, and which is entered in the blockchain at the time of issuance. According to this concept, solutions should be applied that are analogous to the recording of bonds in securities accounts, with the proviso that the records of bonds would be kept in the form of an entry of the holdings of bonds (tokens) in the distributed database assigned to the smart contract activated (or partially/fully controlled) by the issuer or the entity that keeps the records of bondholders. In this study, we refer to this concept as "primary tokenization of bonds" due to the fact that, based on its assumptions, the bond is supposed to be inextricably linked to the token.
- → The derivative concept, based on a reference to the instrument (the relevant bond) that is registered outside the blockchain, through its representation (i.e. derivative token) in the blockchain. Tokenization of an existing bond is a combination of the technical process of the creating of tokens (which refer to bonds stored, e.g., in securities accounts or in the issuance sponsor's ledger in the form of a book-entry) with contractual rights to the tokens placed in the bondholder's wallet. Tokens may be transferred between the wallets of the parties in the blockchain. The transfer of tokens may (but does not have to) be reflected by the transferring of the relevant bond. In this study, we refer to this concept as "secondary tokenization of bonds" due to the fact that, based on its assumptions, the token is an instrument separate from the relevant bond, but is legally and technologically linked to it.

Efforts are being made in many jurisdictions towards both primary and secondary tokenization (within the meanings proposed above) of securities, including bonds. Primary tokenization requires an appropriate legal framework, e.g. such a procedure for the dematerializing of securities that makes it possible to use the blockchain technology and the token concept for this purpose. Secondary tokenization, on the other hand, is often carried out based on legal structures created by the market using complex civil-law models and various types of derivative instruments, in which the underlying instrument is the relevant bond.

This study focuses on the primary tokenization of bonds. This is because the authors assume that its main audience should be public institutions interested in such a change in regulations that would stimulate the development of innovation on the capital market. Although, in some models, secondary tokenization of bonds would certainly already be possible under the current state of law, the real benefits for market participants will only come from a comprehensive legal framework that enables primary tokenization.

1.2. Benefits of tokenization – an example

Commentaries that summarize the digital evolution of capital markets in many countries point to the numerous benefits of tokenization of securities (including bonds) for both market participants and financial institutions, infrastructure of the capital market, supervisory institutions. The following potential benefits can be mentioned:

1. Increased liquidity and depth of markets

The most obvious advantage of tokenization of securities is their easy trading executed in the digital space from any place and at any time, which can increase the availability of instruments as well as the liquidity and depth of markets.

2. Simple, safe, and quick settlement of securities

Easier trading in tokenized securities also translates into a potentially simpler, safer and faster settlement. In a traditional distributed ledger, settlement is provided merely by the consensus of the distributed network, which minimizes the need to use specialized institutions for this purpose. In order to really gain these advantages, the following would probably be required: a change in the approach to the problem of settlement finality, and consideration of alternative methods for achieving this finality (especially in permissionless ledgers).

3. Automation of compliance, and Digital Regulatory Reporting (DRR)

Tokenization may enable and facilitate the process of reporting on financial instruments under existing regulations, through:

- standardization of data (which increases the quality of the reported data);
- automation of the reporting process by using machine executable reporting, which reduces the operational risk of the process;
- possibility of supervisory authorities directly accessing the data, and elimination of the process of the supervised company constructing and sending a report (thanks to which the risk of fraud and incorrect reporting is minimized);
- reduction in the costs of implementation and maintenance of reporting infrastructure, for both supervisory authorities and supervised entities;

- elimination of delays in the provision of information to supervisory authorities through direct access to data, which, thanks to real-time analysis of these data, will increase the effectiveness of supervision.

Apart from tokenization itself, the implementation of DRR should involve the following elements:

- creation of legal regulations that take into account the possibility of using DRR;
- formulation of legal regulations on reporting, in a way that enables and facilitates automation;
- creation of common definitions of data with regard to the reported information and events.

Currently, some supervisory authorities are conducting pilot projects related to DRR (e.g. FCA: https://www.fca.org.uk/digital-regulatory-reporting).

4. New possibilities of designing and creating financial products

From the perspective of the financial market's innovativeness, the possible interoperability of assets that function in the form of a token in a distributed ledger seems extremely important. Securities function in this model on the basis of a computer code, which can be used to ensure and automate compliance (e.g. by incorporating trading restrictions in it), and which provides unlimited possibilities of creating financial products that could be under the direct supervision of the relevant institutions thanks to DRR.

1.3. Legal situation

Two legal acts are of fundamental importance for this study: the Bonds Act of 15 January 2015, and the Financial Instruments Trading Act of 29 July 2005.

What is significant, both of these legal acts were considerably amended in July 2019 by the Act of 9 November 2018 on amending certain acts in connection with the strengthening of supervision over the financial market and investor protection in this market. The changes introduced by this legal act are of key importance for the analysis made in this study and the conclusions reached.

This study focuses on analysing the existing legal situation and on answering the question of whether primary tokenization of bonds is possible under the applicable law. The authors' intention is to start a discussion about legal changes that would open up the innovative potential of securities tokenization in Poland, following the example of the actions that are being taken in more developed markets.

1.4. Technological realities

From a technical point of view, tokenization of bonds means the creation and placement of a computer program (smart contract) in a selected blockchain, which will store the ledger of bondholders and which will determine the types of operations that can be performed on that ledger (such as disposal of bonds, redemption of bonds by the issuer, exercise of rights arising from bonds, etc.). Basically speaking, a token can be identified with the smart contract that handles it. At all times, the ledger is stored on computers that make up the blockchain infrastructure (the so-called network nodes) and not on computers of individual bondholders or of the issuer.

