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Research Article

Crypto-Assets and Property Law: Emerging Challenges in International Trade and Investment

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Abstract

The digitalization of finance is transforming at a rapid rate worldwide. Digital assets and in turn cryptocurrencies continue to attract attention in international trade and investment. They are being used in cross border transnational transactions. While today they are not generally considered legal tender, there has been a slow shift to classifying them as a form of asset, and in turn property. While not overly stated, this area of the law is evolving rapidly, and to date, as a digital asset, cryptocurrencies are also emerging as a form of fund or investment. This is because they are being used as a mechanism for payments. This article seeks to determine whether digital assets and cryptocurrencies fall within the classification of property. The current approach to their classification under the law is fragmented. A common theme emerging is how nation states will apply this financial product to existing law and where necessary categorize them as property. This article also examines a selected number of trade agreements to confirm or otherwise the reference and classification of these asset classes. It concludes by examining selected treaties and determining that the classification of a cryptocurrency as they relate to property will be influenced by a number of different factors. The also article confirms that crypto assets are property, and it has been generally left to the judiciary to make this determination. Recently, nation states have begun to confirm the position of the local and national judiciary's and legislate that these forms of assets are property.

Keywords

Cryptocurrency, Digital Currency, Digital Assets, Trade and Investment, Property

1. Introduction

The digital landscape and digital economy are evolving rapidly. Cryptocurrencies are emerging as a form of digital asset and property. To date, they are designed to operate as a 'medium of exchange which utilizes cryptography to secure transactions and verify the transfer of the digital asset'. [1] However, cryptocurrencies themselves have not been fully accepted by the general public or governments around the world, and 'function where there is a belief by the consumer that they are actually worth something'. This form of digital asset is unlike a conventional fiat system or legal tender, where 'money has value because of the trust placed on central banks'. [2] Thus, the accentuating question is whether cryptocurrencies are a digital asset within their own right? This article draws upon the work undertaken by the United Kingdom Jurisdiction Taskforce in 2019 who investigated whether crypto assets could be classified as property. The outcome, at

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the time, was inconclusive, as the study considered whether 'crypto assets have all of the indicia of property; the novel or distinctive features possessed by some crypto assets—intangibility, cryptographic authentication, use of a distributed transaction ledger, decentralization, rule by consensus—do not disqualify them from being property; nor are crypto assets disqualified from being property as pure information, or because they might not be classifiable either as things in possession or as things in action; crypto assets are therefore to be treated in principle as property'. [3] This study drew upon court decisions from within and outside the UK. While not settled, this article will expand on this study and confirm or otherwise whether there have been any advancements in the law within the jurisdictions of Australia, Singapore, United Kingdom and European Union (EU). The article will also draw upon a recent speech undertaken, in 2024, by the Hon I Jackman [4] in relation to the same issue. It will demonstrate how the courts are applying the concept of property to crypto assets. It further highlights how regulation has begun to take shape in specific jurisdictions that all but classify crypto as property. It also draws upon the common law jurisdictions only of Australia, New Zealand, Singapore, United Kingdom (UK) and United States (US).

Crypto assets are 'perceived to have an inherent value that depends primarily on cryptography and/or distributed ledger technology, which are not issued or guaranteed by a central bank and used as a medium of exchange for investment purposes. They have emerged as an exchange mechanism to access and pay for good or service'. [5] Generally, cryptocurrencies can be grouped into seven broad classes which are: transaction mechanisms; distributed computation tokens; utility tokens; security tokens; fungible tokens; non-fungible tokens and stablecoins. [6] However, this is not accurate and these products do differ significantly. For example, a cryptocurrency such as Bitcoin comes with a high level of market volatility. Whereas a stablecoin is supposed to ensure a stability across the market. Centrally, an emerging theme is how these assets are being viewed and classified by scholars versus government institutions. Even more pertinent is how these assets are being address by the law.

More explicitly, the European Banking Authority's taxonomy of crypto-assets has been classified into three types: i) payment/exchange/currency tokens; ii) investment, tokens; and iii) utility tokens. Specifically, the first type does not typically provide rights. They are used as a means of exchange or for investment holding purposes. Additionally, they may be standalone assets whose value is determined by market forces, or asset backed/algorithmic tokens like stablecoins. [7] Interestingly, the stablecoin is not a cryptocurrency in its own right, and there is very little national law supporting its use as at 2025. On the one hand, only some of these are classified as financial products. On the other hand, to classify the type of property that these digital assets fall under it needs to be recognized that there is a difference between non-fungible assets which are unique and fungible assets that are interchangeable. This would extend to cryptocurrencies which exist on a blockchain. Although what has emerged is how non fungible assets are being classified as property, yet, fungible assets whose value can alter are also property and therefore should be regulated via the law governing property. [8] Noteworthy though, is that, it can be argued that cryptocurrencies are not specifically a non-fungible or fungible token. They are two different things. Yet, they can both be transacted on the same technology such as a blockchain. The resulting effect is that these digital assets provide a level of digital foot print on the technology used by the individual or entity to facilitate crypto transactions. Such a digital foot print is arguable now pervading every area the Internet where people obtain access.

