

Crypto-Currencies Are Objects of Property Rights

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Abstract

‘Crypto-currencies are objects of property rights just as chairs are objects of property rights.’ There has been some controversy over this statement. With the rapid development and popularity of cryptocurrencies such as Bitcoin, the research and application of cryptocurrencies have exploded. Given that cryptocurrencies themselves are still evolving as innovative Internet financial products, it is necessary to first make a preliminary determination on the basic issues of what cryptocurrencies are and what their legal properties are, and this article will focus on whether cryptocurrencies are objects of property. This essay will primarily address the issue of whether or not bitcoins are considered property. We must first define the ideas and standards of property, such as definability, third-party identifiability, exclusivity, and competition, in order to ascertain the legal characteristics of cryptocurrencies. The legal status of cryptocurrencies will be determined by examining the structure, traits, and classification of property. In the end, it is found that most nations and regions also recognize cryptocurrencies as objects of property rights and that they usually have the property of things.

Keywords: cryptocurrencies, legal attributes, identification criteria, objects of property rights

1. Introduction

With the rapid development of technology and finance, cryptocurrencies have become a popular product in the economic market, attracting more and more people to invest in them. 2008 saw Satoshi Nakamoto first introduce the concept of Bitcoin and its related problems,¹ and since then Bitcoin has become the most expensive and famous representative of cryptocurrencies. Cryptocurrencies have grown rapidly since their inception, and there are now over eight thousand cryptocurrencies, of which Bitcoin is the largest.² As cryptocurrencies continue to emerge, many business models are transformed, which has led to more controversy over the legal attributes of cryptocurrencies, such as whether they are considered property, legal tender, commodities, financing instruments, etc.

Cryptocurrency is a non-statutory currency based on blockchain technology, using cryptography to achieve a variety of functions such as purchasing goods, financing and exchanging, with characteristics such as decentralisation, immutable property and encryption. In certain payment situations, Bitcoin can bring advantages such as lower cost, speed and anonymity than traditional payment methods.³ However, enjoying the convenience offered by cryptocurrencies can also mean greater risks, such as difficulties in the application of laws, regulatory issues, etc. Because cryptocurrencies are different from legal tender, cryptocurrencies are not subject to the direct jurisdiction of the relevant laws. As a result, the legal regulation of cryptocurrencies has become one of the major issues in the financial market today. However, in order to solve the problem of regulating cryptocurrencies and to better protect the rights and interests of investors, the legal attributes of cryptocurrencies should be determined first and based on this, the corresponding legal system should be better selected to regulate them. Moreover, so far, most scholars have focused their research on how to strengthen the regulation of cryptocurrencies, and only a few scholars will specifically study the legal attributes of cryptocurrencies.

Based on the above issues and related research, the main purpose of this paper is to analyse and discuss whether cryptocurrencies should be the subject of property rights and some of the controversies that arise in the process of identification. The next section defines the relevant concepts that apply to this paper. The concept of property, the various types of property, such as property in possession, property in action, and the scope of a third category of property such as digital assets, are described, and the relationship and distinction between digital property and other types of property are clarified, with the definition of the relevant concepts being the basis for the analysis and discussion of the legal attributes of cryptocurrencies. The third part analyses the various criteria for determining property by reference to the Ainsworth criteria and other criteria to determine whether cryptocurrencies can be considered property. Finally, some concluding remarks conclude the text.

2. Definition of the Relevant Concepts

An in-depth investigation and discussion of whether cryptocurrencies are objects of property rights requires a precise notion as a precondition and premise. It is first necessary to define the terms “cryptocurrencies” and “property,” “property types,” and “problems encountered in identifying cryptocurrencies as property through existing statutory law and case law,” such as whether digital assets are a third type of property, before it can be demonstrated that cryptocurrencies can be the subject of property rights. The qualities of cryptocurrencies can initially be identified based on the ideas and traits of various types of property.

