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## The Tokenisation of Real Estate: Comparative Perspectives

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### Abstract

Blockchain innovation permits virtual disintermediation and automatization of property exchanges, which might aid plan future stages, planning to encourage cross-border exchanges inside the EU and around the world. Accordingly, clients of these blockchain-based stages may rely on “digital tokens” representing rights on “real world” assets. By exchanging a computerized token, the parties point to exchange the ‘ownership’ or other property rights represented by the token without the ‘mediation’ of public notaries, real estate agents and, more generally, lawyers.

However, this modern innovative apparatus raises a number of questions within the field of private law in both civil law and common law countries, such as the legitimate nature of the token, how the viable exchange of the property rights works or how possession rules may be connected in this decentralized environment.

In light of the above, this paper addresses these issues by relying on a comparative law methodology and, particularly, it examines the tokenisation of immovable property. In fact, tokenisation has been theorised (and also tested in some common law countries) for the real estate market, with the transposition - and often fractionalization - of the ownership of a “real estate” into the digital world and then being able to transfer it through the blockchain. Indeed, while providing some practical benefits, this operation clashes with the complexity of real estate transactions (regardless of the assessments regarding the need for an authentic or public form), in which the asset that is transferred is not always the same and opens interesting research questions about our traditional conceptions of rights on immovable properties in civil law and common law.

In the conclusion, we discuss whether private law rules may be adjusted to the tokenization of property rights for the exchanging of asset-backed tokens.

**Keywords:** Blockchain, Tokenisation, asse-backed tokens, immovable property, real estate markets, EU and comparative law.

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## 1. The Tokenisation of Immovable Property

### 1.1 Conceptualisation

Conceptually, a *token* represents a digital asset based on the blockchain that can be traded without the action of an intermediary. In essence, it [consists] of a set of digital information which assign a property right to a subject over the data set itself that are registered and transferable on a network. Thus, the *token* classification attempts, from time to time operated, are affected by the fact that, being an expression of a *software* - in itself suitable to convey diversified rights dependent on a source code - they tend to share traits of multiple legal figures and, therefore, appear as hybrids.

Given the brief introduction to the *token* concept, the main focus of this article concerns the so-called tokenization process. Specifically, it is a recent phenomenon, used in order to describe a fundraising activity through which investors they can exchange *fiat* currencies or cryptocurrencies for *tokens*. In particular, when it comes to tokenization, it is possible to identify a process similar to what is generally defined in finance as the “commodification of raw materials”, such as oil, gold and corn. The latter are listed on the markets to be traded, becoming di consequence object of speculation.

Indeed, the term *tokenize* is an anglicism referring to a mechanism through which a real asset is connected to one's own digital correspondent, which can be easily exchanged between investors. The central element of this process is represented by *blockchain* technology, a leading type of *distributed ledger technology*. Like widely known, unlike any centralized *database*, such technology is based on decentralization and unauthorized access to registration or modification of the data

contained therein is almost impossible. Focusing on the real estate sector, it should be emphasized that such as real estate, although they are considered a safe and durable investment, however they represent an illiquid *asset*.<sup>1</sup>

## 1.2 Operational issues

In this context, therefore, by exploiting the safe and immutable qualities of the *blockchain* technology, tokenization operates through a sort of “digital securitisation” of ownership.<sup>2</sup> In particular, to tokenize a property it is essential to generate a token and link it to a contract that allows this token to have an intrinsic relationship with a real good. Put it simply [...] the property is divided into shares and the latter are tokenized. In this perspective, the tokenization of an *asset* - of any type –configure as an activity through which a *token* is generated and it itself is connected, in a broad sense, to a *smart contract*. Specifically, the use of *smart contracts* is configured as a mechanism by which rights on a given are converted well in a digital *token*, which is inserted, as mentioned above, within a *blockchain*.

Tokenization is flexible: a token could represent: - ownership of the underlying real asset, - an equity interest in a legal entity that owns that asset, - an interest in a debt secured by the asset, - a right to share in profits arising from the use of the asset, and more. The types of real property involved can also vary widely, including single-family homes, multifamily structures, office buildings, warehouses, retail spaces, and everything in between.

Although blockchain technology is not mature, several models of real-estate tokenization are already being actively developed, such as: ownership of real estate through a special-purpose vehicle; shares in real-estate funds; timeshares; investments in and loans to development projects; and Tokenized REITs.