Blockchain platforms differ from one another primarily in terms of:

- network infrastructure – the following are particularly worth distinguishing: public infrastructures, where any computer on the Internet may constitute a network node (e.g. public blockchains such as Bitcoin or Ethereum), and private infrastructures, where the owners decide who can join the network, to what extent, and on what terms (e.g. corporate blockchains such as KIR's blockchain that performs the function of a permanent carrier, or the TradeLens blockchain platform)
- the way of establishing consensus, i.e., the way of resolving conflicts in the network (when, e.g., two nodes in the network try to carry out conflicting operations: one node tries to add a transaction of transferring bond X from user A to B, while the other tries to add a transaction of transferring the same bond X from user A to C, the consensus method determines whether and which of these transactions will ultimately be included in the ledger).
- technical possibilities of executing smart contracts in the selected blockchain, e.g., the Bitcoin blockchain has very limited possibilities of executing complex programs; the Ethereum blockchain allows to create programs of any complexity but the limitations are the the cost of execution of operations (including the rigid limitation on the cost of a single transaction, where transactions with a higher cost are not allowed) and the cost of data storage; private blockchains based on, e.g., the HyperLedger Fabric architecture, usually have the fewest limitations.
- the 'ecosystem' of available solutions, which exists in the specific blockchain and determines, i.a., the possibility of easy implementation of users and the possibility of using tokens created in the specific blockchain in third-party solutions. For instance, the Ethereum blockchain has the largest existing 'ecosystem' of financial solutions (solutions of the so-called DeFi – decentralized finance), solutions allowing to implement users (the so-called wallets), and a database of existing users. Other public blockchains (e.g. EOS, Polkadot) have a much smaller (though still growing) base of solutions; private blockchains are usually characterized by a very limited number of solutions operating in them (usually, those are blockchains currently intended for a single selected application, such as a supply chain in the case of TradeLens, or a durable medium in the case of KIR's blockchain) and have a limited number of users

(it should be noted, however, that some institutions can easily implement a database of existing users into their private blockchain, e.g., a bank may allow users of its transaction service to use its own blockchain without any additional actions on the part of the users).

Users (bondholders) can perform the operations specified in the smart contract using a private key paired with their blockchain address. The author of the smart contract decides who can carry out what operations on the ledger. Usually, however, operations on own records (own bonds) can only be carried out by the owners of such records; often, there is also the role of the administrator who can change the configuration of the smart contract (e.g. temporarily freeze all operations on the ledger making it impossible to modify it) and modify the records of other users (for example, by transferring the rights to bonds from one user to another in order to fulfil a court judgement).

There are many standards of tokens that define what functions a given token should make available. The most popular standards for smart contracts are: ERC-20, which defines universal fungible tokens that represent quantifiable, indistinguishable goods (such as coins of the same nominal value), and ERC-723, which defines universal non-fungible tokens that represent quantifiable, distinguishable goods (such as collectible cards or numbered securities). It should be emphasized that these standards only define a set of functions that a token should make available (the so-called interface), but usually do not determine how these functions are to be executed. Thanks to this, individual tokens and applications (such as, e.g., wallets) can cooperate with each other, leaving considerable freedom with regard to the execution of individual tokens. For example, one might create a token compliant with the ERC-20 standard, which automatically cooperates with a large proportion of blockchain wallets, and which requires prior authentication (e.g. in an external KYC process) of the users of such a token.

Currently, standards are being developed of tokens that are supposed to represent financial or payment instruments. In the context of this document, it is worth mentioning at least the following proposed token standards:

- ERC-20 – a standard of fungible tokens;
- ERC-721 – a standard of non-fungible tokens.

1.5. Other jurisdictions, EU, and the international level

- For the purposes of the G20 member states, an "asset-backed token" has been defined by the Financial Stability Board (FSB) as "a digital representation of an actual asset or revenue stream". http://www.fsb.org/wp-content/uploads/P101018.pdf
- Similarly, the ECB defines tokens as "digital representations of existing assets". The ECB's Advisory Group on Market

  Infrastructures for Securities and

Collateral (AMI-SeCo) defines a token as a reference to a safeguard that is registered outside the DLT through its digital representation in the DLT environment. https://www.ecb.europa.eu/paym/intro/governance/shared/pdf/201709_dlt_impact_on_harmonisation_and_integration.pdf

- The FSB also defines a "digital token" as "any digital representation of an interest, which may be of value or of a right to receive a benefit

  or perform specified functions or may not have a specified purpose or use". This approach has also been used by ESMA. https://www.esma.europa.eu/sites/default/files/library/esma50-157-1391_crypto_advice.pdf
- Some legislators have provided explanations on token-related terminology, also in the context of phenomena such as ICO. For example, in Luxembourg, a token has been considered to be a digital resource stored in a blockchain which, much like a security in tangible form or in the form of a book-entry, directly represents a "title". https://chd.lu/wps/PA_RoleDesAffaires/FTSByteServingServletImpl?path=941A5ADDCBD2A7967FA717045881789D441DD9A03654CB056EB4C1BD77207AD3A680CD9F7B06B38FF5BDE9B7845E2E09$20CD81147AB6C983B2B378482C9F6417
- Other Member States have emphasized the role of the distributed ledger technology (DLT) in order to ensure the same legal effects for information in distributed ledgers and in more traditional record keeping systems, for example France (Pacte Law) http://www.codozasady.pl/en/new-laws-on-blockchain-icos-and-cryptocurrencies-in-france/, and Italy http://www.governo.it/articolo/comunicato-stampa-del-consiglio-dei-ministri-n-23/10148). Therefore, a token is a reference to assets that have been registered elsewhere (outside the blockchain), or constitutes a direct digital representation of assets or other rights.

2. Tokens as bonds under Polish law

As mentioned in the introduction, the comments contained herein pertain to the possibility of giving a bond the technological form of a token. For the purposes of the study, the following assumptions have been made:

1) Only the current legal situation is described, taking into account the significant legislative changes that entered into force in July 2019;
2) The study ignores the fundamental disputes in the doctrine (e.g. those concerning the *Numerus Clausus* Principle of securities), in order to focus on practical economic aspects;

3) The study only contributes to the description of the matter and does not aspire to exhaust the topic. The authors assume that it should start a legal discussion about tokenization of financial instruments under Polish law.

2.1. Issuance of bonds in the form tokens

The issuance of bonds in the form of tokens will basically consist in reflecting a financial instrument (issued in accordance with the Bonds Act) in a distributed system. At this point, the reflection of all the features of bonds should be considered:

1) Relationship of the bonds to property rights – the ownership of the token, or the transfer of this ownership, must be related the ownership / transfer of the property right,
2) Transferability of bonds – the transfer of the token to a new holder must entail the transfer of ownership of the bond (see below: sections on registration in the securities depository and on secondary trading)
3) In-cash or in-kind form of the benefit provided by the issuer to the bondholder – the system must ensure identification of entities entitled under the bonds, and must provide a process for distributing the benefits.