2.1 Cryptocurrencies

Bitcoin was the world’s first cryptocurrency and has been described by Satoshi Nakamoto as an electronic payment system based on cryptographic proofs rather than credit, allowing any willing parties to transact directly with each other without the need for a trusted third party.⁴ As can be seen, the main features of cryptocurrencies are cryptography, payment functions, decentralisation and, in subsequent developments, the gradual emergence of blockchain technology and other functions. However, due to the continuous development of related technologies, there are already nearly nine thousand types of cryptocurrencies, such as Ethereum and dogecoin, with a wide variety and different functions, and because of this continuous development, there is no authoritative and uniformly definite definition of cryptocurrencies to date. However, it is undeniable that blockchain technology and cryptography are the basis of all cryptocurrencies, and decentralisation is the core of cryptocurrencies, so this article will also focus on these common features of cryptocurrencies.

At the same time, the choice of terminology for cryptocurrencies varies from country to country and region to region. Depending on the characteristics of cryptocurrencies, they can now be referred to as digital currencies, virtual currencies, virtual assets, and so on,⁵ which mean essentially the same thing in a given context, but with subtle differences. As the term “cryptocurrency” is still used in most countries, and in order to avoid unnecessary controversy in the discussion below, the term “cryptocurrency” will be used as a generic term.

2.2 Property and Property Rights

To determine the object of property rights, one should first define the property. However, Judge Edelman considers that the first problem in any question of property rights is that there is no coherent definition of “property”.⁶ Property has proven to be a more difficult concept to grasp than most people realise.⁷ The term “property” has different meanings in different cultural contexts and the concept is therefore described differently, even in different laws under the same legal system. For example, article 810 of the Italian Civil Code states that “all objects that can be the object of a right are property”,⁸ and article 436 of the Insolvency Act 1986 defines property as: “‘property’ includes money, goods things in suit, land and property of every kind, wherever situated, and also includes obligations and interests of every kind, whether present, future, vested or contingent, arising out of or incidental to property.”⁹

As each law has a different purpose, there is no single, clear definition of “property”. To address this issue, we can summarise the various characteristics of property from case law so that we can define whether cryptocurrency can be an object of property. The High Court of Australia in *Yanner v Eaton* described property as a legal relationship with an object which confers on a person the power to exercise authority over the object in certain respects,¹⁰ and Lord Wilberforce in *Provincial Bank v Ainsworth* listed a number of characteristics of the property, including definability, identifiability by third parties, capable of assumption by third parties, permanence or stability.¹¹ Based on the above cases, it can be concluded that property is the legal expression of interest. At the same time, due to the development of society and the emergence of new forms of property, the scope of property is bound to change accordingly, but there are still some common features.

2.3 The Two Main Types of Property

Traditionally, the law in England and Wales has held that there are only two types of property, which are ‘Choses in possession’ and ‘Choses in action’. In *Colonial Bank v Whinney*, Lord Justice Fry stated that personal property was either a chose in possession or a chose in action and that the law did not consider there to be a third category of property in between.¹²

Choses in possession include both personal property and real property. Simply put, a chose in possession is a tangible property that can be owned, touched, or even held in the hand. A chose in possession refers to a bundle of rights and remedies, which in England are inextricably linked.¹³ A chose in possession can be freely transferred by sale, a chose in possession refers to a bundle of rights and remedies, which in England are inextricably linked.

Choses in action are more commonly referred to as private property and differ from a chose in possession in that they cannot be owned directly but can only be claimed or enforced through litigation, which is where they get their name. As a result, such property may not be able to secure the relevant rights without going through the courts.¹⁴ For example, liabilities, bank accounts, shares, etc., are all property in action because they exist because of litigation. Choses in action belong to a category of things that are created or extinguished exclusively by legal regulation and are purely a product of the legal system.¹⁵ Intangible property is usually defined as legally protected intangible property, but there are exceptions, such as bills of exchange, which are documents of title to the property, imply the power of the bank to pay you the money and can be enforced by litigation, and are therefore also choses in action. Choses in action are related to the distribution of interests, thus demonstrating that such property plays a key role in the financial market.