In terms of the evolution of the real estate market, with the development technological an exchange platform could be built as an application on top of a universal real estate blockchain, which would allow two parties to make real estate trades in a much more timely and less costly manner. Commercial property could be traded similarly to equities. Through the tokenization process applied to properties real estate, the digital version can be divided into digital *tokens*, transforming a

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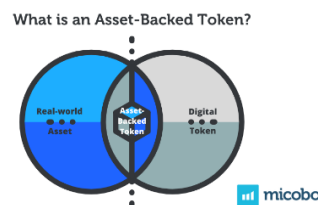
<sup>1</sup> The term illiquidity identifies the status of an asset which cannot be easily sold or exchanged for cash without a substantial one loss of value. In addition, illiquid assets cannot be sold without delay, a due to the lack of investors ready and willing to buy the asset

<sup>2</sup> Securitization of real estate has traditionally relied on the establishment of a special-purpose vehicle (SPV) and tokenization will likely do the same. An SPV is a legal entity that exists for a single business purpose, such as to hold and manage real estate. An SPV can be a trust, limited partnership, corporation, limited liability company, or other entity, each of which has its own advantages and disadvantages.

traditionally illiquid market into a liquid one. In fact, real estate investments by their nature do not become liquid in a short time, requiring long decommissioning times compared to a pure one financial investment and the real estate market is subject to duration cycles multi-year that heavily affect the timing of decommissioning. In this context, the introduction of the process would be profitable tokenization, which would favor the creation of liquidity in the market information, which can be viewed and edited according to various permissions.

This considered, therefore, great importance in this process is assumed from *smart contracts*. they can generally be defined as *a set of promises, specified in digital form, including protocols within which the parties perform on these promises* (Poncibò, 2019). This statement, therefore, can be translated into the contractual language of the 'if so, then' conditions. In particular, *tokens* are generated through *smart contracts*. In such a scenario, *smart contracts* would allow to determine one periodic profit percentage for those who own the *tokens* with reference to the change in the value of the property.

The process of tokenization of a property, therefore, causes the value of the same can be divided into a predetermined number of *tokens*, which value and portion is left to the autonomy of the subject who structures the operation, which retains the possibility of identifying the most useful cut to the circulation of the share of the asset itself.



In particular, from an operational point of view, *tokens* linked to a property may represent “digital securities - financial instruments represented using blockchain tokens - granting exposure to an underlying real estate asset or real estate development project. With real estate tokens have all the benefits of digital securities: they are cheap to issue, can be sold directly to investors, and help provide much needed liquidity. In this scenario, each *token* represents a percentage share of the property. Consequently, when you buy a *token*, actually buys the percentage of the property it represents. Unlike traditional investments related to real estate, in fact, a building tokenized for distribution as private equity could be distributed among a larger pool of investors at a lower per unit cost.

However, it is not that simple. The decentralization offered with this technology it's simply not enough to ensure many of the transactions that transfer ownership rights or “real rights” — rights in

rem — , since many of the “real world” transactions revolve around tangible assets or intangible assets that have a legally registered ownership.

## 2. Two cases of tokenization

After tracing the general lines that characterize the process of tokenization applied to real estates, in the following paragraphs two leading cases from the US and the EU are briefly considered. The objective, in this sense, is to try to trace, even on a practical level, what are the peculiarities of this mechanism.

### 2.1. The case of the St. Regis Aspen Resort

One of the first cases of tokenization in the real estate sector involved the St. Regis Aspen Resort, which twenty percent of the overall value was put into circulation in the form of a *token*.<sup>3</sup>

The sale of the aforementioned *tokens* was carried out through the platform digital *Indiegogo* and a partnership with *Templum Markets LLC* – reality authorized by the *US Securities & Exchange Commission* (SEC) and the *Financial Industry Regulatory Authority* (FINRA). The *token* resulting from this operation is called *Aspen Coin*, and it is a *security token*, which allows buyers to obtain shares of shareholding within the St. Regis Aspen Resort. Specifically, this *token* « *represents indirect ownership of a slice of the St. Regis Aspen, a luxury ski resort in Aspen, Colorado, via tokenized ownership of* KYC / AML and verify their accredited investor identification through this platform in order to invest in Aspen coin.