2.2. 'Life cycle' of bonds

This study adopts a method that consists in: discussing the individual stages of the 'life cycle' of bonds, and checking how it would be possible – in practice, at individual stages – for bonds to function in the form of tokens. The following stages or significant events in the 'life cycle' of bonds have been singled out:

1) Determination of the form of the bonds;
2) Entry in the records;
3) Role of the issuance agent;
4) Obligatory dematerialization and registration of the bonds in the securities depository;
5) Public offering of the bonds in the form of tokens;
6) Collection of data about the issuers of the bonds;
7) Object of the benefit;
8) Transferring the rights attached to the bonds;
9) Secondary trading;
10) Meeting of bondholders;
11) Payment of interest (coupons);

12) Redemption of bonds;

13) Settlement of withholding tax;

14) Enforcement of rights attached to the bonds.

They are discussed below.

2.2.1. Form of bonds

On 1 July 2019 – as a result of the Act on amending certain acts in connection with the strengthening of supervision over the financial market and investor protection in this market – the amended regulations came into force thus introducing obligatory dematerialization of bonds. The only acceptable legal form for newly issued bonds is an entry in the deposit system operated by the Central Securities Depository of Poland (KDPW) or – if, pursuant to Article 49(1) of Regulation 909/2014 (CSDR), the issuer intends to register the securities in another registration system – an entry in that other system (both ledgers are hereinafter jointly referred to as the "KDPW/CSDR deposit system").

In the context of the above-mentioned requirements, tokenization can be achieved in two ways:

1) ensuring that the KDPW/CSDR deposit system has the features of a distributed system that provides all the benefits of tokenization mentioned herein, or

2) parallel registration in the KDPW/CSDR deposit system (in order to meet the requirements of the Bonds Act) and in the distributed system (in order to ensure the benefits of tokenization).

Option (1) listed above corresponds to the concept of primary tokenization of bonds, whereas option (2) corresponds to secondary tokenization of bonds, within the meaning that has been adopted for the purposes of this study.

2.2.2. Entry in the records

2.2.3. Issuance agent in the context of tokens

2.2.3.1. Obligation to conclude an agreement with an issuance agent

Pursuant to the Trading Act, an issuer of bonds, with regard to which the issuer does not intend to apply for admission to trading on a regulated market or for introduction into a multilateral trading facility (MTF), before concluding the agreement on the registration of these securities in the securities depository, is obliged to conclude an agreement on the performance of the function of the issuance agent for these securities with an investment company that is authorized to keep securities accounts, or with a trust bank. The agreement

on the performance of the function of the issuance agent is concluded before starting to propose that bonds be acquired.

The issuance agent seems to be an indispensable and most suitable candidate to carry out (or at least to begin) primary tokenization of bonds. Issuance of bonds is, by nature, a centralized process because bonds are issued by a particular issuer. Therefore, nothing prevents another central entity, such as the issuance agent, from playing an important role in the process of bonds tokenization. Once the statutory obligations have been fulfilled (see below), the issuance agent could initiate the process of tokenization, e.g., by using distributed ledgers in the structure of the records of persons entitled under the bonds.

Another interesting aspect is the question whether a larger number of issuance agents is acceptable (which would be imaginable if this task was allocated to several participants in a decentralized system). In such a case, it should also be determined what would be the relations and division of responsibilities between these entities. It is conceivable that records are kept in parallel by several entities acting as issuance agents.

2.2.3.2. Duties of an issuance agent

The duties of an issuance agent include:

1) verifying that the issuer meets the legal requirements for the issuing of securities;
2) verifying conformity of the issuer's actions with the legal requirements for the offering of securities;
3) verifying that the securities and their issuer meet the conditions for registration in the securities depository as defined in the terms and conditions of the Central Securities Depository of Poland (KDPW), and, also, that KDPW's adopted rules for the handling of the fulfilment of the obligations of the issuers ensure the possibility of proper fulfilment of the obligations attached to the securities;
4) creating records of persons entitled under the securities;
5) concluding – on behalf of the issuer – an agreement on the registration of securities in the securities depository, as well as providing the issuer with necessary help with determining and preparing the documentation necessary for concluding this agreement.

At this stage, the issuance agent seems to be the most suitable entity to play an important role in the process of primary tokenization of bonds. Regulations do not specify the form of records kept by the issuance agent, so it is possible to imagine their functioning with the use of the distributed ledger technology. However, due to the *de facto* temporary form of records described below, bonds tokenization that is based on records makes limited sense.

2.2.3.3. Constitutive records of entitled persons

As mentioned above, an issuance agent is obliged to create records of persons entitled under the bonds. Not only are such records supposed to reflect the entitled persons themselves, but also an entry in such records is supposed to have a constitutive effect on the creation of the bond as a security. As a rule, an entry in the records is the carrier of the bonds only until they get registered in the Central Securities Depository of Poland (KDPW) (the issuance agent is obliged to submit an application for the registration of bonds within 2 business days of the date on which the records are created, but secondary trading in bonds may be effectively carried out during this period). Therefore, the records kept by the issuance agent have a largely temporary nature, which calls into question the sense in carrying out tokenization of bonds using this institution.

2.2.3.4. Entries of bonds in the issuance sponsor's account at KDPW

From the moment the bonds are registered in the securities depository, the entries in the records (kept by the issuance agent) of persons entitled under those securities have legal effects connected with entry in securities accounts. This means that acquirers of bonds in primary trading do not need to have individual securities accounts, and their rights will be reflected in the deposit system. However, in such a case, i.e., in a situation where bonds are left in the form of entries in the account of the issuance agent (in the Central Securities Depository of Poland this will be the account of the so-called issuance sponsor), secondary trading in the bonds within such an account will not be possible. The investor will only be able to issue a bonds disposal order, but the possibility of the transfer of bonds will depend on whether the acquirer of the bonds has an individual securities account.

2.2.4. Obligatory dematerialization and registration of bonds in the securities depository vs. tokens

2.2.4.1. The concept of dematerialization

First, it ought to be noted that, according to the Financial Instruments Trading Act, dematerialization of securities in the Polish legal system means no form of a document from the moment of registration of securities in the securities depository kept by the Central Securities Depository of Poland (KDPW). Therefore, a security that does not have the form of a document but is entered in the records kept by the entity authorized to do so based on the provisions of the Act cannot be considered as a dematerialized security. Such a security is a security that has a form which is intangible but less formalized than the form of book-entries in the deposit system.

Primary tokenization of bonds fulfils the basic point of dematerialization, i.e., separation of a security from its traditional paper form. At the same time, however, the set of rights that is made up by the security gets linked to a token functioning within a distributed ledger.