2.4 The Third Category of Property: Digital Assets (Cryptocurrencies)

With the development of financial markets, the question arises as to whether something can be an object of property if it is neither a chose in possession nor a chose in action, and this is currently a matter of increasing importance to the courts. It is clear that cryptocurrencies are virtual, untouchable and are not tangible property and therefore cannot be owned. Also, cryptocurrencies do not have the power to be enforced through the courts. Because of this, cryptocurrencies can hardly be considered a form of property and therefore cryptocurrencies do not meet the definition of either a chose in possession or a chose in action. Property rights in cryptocurrencies such as Bitcoin may well represent a truly unique and novel form of property, the legal rights to which are inseparable from the registration on the blockchain.¹⁶

Other things that are not a chose in possession or a chose in action, such as milk allowances and EU carbon allowances, have also been held to be property in the case law. In *Swift v Dairywise Farms Ltd*, Mr. Justice Jacob first determined that milk allowances were indeed property, but did not rule on the type of property to which they belonged. Instead, he held that milk quotas were different from other types of property and had a distinct legal character.¹⁷ Similarly, in *Armstrong DLW GmbH v Winnington Networks Ltd*, the judge held that carbon allowances could not be held to be a chose in action because they were not enforceable, and the court, therefore, considered their “somewhat novel nature”.¹⁸

It is in this way that the controversy over cryptocurrencies has arisen. In *Ruscoe v Cryptopia*, the issue that arose was whether cryptocurrencies formed part of the assets of a cryptocurrency exchange, with courts such as this one holding that cryptocurrencies could be considered objects of property rights. However, in his decision, Justice Gendall criticised the view that crypto tokens must fall into one of two categories of personal property in order to attract property.¹⁹ The possibility that there is no undefined third category outside of possessions and walking objects was also upheld by Justice Slessor in the case of *v. German Property Administrators*.²⁰ The conclusions of the above case law create a degree of difficulty in defining whether cryptocurrencies are objects of property rights. This is because if there is no undefined third category of property, and at the same time cryptocurrencies do not meet the requirements of the other two categories, then it is likely that cryptocurrencies will not be found to be the object of property rights.

However, according to Dr. A Ray, Clifford and Dr. Roberts, “traditional legal rules and principles may not be easily applied in the online realm”.²¹ Thankfully, however, as the law in England and Wales is mostly broad in its definition of property and somewhat flexible, the courts are in most cases willing to recognise digital assets (cryptocurrencies) as objects of property, even if they do not fall into either of the traditional categories of property, i.e., cryptocurrencies fall into the “third category of property”. For example, the High Court, in looking at the recent legal statement on Crypto assets and Smart contracts, decided that “the fact that a crypto asset might not be a thing in action on the narrower definition of that term does not in itself mean that it cannot be treated as property”.²² It is clear from this that cryptocurrencies such as Bitcoin fall into the category of property.

Professors Low and Hara, in a further discussion, suggest that cryptocurrencies might be correctly subsumed under things in action:²³

Narrowly conceiving their rights as the right to the unique data strings on a particular distributed ledger, or put slightly differently, the right to have their unspent transaction output (UTXO) locked to their public address with a particular ledger, would prevent the reification of [crypto-tokens] to have their unspent transaction output (UTXO) locked to their public address with a particular ledger, would prevent the reification of [crypto-tokens] from interfering with any conceivable legitimate liberties of any stranger, facilitating the recognition of

[crypto-tokens] as property with rights [towards everyone, or against the world].

3. Criteria for Identifying a Thing as Property

This article draws on Lord Wilberforce's definition of property in *National Provincial Bank v Ainsworth* to discuss and analyse the four categories of criteria for identifying something as property in the definition. It also discusses other criteria for determining property in light of the relevant characteristics of the property to ensure a relatively comprehensive analysis of how cryptocurrencies have been determined to be objects of property rights and some of the controversies that have arisen.