An author underlines how the main objective of *security tokens* is to secure and protect data in an electronic payment transaction. For mere scruple of precision, it is noted that, through the *security token* various and different operations can be carried out, including the possibility of issuing *tokens* representative of company shares, introducing new cash flows to the global market. They in fact, they can also be presented in the form of fractions that represent the property of a determined asset and can be traded on a *global security token exchange* – ie platforms where you can exchange *tokens*.

It is useful here to underline how there is a parallel between this type of *token* and the *stablecoins*. Specifically, these are cryptocurrencies which, unlike bitcoin, for example, they have a stable price because they are tied to a stable medium of exchange (typically the US dollar). The

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<sup>3</sup> Source: <https://tokenist.com/aspencoin-transitions-to-securitizafter-raising-18-million-in-security-token-offering>

relationship between *stablecoin* and *security token* can be defined as bidirectional; in this sense, in fact, *stablecoins* allow new forms of *security tokens* which in turn can be combined to build new forms of *stablecoins*, through a relationship limited only by the underlying programming model.

In this sense, new forms of non-collateralized or crypto-collateralized *stablecoins* they can emerge from *security tokens* in an almost cyclical manner. Therefore, the similarity between the *stablecoins* and the *security tokens* is due to the similarities they share with the concept of the security token: a security token is backed by something tangible, including assets, profits or revenue of the company (Dell’Erba, 2020).

As for the guarantees of the issued *tokens*, they derive mainly from the underlying assets related to commercial activities carried out by the hotel. The *tokens*, in this operation, were offered exclusively in with pre-identified investors and strategic partners who have agreed to subscribe to the *Aspen Coins* even if they did not derive from them voting rights, but a mere ownership of a share of the hotel, as well as the rights related assets.

## 2.2 Tokenization in Italy: RealHouse Srl

Interestingly, a real estate transaction has been completed with tokenization of two properties on *blockchain* of *Ethereum*. The operation in question was carried out by the company RealHouse Srl fintech start-up specializing in real estate investments - in partnership with InvestRE SpA. Specifically, an *equity token* of the company was created Immobiliare Casati Srl, called RHC1, with its own value intrinsic and linked to an underlying real estate consisting of two buildings located in Piazza Casati, in Rome, whose total collection value was estimated at € 3 million. For the realization of the project, Realhouse set up the infrastructure technology based on the blockchain, ie the “digital passport” of the operation, consisting of digitization and subsequent registration of the documentation relating to the transaction. The execution of the same took place on the *BlockInvest* platform, a so-called *Blockchain - compliant* platform owned by the same RealHouse. Operationally, the digital passport created on this platform was provided to keep track of the transaction, starting from the credit originating from Unicredit bank up to the details of the property and the vehicle that will drive it. The operation is based on a so-called *non-performing loan* (*non-performing loans* - NPL) claimed by the Unicredit bank from a third party company and guaranteed by the two buildings in Rome.

Consequently, it became necessary to set up a new company vehicle - the so-called *Special Purpose Vehicles* (SPV) - to manage the acquisition of the credit and subsequent real estate development. The next step was the launch of «a fundraising with private investors and accredited, to

which a proportional number of the 1,000 has been assigned RHC1 tokens issued, each representing a share of the company vehicle. According to what is reported by RealHouse itself, this represents only the first real estate transaction in a series in the pipeline for the future that will be tokenized through the *BlockInvest* platform. Indeed, to those relating to properties as collateral for NPL credits, based on expectations of the RealHouse operation, would guarantee a number of benefits. First, it would increase transparency and efficiency in the relationship obtaining process information; secondly, it would be It is possible to reduce the time and cost of transactions, especially in perspective of a possible future secondary market; finally, in the same way, the time and costs of the identification procedures would decrease investors.

### 3. The Legal Meaning of Real Estate Tokens

#### 3.1 Smart Property

In the light of the above, with tokenization, it is instead possible to take another path, converting the traditional property of immovable properties, mainly real estates, into various forms of *smart properties*: the property title comes that is, fractionated into a large number of small units (ie. the tokens), and these units they can be sold - typically with a sale - to interested parties to the investment, through smart contracts of which imperishable traces remain on a blockchain. Tokenization thus also offers an opportunity to investors who have a limited amount of money is available: tokens are normally precisely small units, so it is possible to buy a limited quantity, without that the settlement costs of the traditional business world make it uneconomical the investment.

However, how to frame the above-mentioned digital securitization? This is a different operation from that which is carried out with a fund real estate or a simple investment company in this sector, in which individuals' subscribers or shareholders are holders of a share not in an asset, but respectively of the fund or company, which are then the beneficial owners of the asset in question.