Heather Conway and Robin Hickey note that under succession law [wills] nearly every person will leave a digital footprint, and anyone using crypto based assets could form part of the overall property asset class. Specifically, under this framework the asset would be classified as personal property. That said, a key feature of cryptocurrency or any crypto asset is the use of distributed, rather than centralized, distributed ledger technology (DTL) to enable secure transactions. [9] Operationally, the supply, transaction and authentication of these assets are 'carried out by cryptographic algorithms'. [10] The authentication process, not only secures the access to these assets, it also, indirectly establishes a level of digital footprint because the individual or entity requiring authentication will leave a log of activity.

Notwithstanding the above, the distributed ledger technology is often referred to as a blockchain. The reality is that it involves each participant receiving a copy of the database of all previous transactions, known as blocks. [11] Subsequently, a chain is formed as a result of 'cryptographic hashing, whereby an algorithm is used to accept or reject a new block being added to the chain'. The resulting application is that a block will only be accepted and 'connected where it matches the previous transaction history. Here, again, the problem is that digital blockchain assets are complex [technology] infrastructure that elude clear legal definitions of property'. On the one side, in technology terms, the blockchain is different to a DLT. On the other side, the blockchain constitutes a chain of blocks. It is a form of DLT, and is effectively a decentralized database.

To establish a cryptocurrency, a code is created that can be used to make payments, and does not exist physically in the form of notes or coins. As Jackman J states the data produced is 'organized in blocks or groups across many computers that are linked and secured, but each block can only hold a certain amount of information, so new blocks are added to the ledger and this forms a chain'. Furthermore, Jackman J goes onto say how 'each block has its own unique identifier, which is known as a cryptographic hash. The hash protects the information in the block from anyone without the required code and protects the block's place on the chain from being tampered with'. Part 1 of this article introduces the notation that cryptocurrencies

could be property. It must be noted though that this article does not examine whether the crypto asset will have a level of intellectual property attached. The article discusses the use of blockchain technology to facilitate cryptocurrency transactions. It draws upon the extensive work of the lead author who is a digital finance legal and technology expert. Part 2, discusses cryptocurrency as property. The article draws on a number of jurisdictions including Australia, New Zealand, Singapore, United Kingdom and United States. Part 3 discusses whether cryptocurrencies constitute a transaction. Part 4 highlights how cryptocurrency is being treated in transitional investment treaties. Part 5 concludes this article by highlighting how these assets as property are influenced by a number of factors.

2. Cryptocurrency as Property

The issue or problem is whether digital currencies are considered as property, in and of their own right, as they are not considered a legal tender in every jurisdiction across the globe. As they emerge in some nation states, other nation states have indicated their opposition to their use. For instance, in a number of socialist authoritarian states, cryptocurrency is banned. Arguably, this poses challenges for individuals engaged in crypto asset transactions. It could result, over the longer term that, such activity is confined to specific jurisdictions. The resulting impact from this is not fully settled and crypto as property is still evolving across common law jurisdictions. It is emerging as property under various areas of the law such as tax, the use and application of injunctions, along with trade and investment.

Nonetheless, in taking the broader view, cryptocurrency has no physical attributes similar to the traditional currency tender. More pervasively, crypto has many similarities to that shares and more broadly securities have little to no attributes of legal tender, they fall within property when an entity holds them for investment opportunities. Bundit Anuyahong and Nipol Ek-udom, [12] in referring to the World Trade Organization (WTO) highlights how the use of cryptocurrency in international trade has the potential to reduce transaction costs, increase transparency, and facilitate faster and more secure transactions. [13] These features are particularly advantageous to trade, investment and commerce. The resulting effect would be a landscape, framework and environment that provides for a greater level of certainty. Most significantly in 2025, is that there are a number of influences that are shaping the future of the legal landscape for the use of these tools in trade but consistency is needed across jurisdictions. Anuyahong and Ek-udom further note how there is a lack of regulatory clarity has been identified as a significant barrier to the adoption of cryptocurrency in many countries. Regulation and legal frameworks are critical for ensuring the successful adoption of cryptocurrency in international trade. Without a clear and consistent framework, businesses will be hesitant to adopt cryptocurrency as a means of conducting international trade and investment.

Across trade, commerce and investment the use of these assets are emerging, and naturally there are security concerns from their full adoption. An accentuating issue is why and how is cryptocurrency not been fully accepted by nation states? Arguably, this is because there are challenges in accessing and using the technology to facilitate its transactions. It is far from mainstream and to date, is highly specialized. There is a lack of political will in many countries, as it does not attract votes that, result in lives being changed or better off financially. For instance, the Internet and relevant technology is not accessible in all countries around the world. Significant too, where these accessibility issues that have not been addressed, governments have not needed to regulate use. Moreover, the 'decentralized nature of cryptocurrency and the use of online wallets make them vulnerable to cyber-attacks and other forms of security breaches. As a result, they authors are of the view that businesses need to be confident that their transactions are secure and protected from cyber threats'. While fragmentation exists across most if not all economies, transitioning to new forms of financial products, will be challenging as government, regulators and the business community grapple with what benefits and disadvantages they may arise.