2.2.4.2. Deposit system

The essence of the deposit system is that securities are entered at the highest level of records at KDPW, in record accounts kept for participants in KDPW, investment firms and banks that keep securities accounts, and then reflected in the securities accounts of the holders of those securities, kept by those investment firms and banks. Therefore, the conclusion of an agreement transferring the ownership of a dematerialized security will always require appropriate entries in the securities accounts of the disposer and of the acquirer of that security, and the transfer of ownership will happen only when such entries are made. In practice, such a formalized two-level system of securities records seems to rule out the possibility of bonds tokenization within the existing deposit system.

2.2.4.3. Obligatory registration in the deposit system

According to the amended Article 8 of the Bonds Act, bonds cannot take the form of a document, and they are subject to registration in the securities depository. According to the Financial Instruments Trading Act, the securities depository means the system of registration of dematerialized securities operated by the Central Securities Depository of Poland (KDPW), which system includes securities accounts, summary accounts, and deposit accounts kept by entities authorized to do so. The rights attached to such bonds are created when they are first entered in a securities account, and are vested in the person who is the holder of that account.

In the context of a distributed system in which ownership transfer operations are carried out (see the "Secondary trading" section below) this means that ownership transfer operations in the distributed system should be reflected in KDPW – each transfer of ownership must be registered in the securities depository in order to be effective. What is more, the following matter should be analysed: the process of transferring information from the distributed system to KDPW, and the relations between KDPW and participants in the system (with whom does KDPW have an agreement?). In practice, this means that – in the current legal situation – primary tokenization of bonds could only be carried out taking into account the role assigned by regulations to KDPW (alternatively, to another CSD).

2.2.4.4. Creation of rights attached to bonds

From the date on which the amendment to the Act entered into force, the rights attached to bonds – with regard to which bonds the issuer does not intend to apply for admission to trading on a regulated market and for introduction into an MTF – are created at the moment of making an entry in the records of entitled persons kept by the issuance agent, and are vested in the persons indicated in those records as persons entitled under those securities. In the case of other bonds, i.e., bonds which, according to the issuer's will, are supposed to be traded on an organized market, if the issuer does not decide to conclude an agreement on the performance of the function of the issuance agent for these securities with an entity that

is authorized to do so, then the rights attached to such bonds will be created only in connection with their registration at KDPW, i.e., once they have been entered for the first time in the securities account, and will be vested in the person who is the holder of this account.

Summing up the legal situation after 21 July 2019, it should be concluded that a bond may only take an intangible form: either as an entry in records kept by the issuance agent (until it is registered in the deposit system), or as an entry in a securities account (within the meaning of the regulations on financial instruments trading) from the moment it is registered in that system.

2.2.5. Public offering of bonds in the form of tokens

2.2.5.1. Application of public offering regulations to the issuance of bonds in the form of tokens

Due to the requirement to dematerialize bonds pursuant to art. 8 para. 1 of the Bonds Act, expression of bonds in the form of tokens is allowed subject to the restrictions indicated in this study that are connected with the obligation to enter bonds in the KDPW/CSDR deposit system. For this reason, issuance of tokenized bonds should happen as provided for by Polish and EU laws concerning securities. Article 33 of the Bonds Act clearly stipulates that issuance of bonds may take place:

1) by way of public offering,
2) by proposing that bonds be acquired, without carrying out public offering.

If a token can be classified as a security (and, more specifically, as a bond), then it should be considered a transferable security within the meaning of the MiFID2. As a result, the offering of acquisition of bonds in the form of tokens may be subject to regulations on public offering.

According to Article 2(d) of the Prospectus Regulation, a public offer is *a communication to persons in any form and by any means, presenting sufficient information on the terms of the offer and the securities to be offered, so as to enable an investor to decide to purchase or subscribe to these securities*. A public offer of tokens, which tokens may qualify as bonds under the law, should be qualified as a public offer. The provisions of the Public Offering Act may also apply to trading in tokens in a situation where the tokens have already been issued and their offering by the current holder meets the criteria of a public offering within the meaning of the regulations.

2.2.5.2. Requirement to prepare a prospectus for the issuance of tokens

If the offering of acquisition of tokens meets the conditions for a public offer, then, in principle, there is a requirement to draw up a prospectus. However, this obligation is excluded in certain cases defined in the Prospectus Regulation. When the drawing up of a

prospectus is not required, other informational obligations may apply (e.g. the obligation to draw up an information memorandum). And, in a situation where the provisions of neither the Offering Act nor the Prospectus Regulation apply to the offering of bonds, the Polish Financial Supervision Authority (UKNF) confirms the acceptability of making an offer regarding an acquisition of bonds solely on the basis of the acquisition proposal, pursuant to art. 33 para. 2 of the Bonds Act.

2.2.5.3. Contents of the prospectus

The contents of the prospectus are basically the same for a public offer of 'traditional' bonds and of bonds in token form. To the extent required by law, the prospectus should also contain a summary.

If a summary is drawn up, then, pursuant to Article 7(7)(d) of the Prospectus Regulation, it must include a brief description of the most material risk factors specific to the securities, under a sub-section entitled "*What are the key risks that are specific to the securities?*". In this case, the entity that is drawing up the prospectus should consider including – in the summary – information about any possible technological risks arising from the fact that bonds are issued in token form.

2.2.5.4. Approval of the prospectus

Publication of the prospectus is subject to its prior approval by the competent authority (Article 20(1) of the Prospectus Regulation). In this context, it is worth quoting the position of the German financial supervisory authority BaFin, in the light of which a public offer that has an internal nature (to acquirers who are residents in Germany) falls within the competence of BaFin[1]. According to BaFin, an unlimited public offer on the Internet is basically addressed to persons all over the world and, therefore, the obligation pertaining to the prospectus exists also in Germany[2]. In the case of an offer that does not have an internal nature (to acquirers who are residents in Germany), the requirement of a prospectus may arise from foreign legislation for which the relevant foreign authorities are responsible[3].