In this case, however, what the tokenization would like to achieve with the creation of a smart property (Szabo, 1996), it is precisely the fractionalisation of the right of ownership himself in a myriad of relationships, each of which is then susceptible to transmission to third parties in a secondary market. Thus law, tokenization it implies the possibility of creating forms of ownership on the assets apparently different from the classic ones.

US and EU Legal scholars often claims that personal property law is often outdated, ill-suited for the technological era. property law rules focus on the control people have over their assets, and

their power to alienate, use, and exclude others from the property. It seems that our case challenges both civil law and common law well-established property rules.

It is also important noting that the fact a given immovable property right is being represented by a token *does not change its legal nature* (Savelyev, 2018). It follows that the parties must comply with the rules and requirements of the legal order in which the asset is located (the universal *lex rei sitae*) to be able to transfer the ownership, or create limited property rights (e.g. a usufruct), which may require these legal acts to be concluded in writing or with the observation of other formalities.

In fact, the developers of virtual tokens could choose to tokenize the real estate itself, an equity interest in a legal entity that holds the real estate, a mortgage of the property, a right to share in revenue or profits generated by the property, or any other variation. It is important to stress that the nature of the interest being tokenized will impact what regulations apply to the token.

For example, if a token that qualifies as an equity security, it will be subject to financial regulation in the US (US Security Act) and the EU (MIFID).<sup>4</sup>

### 3.2 Digital Fractional Property

First of all, *absolute dominium* is often associated with European jurists, as opposed to the common law's more fragmented system of estates. The difference is sometimes explained by the disparate historical roots. Civil law starts with ownership, the legal interest that corresponds to the fullest use interest we can have in dealing with things - the greatest degree of control one can have - and then evaluates each lesser interest and the various devices for protecting them, in terms of how it does or does not promote this full type of interest. By contrast, the common law system grew out of feudalism and has always focused on the various lesser estates, which people might employ to protect various specific smaller classes of uses.

Despite these differences, many property theorists in common law countries understand ownership as the cornerstone of property law, and the power to exclude others from the property as its most definitive feature. In fact, there are very different approaches to ownership and its limits. Scholars support ownership as stemming from liberal values such as freedom and autonomy. Other theorists present economic arguments that focus on information costs.

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<sup>4</sup> See <https://www.jbs.cam.ac.uk/wp-content/uploads/2020/10/2020-ccaf-legal-regulatory-considerations-report.pdf>



Finally, structural approaches highlight the owner's role as an exclusive agenda setter for the property. In limiting the power of the owner and splitting the rights and liabilities that accompany it, the case of real estate tokens redefines our conceptualisation of ownership in both civil law and common law.

### 3.3 The End of The Exclusivity of Property Forms

The case of tokens representing shares of immovable properties can also be analyzed through the lens of the theory of the exclusivity of property forms. In terms of structure, standardization is a nearly universal feature of property law that transcends jurisdictions. European property law recognizes only a limited number of property forms, most familiar as the *numerus clausus* principle. The anglo-american bundle of sticks approach characterizes property as a bundle of rights, liabilities, and privileges. As such, the bundle is somewhat malleable, and forms of property can be added or removed from practice. Thus, the *numerus clausus* principle is important in the anglo-american case-law and scholarship.

However, in terms of content, many agree that the list of property forms evolves with time, striking a balance between stability and dynamism. Property is an evolving yet stable institution. This evolution requires that the law of property be adjusted to the challenges of the technological era.

## 4. Regulatory Regimes For Real Estate Tokens

### 4.1 EU-US

In fact, in the last years legal measures have been passed at national level to provide legal certainty to the use of smart contracts and specific tokens. This has been the case in Monaco, Germany, France, Russia, Luxembourg, Italy, Malta and the USA. In Asia, some countries have banned cryptocurrencies as a means of payment, such as China or Vietnam, while in others they are not recognized as such.