3.1 The Ainsworth Criteria

The Ainsworth criteria are the reference criteria used in many case laws to determine that cryptocurrencies are the object of property rights, so this article will focus on these four criteria. Lord Wilberforce delineated four main criteria, namely definability, identifiability by third parties, assumability by third parties and permanence or stability. Cryptocurrencies that meet these four criteria are essentially recognised as objects of property and property rights.

First, there is definability. Definability in its simplest form means being able to say what something is. Anything that can clearly express its own meaning, characteristics, and properties is definable.

For example, the EU carbon allowance in *Armstrong DLW GmbH v Winnington Networks Ltd* is definable as the sum of the rights granted to the holder under the ETS.²⁴ In addition, *Tucows.Com Co v. Lojas Renner SA*, the court defined a "domain name" as an intangible or conceptual thing consisting of two parts, one being a number and the other a unique readable address that enables an internet user to access a web page.²⁵

Both of these examples specify what definability is, which is simply a statement that allows the reader to understand the concept clearly and unambiguously. In the case of cryptocurrency, it is a digital payment system that does not rely on banks to validate transactions. Cryptocurrency assets are stored in a distributed ledger and traded via private keys, with the records of the transactions being kept intact in a public database. This means that cryptocurrencies can be defined, i.e., they are definable.

Secondly, it can be identified by a third party. Identifiability is the ability to prove that something is real. On the basis of being definable, being able to distinguish it from something else is an indication that the thing is identifiable. In everyday life, it is most common to distinguish cryptocurrencies from concepts such as legal tender, bonds and commodities. At present, although there is some debate about the exact differences between these concepts, no scholar has ever confused these concepts, which indirectly shows that cryptocurrencies are recognisable to third parties.

The third criterion is that it can be assumed by a third party. This criterion means the transferability of property, i.e., that the property can be transferred to another person by sale, delivery, assignment and Negotiation. Transferability is an absolute prerequisite for determining the object of property rights, which is a sufficient degree of permanence or stability of the sum total. For only when a thing is sufficiently stable or permanent is it possible to transfer it. If a thing is transient, it is necessarily not transferable to others. In the case of cryptocurrencies, the most common form of transfer is trading, and there are a large number of cryptocurrency exchanges in the financial markets that are designed to help various cryptocurrency holders to trade.²⁶ Therefore, there is no doubt that cryptocurrencies are transferable.

Fourth, the stability or permanence of the property. This permanence and stability need not be complete, but simply a degree of stability or permanence, as property cannot exist in perpetuity. In *Ruscoe v Cryptopia Ltd (In Liq)*, Gendall J said: Some assets have little permanence but can undoubtedly be property, for example, tickets to a football match, which have a short life but which are undoubtedly regarded as property.²⁷

3.2 Additional Criteria

In addition to the four criteria discussed above, there are other important and iconic features of the object of property rights, namely exclusivity, competition and divisibility. These three criteria further clarify whether something should be recognised as an object of property rights.

3.2.1 Excludability

Excludability is a concept rooted in property and is one of its key characteristics. Gray argues that property is about control over access, that it is a power relationship, which is the power to exclude, and that it is for this reason that restrictions on property derive more from exclusivity.²⁸ If a thing is to attract property rights, it must be something that one can both deny and allow access to.²⁹ This denial or permission characteristic is the exclusivity of a thing.

Specifically, in the case of cryptocurrencies, the rights of the holder to the cryptocurrency are consistent with the most basic nature of a right in rem. With the development of information technology, more and more property

has been removed from its physical form and instead exists in the form of virtualised data, to which the right holder does not have physical access, but still retains the right to dominate the property. The existence of private keys further illustrates the right of the holder to deny others access to his or her private property.

3.2.2 Rivalrousness

Rivalrousness is when I use something in such a way that it hinders (or at least affects) my ability to use it. For example, sunlight does not interfere with your use of sunlight when I am enjoying it; you can still sunbathe, and therefore sunlight is not a type of property.