Publicly available information suggests that BaFin has already approved the second prospectus for public offers of securities in token form in Germany, and that securities prospectuses concerning more public offers of securities in token form are currently being analysed by BaFin. Interestingly, the first prospectus approved by BaFin concerned an instrument designed as a registered bond („*Namensschuldverschreibung*"), i.e., as an investment ("*Vermögensanlage*"), but, after the transfer to a blockchain, the possibility of trading that instrument on the financial market increased significantly[4]. As a result, such

[1] Merkblatt, Zweites Hinweisschreiben zu Prospekt- und Erlaubnispflichten im Zusammenhang mit der Ausgabe sogenannter Krypto-Token,
GZ: WA 51-Wp 7100-2019/0011 und IF 1-AZB 1505-2019/0003, BaFin, 16/08/2019, p. 9.
[2] *Ibidem.*
[3] *Ibidem.*
[4] BaFin, 15/04/2019
https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Fachartikel/2019/fa_bj_1904_Tokenisierung.html

tokenized instrument had to be classified as a *sui generis* security[5]. Consequently, the issuer did not have to draw up a sales prospectus, but rather a securities prospectus.

2.2.6. Collection of data about the issuers of bonds vs. tokens

2.2.6.1. KDPW's obligation to collect data

Pursuant to the Trading Act, the Central Securities Depository of Poland (KDPW) is obliged to collect and make publicly available information about unredeemed bonds, mortgage bonds, and investment certificates issued by individual issuers who have their registered offices in the territory of the Republic of Poland, information about the amount of their obligations under those securities, as well as information allowing to determine the scope and timeliness of their fulfilment of those obligations.

2.2.6.2. Scope of collected data

In connection with the above, KDPW collects the following information about those securities – from issuers that are participants in KDPW, as well as from issuers that register bonds in a registration system other than that of KDPW:

1) designation of the issuance,
2) number of bonds issued in this issuance,
3) nominal unit value of the bonds and the currency in which this value is expressed,
4) interest rate on the bonds in an annual perspective,
5) total value and currency of the benefit to be fulfilled by the issuer upon redemption of the bonds,
6) time limits within which the issuer should fulfil the benefits attached to the bonds;

In addition, the issuer is obliged to provide, within 15 days of the end of each subsequent month, information about the value of benefits resulting from securities which became due that month, indicating whether and to what extent those benefits have been fulfilled, as well as to update any information about issued bonds if it is no longer true.

It is highly likely that at least some of the above data could become subject to entering in a distributed ledger in a way that allows trading participants to verify the nature and status of the bonds on an ongoing basis.

2.2.7. Object of the benefit

Pursuant to art. 4 para. 1 of the Bonds Act, a bond is a security issued in a series. In this security, the issuer states that the issuer is a debtor to the owner of the bond (the bondholder) and undertakes to provide a specific benefit to the bondholder. The benefits resulting from bonds, the manner of their fulfilment, and the rights and obligations of the

[5] *Ibidem.*

issuer and of the bondholders related thereto, are determined in the terms and conditions of the issuance, which ought to be drawn up in the Polish language in the form of a consolidated document (art. 5 para. 1–2 of the Bonds Act). The terms and conditions of the issuance include, in particular, a description of the benefits provided by the issuer under the bonds, the amount of such benefits or the manner in which this amount will be determined, the date, place, and manner of their fulfilment, as well as the dates as of which the persons eligible for the benefits are determined (art. 6 para. 1 item 6 of the Bonds Act).

The Bonds Act does not restrict the type of benefits to which the issuer of bonds may decide to become obliged. In the practice of trading, there are both classic cash bonds and in-kind bonds (e.g. participating bonds that grant bondholders the right to participate in the issuer's profit [Article 18 of the Bonds Act], and convertible bonds that entitle the bondholder to take up shares issued by the company in exchange for these bonds [Article 19 of the Bonds Act]). Thus, bonds result in a relationship of obligation, where the issuer undertakes to fulfil a specific benefit within a specific time limit – an in-cash benefit (in the case of cash bonds), or an in-kind benefit (in the case of in-kind bonds), whereas the bondholder, who takes up the bonds, fulfils a benefit of a monetary nature, i.e., gives the issuer a specific sum of money[6]. Because of this, the issuer remains a debtor, whereas the original bondholder and their every legal successor is a creditor, i.e., is entitled to receive the benefit provided by the issuer[7].

Traditionally, a bond had a written form, its carrier was a document (paper), while the contents of the legal relationship between the issuer and the bondholder were the rights and obligations incorporated in the bond (obligations which were created upon issuance[8]). With time, the issuing of and trading in dematerialized bonds were allowed. The rights and obligations incorporated in such bonds remained the same as in the case of traditional bonds. However, the permissible form and carrier of information were changed, as the rights attached to bonds that did not have the form of a document were created at the moment of making an entry in the records (art. 5a para. 2 of the 1995 Bonds Act), and, what is more, they could also be registered in the securities depository kept in accordance with the provisions of the Financial Instruments Trading Act (art. 5a para. 6 of the 1995 Bonds Act). Finally, as a result of the changes established under the Investor Protection Act[9], a compulsory dematerialization of bonds was introduced. At present, they cannot take the form of a document (art. 8 para. 1 of the Bonds Act) and are subject to registration in the KDPW/CSDR

[6] In the context of the Bonds Act of 29 June 1995 (Journal of Laws 1995, No. 83, item 420, as amended), Marek Michalski, Dojście emisji papierów wartościowych do skutku na przykładzie emisji obligacji, Zeszyty Prawnicze UKSW 11.2 (2011), p. 18. https://czasopisma.uksw.edu.pl/index.php/zp/article/view/966/993
Although it is worth pointing out that the current Bonds Act does not stipulate *expressis verbis* that the bondholder's obligation absolutely must have a monetary nature.

[7] *Ibidem,* p. 20.

[8] In the context of the 1995 Bonds Act, it was rather assumed that a bond had the nature of a declarative security (Marek Michalski, *Dojście emisji papierów wartościowych do skutku na przykładzie emisji obligacji*, "Zeszyty Prawnicze UKSW" 11.2 (2011), pp. 21 and 22). The author also points out that declarativeness of bonds means a state where a right incorporated in the document arises independently of this document, while its legal existence is not conditional on the validity of the document itself.

[9] Act of 9 November 2018 on amending certain acts in connection with the strengthening of supervision over the financial market and investor protection in this market (Journal of Laws 2018, item 2243, as amended; hereinafter referred to as the Investor Protection Act).

deposit system (art. 8 para. 2 of the Bonds Act). The explanatory memorandum to the draft of said Act indicates that the purpose of the changes was the obligatory dematerialization of, inter alia, corporate bonds, regardless of whether they were subject to a public offer or intended for trading in any kind of trading system[10]. However, the essence of rights and obligations attached to dematerialized bonds under the applicable regulations remained unchanged.