In the US, states are increasingly regulating the crypto space, often through legislation. Within this state regulation, there is an emerging split in the approach being taken. Some states are passing favorable laws in order to attract investment, stimulate the economy or move with modern technology, such as Wyoming (which is often seen as frontrunner in crypto regulation, and has passed various relevant laws, including to recognize property rights and authorize a new type of chartered depository institution); Colorado (where cryptocurrencies are exempt from state securities laws); and Ohio (the first state that permitted certain taxes to be paid with cryptocurrency); while others (notably those with

key financial industries such as New York and California) have either passed restrictive legislation regarding crypto assets and investment, or have suggested that this will be their approach in the near future.<sup>5</sup>

From an EU perspective, there is a draft regulation intended to add legal certainty to crypto-assets, while at the same time supporting innovation and protecting consumers: the Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets (MiCA) 24 September 2020.<sup>6</sup>

However, this proposal does not cover the legal nature, effects and admissibility of using asset-backed tokens to transfer property rights and, in fact, tokens that are issued in blocks of less than 150 tokens are excluded from the Regulation, so it does not cover small issues, which will normally be the case in the tokenization of estates.<sup>7</sup>

## 4.2 Intermediaries

The starting point is that, traditionally, the right to property is itself developed in civil law - and in common law - foreseeing the need for a centralized authority for the management of registers, which enjoyed the trust of users. This brokerage has a cost, and that is what has hindered the unfold under the ownership right of the full potential of the revolution linked to the advent of the internet, unlike what has happened in other sectors-as the law of contracts.

It appears evident that such an operation is very difficult to trace to the methods currently accepted by our system of circulation of real estate, which, as is well known, provide for control and intermediation notarized to ensure enforceability to third parties. Tokenization tends to change the picture, in which notary intermediation is overcome by certainty e opposability to any third party guaranteed by the immutability of the blockchain, but an unchanged law does not seem to be practicable, at least in Civil Law legal systems.

The position of the professional association of public notaries in Civil Law however, it can be deduced from various writings and interventions, although mainly dedicated to other types of issues. Overall, from these sources it seems to be deduced that the professional associations of notaries have

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<sup>5</sup> For example, New York has a comprehensive regulatory regime that requires firms to obtain "BitLicenses" to operate a virtual currency business and has published a "greenlist" of approved virtual currencies, although the state's Department of Finance has recently proposed a relaxed framework for obtaining BitLicenses.

<sup>6</sup> 'crypto-asset' means a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology.

<sup>7</sup> See at [https://www.eublockchainforum.eu/sites/default/files/report\\_digital\\_assets\\_v1.0.pdf](https://www.eublockchainforum.eu/sites/default/files/report_digital_assets_v1.0.pdf)

glimpsed the deeply disruptive potential of related innovations to the blockchain for the notary profession itself, and more generally for the same categories traditional civil law. As for the first, it is easy to understand how the blockchain could disintermediate the transfers of wealth and therefore make money to tend to potentially exceed the certainty guaranteed by the notary function, replacing it with what has been defined as a *trustless - trust*. As for the traditional civil categories, just think of the whole discussion on the legal nature of smart contracts, which occurred somewhat in all jurisdictions.

Coming to the Common Law systems, the obstacles appear less insurmountable. Clearly, however, the absence of a real estate brokerage system formalized in the typical sense of the Civil Law legal systems makes tokenization real estate in principle easier to practice. Nonetheless, also in the anglo - american context the lack of intermediaries is very problematic (see Fairfield, who coined the expression “Bit property”).

However, the problem of ascertaining the authenticity certainly remains an upstream issue of tokenisation of immovable properties: the blockchain can give certainty to the transfer chain, but this technology cannot resolve the question of the validity of the first title that on it was transferred. Beyond that, other more general problems remain such as the practical difficulty of invalidating transactions relating to these securities, when if any form of vice is recognized, given the immutability of the blockchains (how much less than the public / permissionless ones).

## 5. Conclusions

Any legal asset can be tokenized by taking advantage of the advantages that we have described in the previous paragraphs. The examples that have been proposed, in fact, demonstrate how even the most tangible *res*, the real estate one, was attracted to kaleidoscope of tokenization, with surprising results.

At the classification level, in any case, the *token* is fully part of the emerging category of digital asset property. In fact, this category, below the thrust of a progressive *vis* expansive, has extended its mesh until to include, not only, the real *res* but also intangible assets, common, intangible and even digital. Our case also reinstates a fractional concept of ownership, where tokens owners share interests that are part of the full power of ownership and thus it stands in opposition to the intuitive perception of ownership as an absolutist concept. It also challenges the forms of property.

To date, therefore, without venturing more eccentric than useful definitions, it is prudent to refer to the general categories of property law in order to have a safe port in case of gaps and

uncertainties and it is an opportunity to reframe our understanding of immovable property rights in the age of the blockchain.

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