Competitiveness plays a key role in determining whether something can be an object of property rights because property law is concerned with things that are competitive. Firstly, people must compete with each other in order to obtain more of the relevant rights. Property law seeks to reduce the incidence of such conflicts by regulating by law the allocation of rights of persons and goods.³⁰ Secondly, where a consumer uses a competing good it 'restricts' the use of others, i.e., increases the cost of use for others. Unlike exclusivity, a competing good merely restricts the rights of others rather than denying them the right to use it outright. The point of property rights under property law, therefore, is to protect the ability of parties to control competing property from being restricted by others.

In a cryptographic token system for cryptocurrencies, the data structures that record changes in the state of a distributed ledger or structured record are not just information. The data structures themselves, when instantiated in a particular cryptographic token system, need to be initialised. It is the specific functionality of cryptographic tokens that makes them competitive.³¹

3.2.3 Separability

Separability means that a thing must be completely independent of its owner, which means that a person is free to use it. It follows that information is not an object of property. For example, I may have a secret recipe for food, but my secret recipe is indivisible to me because when I tell you the recipe it does not mean that I automatically forget it. So it is inseparable from me, and it is not property.

In *Regina v. Bentham*, it was made clear in the leading judgment that a person cannot possess something that is not separable from him or her and that the thing possessed must by definition be a thing, but a person's hand is not a thing because the "uncircumcised hand" is not a separable object and does not have separability.³² Professor Penner argues that in order for a thing to be considered an object of property, it must first be considered separable, as distinct from any person who might hold it, and therefore it should be considered alienable.³³

Generally speaking, the proper object of property rights is necessarily divested on transfer. This means, in fact, that the object must be transferred in such a way that the transferor is deprived of it. In the case of data objects, this is usually the result of their technical design.³⁴ If transferability is a prerequisite for identifying things as property, separability is the basis for transferability. Only if things can be separated from their owners can the next step of transfer take place. Clearly, cryptocurrencies meet this criterion, and cryptocurrency holders can transact with others via their private keys, and such transactions prove both the transferability and separability of cryptocurrencies.

3.3 Summary

In summary, cryptocurrencies are indeed the object of property rights, and although there is some controversy, it is still possible to conclude that cryptocurrencies are a special type of property that can be identified as a third category of property completely different from the property in possession and property in action, as they meet the characteristics of various property rights.

4. Conclusion

Since the introduction of Bitcoin in 2008, cryptocurrencies have been a hit in the financial markets. From the perspective of jurisprudence, cryptocurrency is a decentralised property that relies on blockchain technology and has functions such as exchange and investment. Due to the characteristics of cryptocurrencies such as cryptographic row and decentralisation, the legal attributes of cryptocurrencies should be more diversified and open when judging them. Given the two-way exchange between cryptocurrencies and legal tender, the use of cryptocurrencies for investment and other acts, cryptocurrencies can be tentatively identified as legal property. An analysis summarising the characteristics of property such as definability, identifiability, exclusivity and competition of cryptocurrencies can also lead to the conclusion that cryptocurrencies are objects of property rights. That is, Cryptocurrencies are objects of property rights just as chairs are objects of property rights.

There are two sides to everything, and while most countries and regions accept the claim that cryptocurrencies are objects of property rights, there does exist a certain amount of controversy. The main concern of the controversy is the classification of cryptocurrencies. As cryptocurrencies do not fit into the two traditional

categories of property, some courts would argue that things that are not traditional property do not fall into the category of property. However, it is undeniable that only the existence of controversy can further drive reform of the judicial system and bring more clarity to the definition of cryptocurrencies within the law. Clarifying the definition and legal properties of cryptocurrencies is important for the study of the legal issues related to them and is directly related to the establishment of the legal system underlying cryptocurrencies. Therefore, only when cryptocurrencies are accurately positioned can the legal provisions be accurately applied and, in this way, more effective regulation can be carried out.

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