The situation would be similar in the case of tokenization of bonds if we were to assume that in the current or in the changed future legal environment it is or will be possible to issue bonds in the form of tokens. The contents of bonds will remain unchanged because the legal relationship incorporated in a bond will continue to consist of similar rights and obligations (i.e. the same type of obligations) to those of a 'traditional' bond. As a rule, tokenization of a bond remains neutral to the contents of the rights and obligations attached to such a security. Only the technology and the way in which the bond is recorded are changed.

Obviously, issuance of bonds in the form of tokens may entail new problems. For example, the moment determining the effectiveness of the issuance (the moment of creation of obligations attached to bonds) will need to be determined, i.e., whether it will be the moment of 'creating' the token or, for example, the moment of allocation (acceptance of the proposal to take up bonds). Another aspect that will need to be determined will be the moment of acquisition of rights attached to bonds in the case of secondary trading.

The above line of thought is confirmed by the Polish doctrine which suggests that a token is nothing more than an entry in a blockchain that can function within and outside of 'smart contracts'[11]. Thus, in legal terms, it is not some revolutionary, previously unknown legal instrument – at best, it is a new carrier of a legal instrument[12]. In turn, *Security Tokens* are tokens that reflect the state of rights, precious metals, and other financial/investment instruments[13].

Looking into the future and noticing the rapid rate of development of new technologies, one might suppose that within a few dozen years (or maybe even sooner) another, completely new (unknown today) technology of recording information will emerge. However, the type of technology used will generally be irrelevant to the very contents of rights or obligations (commitments) attached to bonds. This will be the case regardless of whether the recording takes place in the form of paper, a document, a token, or with the use of any other technology, even if today it is unknown or does not exist yet. The essence of the rights incorporated in a bond, regardless of how they will be created, will depend on the provisions of the applicable regulations as well as declarations of will made by the issuer and bondholder (or secondary acquirers). The only obstacle to the use of a given form for the

[10] Explanatory memorandum to the Draft Act on amending certain acts in connection with the strengthening of supervision and investor protection in the financial market (Sejm paper No. 2812, 8th term), p. 6. http://orka.sejm.gov.pl/Druki8ka.nsf/0/94A578539C5F60BBC12582FF0029D555/%24File/2812.pdf

[11] Dariusz Szostek, *Blockchain a prawo*, Monografie Prawnicze, C.H.Beck, 2018, p. 130.

[12] *Ibidem*, p. 131.

[13] *Ibidem*, p. 130.

mentioned type of legally relevant activities (conventional activities) – apart from any potential technological limitations – may be the regulations stipulating that it is unacceptable or requires a specific form of bonds.

2.2.8. Transferring the rights attached to bonds in the form of tokens

The ease with which tokens can be traded in a distributed ledger, and the possibility of transferring tokens in a way that does not require intermediaries (peer-to-peer) are some of the most frequently quoted advantages of using the blockchain technology in the context of trading in financial instruments. At the same time, it can be assumed that such trading, even in a permissionless environment, could fulfil regulatory requirements thanks to incorporating relevant rules or trading limitations into the token's code.

In the following comments, in accordance with the reservation made at the beginning of this study, we omit the civil-law aspects of the transferring of rights attached to securities. We assume that any civil-law doubts can be dispelled, and we focus on the regulatory aspects of the matter.

Pursuant to the applicable regulations, until bonds are registered in the securities depository:

3. the agreement obliging to transfer these securities, transfers them as soon as an entry is made in the records of entitled persons kept by the issuance agent, who indicates the acquirer and the number of securities acquired by him/her;
4. in the case where these securities have been acquired on the basis of a legal event statutorily resulting in their transfer to the acquirer, the issuance agent makes an entry in the records of persons entitled under these securities at the acquirer's request.

In the Act, there are no other requirements concerning the effectiveness of entries made in the records. After the bonds have been registered in the securities depository, the creation and the transfer of rights attached to the bonds are subject to the provisions of the Financial Instruments Trading Act pertaining to rights attached to dematerialized securities. This means that the bonds become a part of the general system for the transferring of dematerialized securities, in which a security is effectively transferred upon making an appropriate entry in the a securities account, with the participation of classic intermediaries in this system. Primary tokenization of bonds would therefore require assigning a role in the system to these entities, which would probably nullify one of the main advantages of tokenization, namely, the disintermediation of trading in financial instruments.

2.2.8. Secondary trading

Pursuant to the Financial Instruments Trading Act, secondary trading in tokens may occur in a trading system (regulated market, MTF or OTF) or outside of it. Trading in a trading system means, inter alia, the need for the entity operating this system to obtain a permit for conducting such activity (in the context of a distributed ledger, it is important who would be considered to be such an entity, especially in the case of a permissionless ledger); moreover, trading in a trading system entails additional requirements for secondary trading, inter alia, those related to post-trade transparency (Article 21 of the MiFIR) and market abuse prevention (MAR). On the other hand, in the case where the system (in which secondary trading is conducted) is not considered to be a "trading system" within the meaning of the Financial Instruments Trading Act, secondary trading will be conducted based on bilateral transactions (an "OTC market") and will not be subject to the above-mentioned requirements. This is why classification of the system in which secondary trading in tokens will be conducted is of fundamental importance – this classification will largely depend on the actual implementation of the system, its functionality, and operating principles. This classification should be considered, inter alia, in the context of analysis of activities leading to the transfer of ownership: e.g. is there an entity that can be indicated as the "trade-matching" entity? (potentially, one might say that a permissioned system rather increases the likelihood of a positive answer to this question), can the events that lead to the transfer of ownership be treated as "matching"?. It seems that at this point we could also consider the concept of "decentralized exchanges", which in some jurisdictions are not covered by the requirements for 'classic' trading systems.

Regardless of the classification of the system (so, also in the case of an "OTC market"), it is important to ensure a certain transparency of demand and supply (possibly, in the pre-trade phase, on an anonymous basis), an efficient trade-matching process (probably on a decentralized basis; the efficiency of this process is particularly important in the case of a system operating based on bilateral transactions, OTC), as well as to execute an efficient process of price formation.

A key issue that should be considered in the context of secondary trading is the scalability and efficiency of the system in which secondary trading is conducted. This is particularly important in the case of highly liquid bonds, which involve a large number of secondary market transactions and, therefore, a larger size of the blockchain file. This will translate into, e.g., the structure and topology of the network (number of nodes, permissioned/permissionless etc.). The system should not – due to its technological limitations – block the increase in liquidity, because liquidity has a direct impact on the price formation process and reduction in transaction costs (e.g. the spread).

In conclusion, if a secondary trading market were to be created in a distributed ledger where it would be possible to trade in tokenized bonds, it would be necessary to resolve the doubts about the regulatory status of such a market in the context of regulated investment services.

2.2.9. Meeting of bondholders

The facultative meeting of bondholders provided for in the Bonds Act may become a useful tool for cooperation and communication between the issuer and bondholders. Regulations relating to the meeting of bondholders, including the place of the meeting, voting, proxies, attendance list, minutes, etc. quite clearly suggest that a meeting of bondholders may only take place in physical form. So, in practice, it is not possible to hold a fully functional meeting of bondholders using a means of distance communication. While communication between the participants in a meeting of bondholders could happen using popular tools, more problems could be posed by remote decision-making. Primary tokenization of bonds could potentially solve this situation. This is thanks to the fact that tokens which function in distributed ledgers are also often used for various kinds of voting, and a token itself could be used to demonstrate the entitlement to participate and make decisions from a distance.

2.2.10. Payment of interest (coupons)

Bonds, especially those with a longer maturity period, usually provide the bondholders with payments of interest at specific time intervals (monthly, quarterly, yearly). A single payment of interest constitutes a so-called coupon. The characteristic features of a coupon are the amount of the payment, the date on which the rights to the coupon are determined (the right is granted to bondholders who are holding the bond on a specific date), and the date of payment of the coupon. The value of the coupon may be known in advance (fixed-interest bonds) or may depend on market variables (interest rates, inflation rate, etc.). From the perspective of a bondholder, it is desirable for payment of interest to be made in a timely and, if possible, automatic manner, without the need for taking additional actions such as reporting the coupon for payment. In the case of bonds in the form of tokens, such payments could be made in several ways:

- → by the issuer repurchasing additional dividend tokens, which should accompany the relevant bond tokens from the moment they are issued (this applies to fixed-interest bonds). In this case, the interest coupons could also be traded on their own in the period from the issuance to the payment of interest;
- → by issuing additional dividend tokens and distributing them – on the date of determining the rights to interest – to the wallets in which the relevant bond tokens are recorded. Such tokens would then be redeemed by the issuer on the coupon payment date.
- → by generating a payment in an external payment system through a smart contract, in an amount which can also be based on external indicators (variable-interest bonds). One might expect that the APIs available in connection with the implementation of the PSD2 will enable this solution.

2.2.11. Redemption of bonds

The redemption of bonds (much like the settlement of transactions on the secondary market and the repurchase of 'coupon tokens' by the issuer) should be carried out in accordance with the DvP rule, which means that the benefit should be fulfilled simultaneously with and on condition that the bond token is returned to the issuer. In order to ensure such an operation, a payment method should be used that allows the simultaneous transfer of the token in exchange for payment (the so-called "atomic swap"). Consideration should therefore be given to the use of electronic money (including the so-called "stablecoins"), other tokenized assets (e.g. electronic bills of exchange / cheques), and payments using the PSD APIs.

2.2.12. Settlement of withholding tax

Income from the payment of interest as well as from the discount on the purchase of bonds on the primary market (especially in the case of zero-coupon bonds, this is the difference between the purchase price and the redemption price) is subject to personal income tax (19% flat rate) or corporate income tax (20% flat rate). The tax is collected by the remitter and paid to the relevant tax office. The remitter is the issuer or the entity which keeps the securities account or the records of bonds that do not have the form of a document. It should be investigated whether – in the case of tokenized bonds – the remitter will be the issuer or the entity which keeps the records of bonds in the blockchain. In any case, both the payment of a coupon and the redemption (for bonds acquired at a discount) must be accompanied by a reduction in the amount of the payment by the amount of the due tax. The amount of tax differs for legal persons and natural persons and – what is more – subjective and objective exceptions may apply when determining the amount of tax. For example, in the case of cross-border payments, the amount of tax should be reduced in accordance with the provisions of the double taxation convention. However, in order to apply the reduced rate, a number of statutory conditions must be met, which is why (at least in the initial period of the project) the "pay and refund" principle will certainly apply, according to which withholding tax will be collected (by the remitter) at the full basic flat rate, with the bondholder later being able to recover the overpaid tax directly from the tax office. As a minimum, for the calculation and subsequent payment of the flat-rate tax, it is necessary to distinguish whether the bondholder is a natural or legal person. The process of settlement of the payment of interest or redemption should at least provide the remitter with the information necessary for settling up with the tax office. Ideally, the payment of the tax could be made automatically according to a model similar to that of the VAT split-payment.

2.2.13. Enforcement of rights attached to bonds

The problem of enforcement of rights in the context of tokenized bonds should be considered on two levels. Firstly, from the perspective of a bondholder pursuing his/her claims from the issuer and, secondly, from the perspective of a creditor pursuing his/her claims from the bondholder and wishing to receive the owed amounts from the bondholder.

Since this study focuses on the 'life cycle' of bonds, matters related to a bondholder pursuing claims from the issuer will be discussed.

The Bonds Act stipulates that the issuer is liable – with all of the issuer's assets – for the obligations attached to bonds (Article 13 of the Bonds Act), and that claims arising in this respect, including claims for periodic benefits, expire after 10 years (Article 14 of the Bonds Act). The Issuer may establish collateral for the owed amounts attached to bonds, or may undertake to establish such collateral or additional collateral in the future (art. 6 para. 2 item 5 of the Bonds Act).

The difficulty faced by a bondholder intending to pursue claims from the issuer of tokenized bonds will consist in the fact that the rights attached to the bonds will not be reflected in the form of a traditional document. The advancing computerization of business transactions poses a major challenge for civil proceedings which, to a large extent, are conducted based on traditional evidence in the form of private or official documents. The 2015 amendment to the Civil Code and to the Code of Civil Procedure[14] introduced provisions that additionally define the legal framework for the pursuit of claims arising from contracts (rights) reflected in the form of computerized entries, including tokens.

First of all, in the Civil Code[15], a definition of a document was introduced, according to which it is a carrier of information that allows to get acquainted with the contents of such information (Article 77^3 of the Civil Code). A question arises: to what extent can the blockchain technology be treated as a carrier of information? The doctrine indicates that the carrier can be of any kind, i.e., is technologically neutral – examples of such carries include servers, portable disks, USB memory sticks, but also a computing cloud that allows to reproduce information[16]. It is indicated that a document altogether consists of two elements, i.e. information that is reproducible, and a carrier (information without a carrier or carrier without information are not a document)[17]. Information can be recorded on multiple carriers, each of which may contain only a part of the information, whereas the readout and reproduction of this information will happen with the use of appropriate software that imports data from these carriers[18].

According to the Civil Code, in order to maintain the document form of a legal action, it is sufficient to make a declaration of will in the form of a document, in a way that makes it possible to identify the person making the declaration. This raises a question about the means of evidence in civil proceedings that could be used to enforce rights attached to bonds in the form of tokens.

[14] Act of 10 July 2015 amending the Civil Code Act, the Code of Civil Procedure Act, and certain other acts (Journal of Laws 2015, item 1311, as amended).
[15] Civil Code Act of 23 April 1964 (Journal of Laws 1964, No. 16, item 93, as amended).
[16] G. Stojek [in:] Fras Mariusz (ed.), Habdas Magdalena (ed.), *Kodeks cywilny. Komentarz*. Volume I. Część ogólna (art. 1–125), Published by: WKP 2018, commentary on art. 77^3.
[17] T. Ereciński (ed.), *Kodeks postępowania cywilnego. Komentarz*. Volume II. *Postępowanie rozpoznawcze*, rev. V, commentary on art. 243^1.
[18] *Ibidem*.

The definition of a document contained in the Civil Code does not fully match the concept of a document under the Code of Civil Procedure.[19] The provisions that govern the bringing of evidence from documents apply only to documents that contain text and make it possible to identify their issuers (Article 243^1 of the Code of Civil Procedure). This concerns documents drawn up both in traditional (paper) form and in electronic form[20]. However, even if it were to be considered that an electronic entry presented as evidence does not constitute a document within the meaning of Article 243^1 of the Code of Civil Procedure or a private document within the meaning of Article 245 of the Code of Civil Procedure, this should not preclude the possibility of bringing such evidence. In such a case, the legal basis for the court's work should be Article 308 of the Code of Civil Procedure (documents other than those referred to in Article 243^1 of the Code of Civil Procedure, to which the provisions on evidence from a visual inspection and evidence from documents apply accordingly) or Article 309 of the Code of Civil Procedure (other means of evidence – in such a case, it is left to the court to determine the manner of the bringing of evidence depending on its nature, applying the provisions on evidence accordingly). Additionally, the bringing of other evidence may be considered, in particular evidence from an expert opinion.

A solution that hypothetically could strengthen the procedural position of a bondholder would be the adoption of instruments that would provide for the possibility of issuing a confirmation of the bondholder's rights attached to the bonds, by the entity responsible for keeping the database storing the tokenized bonds. Such confirmation could function in business much like a deposit certificate, and could take the form of a private document that enjoys a presumption of authenticity.

A judicial decision confirming a bondholder's claim under a tokenized bond will allow him or her to apply for enforcement. The type of enforcement will depend on the type of the benefit to be enforced by the debt collector. However, the form of the bond based on which the bondholder obtains the instrument permitting its enforcement remains irrelevant to the enforcement proceedings themselves.

3. Conclusion

The most important deduction from the above considerations is that it is not possible to apply primary tokenization of bonds (within the meaning that has been adopted for the purposes of this study) in the current legal situation. The amendments made in Poland in July 2019 to the Bonds Act and to the Financial Instruments Trading Act – primarily consisting in the selected method for departure from the documented (i.e. classic, paper) form of bonds in favour of obligatory dematerialization – practically eliminate the possibility of giving a bond the form of a token in a way allowing to fulfil a complete 'life cycle' of the bond.

[19] Code of Civil Procedure Act of 17 November 1964 (Journal of Laws 1964, No. 43, item 296, as amended).

[20] T. Ereciński (ed.), *Kodeks postępowania cywilnego. Komentarz*. Volume II. *Postępowanie rozpoznawcze*, rev. V, commentary on art. 243^1.

By no means does this mean that dematerialization (broadly defined as departure from documented, paper form of securities in favour of digital entries) is in contradiction with the idea of primary tokenization. This is due to the fact that, in the broadest possible sense, tokenization is simply a kind of dematerialization using a specific "carrier" of a security – a token functioning in a distributed ledger.

Therefore, the obstacle to primary tokenization in Poland is not the obligatory dematerialization of bonds as such (introduced in July 2019) but rather its specific, centralized model in which KDPW (alternatively, another central securities depository) plays the most important role. So, in practice, primary tokenization of bonds could only be possible in a scenario where KDPW would implement an appropriate IT system based on a distributed ledger, although even then issues related to, e.g., secondary trading in bonds in the form of tokens, would remain to be resolved. But this would not be an optimal solution because the sense in the current regulations is to centralize the offering of and trading in bonds, which does not necessarily go hand in hand with the philosophy of distributed systems (even though, if properly implemented, they may constitute IT systems that are no less secure, transparent, and accountable).

At this point, it is worth mentioning that regardless of the very phenomenon of tokenization or its evaluation, it is clear that the digitalization of financial markets will continue. Creation of rigid legal models based on the existing technological and market realities certainly does not serve development of innovation in capital markets and does not fit in well with the objectives declared in the Capital Market Development Strategy.

Consequences and further steps

The state of affairs described above primarily results in depriving market actors (startups, but also – and perhaps most importantly – regulated institutions) of the ability to plan and implement innovations based on primary tokenization. The tokenization trend is a new phenomenon, which will only be fully assessable in the future, but which already cumulates many activities related to offering of and trading in securities, mainly in developed markets such as the US.

Due to the Polish model for dematerialization of bonds implemented in July 2019, the Polish capital market cannot fully benefit from said trend. This is all the more significant since the Bonds Act is sometimes considered to be a relatively convenient legal system, and before the amendment to the legal situation, bonds themselves were – in the opinion of many market experts – the security most suitable for testing various models of tokenization.

The 'door' to primary tokenization of bonds in Poland should be opened through legislative changes. These would not have to assume complete abandonment of the regulatory reform that came into force in July 2019. This study may serve as a starting point for works on changing the legal situation in such a way as to enable development of innovations related

to security tokenization while maintaining the significant values of the capital market (investor protection, transparency, safety of trading).