In addition to the above, a further accentuating issue is the access by small and medium sized businesses is the fact that 'many businesses are still unfamiliar with cryptocurrency and its potential benefits, which can create a barrier to adoption. Therefore, the authors believe that efforts to increase awareness and understanding of cryptocurrency could help to promote its adoption in international trade'. Traditional payment systems in the eyes of these authors can be expensive, especially for small and medium-sized businesses. Cryptocurrency offers the potential for reduced transaction costs, which could make it an attractive option for businesses engaged in international trade. That said, the significant advantages in transaction costs may in time become attractive that can influence the adoption of cryptocurrency in international trade.

Another challenge that has emerged with the adoption of these financial products is how nation states being at different stages of accessibility to the Internet and technology. More specifically, many businesses continue to be at different stages of the adoption of modern technology. It is argued that small to medium sized business are disadvantaged as to the financial and other resources including accessibility to technology than, larger entities. Security concerns, awareness and understanding of cryptocurrency, transaction costs, and integration with existing systems are all critical factors that need to be addressed. Arguably these financial products need to be integrated seamlessly with existing payment and accounting systems to ensure that transactions can be conducted efficiently and effectively.

In reconciling the wider benefits and challenges of these assets to trade and investment, under the WTO, crypto assets are defined as 'digital representations of value that rely on

cryptography and decentralized peer-to-peer architecture based on distributed ledger technology, which enables two parties to directly transact with each other without the need for a trusted intermediary'. Put another way, 'non-liability crypto assets are those assets designed to act as a general medium of exchange without a corresponding liability'. While these assets may not have a conclusive definition, such definitions vary across jurisdictions.

Nonetheless, 'subject to statute, property is anything of realizable commercial value'. [14] Arguably, Stevens posits that the definition of property would be of enormous practical legal significance'. He further argues that 'it is claimed that the case for the legislature recognising crypto assets as 'property' generally for legal purposes is extremely weak, and that for the courts taking such a step non-existent'. Yet, and as highlighted above, crypto assets are already recognized as being part of the bundle of property rights held on a balance sheet. It is our view that crypto assets of any kind would feature in the asset classification or category on a balance sheet, to demonstrate a level of investment. The lack of veracity or reliability as Stevens puts it, is easily 'detectable by looking at these assets as money which only becomes productive in an exchange with another type of property'. Accordingly, this alone would not show conclusively that crypto assets are property but a strong argument in favour of property can be made by a thing of the asset in this way. Professors Stevens takes the view that:

Receivables, equitable interests, and shares in companies, are not rights that have as their subject matter physical things. Such rights need not relate to an identifiable separate subject matter, such as a thing, at all. They are also not eligible *erga omnes*. They are however 'property' in the different sense that they are transferable rights, and hence realisable in money.

Viewed this way, property in this context is money, which is afforded transferrable rights. This in and of itself adds a further dimension to the recognition of cryptocurrencies as property whether directly or indirectly. It arguably takes the view that money does not need to be tangible. However, cryptocurrency is not tangible in the same way as money, and the way it is data of this type of currency over a blockchain is a source of information.

Against the backdrop of the above, so far at best we can argue that there is no absolute position relying on a long history to indicate that crypto assets are not property nor that they are property. However, the 'realizable commercial value is not a necessary condition of property', but attempts to indicate that not all valuables are property, such as, information or goodwill in a company. The 'realizable commercial value is insufficient for an item to constitute property', and if cryptocurrency is increasing in value, then the unrealized profit is insufficient to constitute its classification as property – even when the data of the currency is information. Problematic though, is that this approach still leaves the question open whether the actual purchase value and hence whether the crypto [currency] asset in itself is property. Thus, there are various levels of where the currency is data, which in turn provides information on who is transacting it. An accentuating question is whether the categories of choses in possession and choses in action are exhaustive? Stevens has opined that:

A natural thought is to translate the word into English as meaning (physical) things, and so 'things in possession' means 'things capable of being possessed' (e.g. tables, chairs, mobile phones). But this makes no sense in the same sequence as 'things in action', as physical things such as tables, chairs and mobile phones are not themselves rights, but rather may be their subject matter. If, by contrast, we translate 'choses' to mean 'rights' the converse problem arises as rights are not capable of being 'possessed' at all; only physical things are. By taking this view, it suggests that by implication if items can be possessed, they must also be transferable as both categories refer to transferable rights. This is because crypto [currency] assets are just numbers 'within a system operating over the internet they are just a modern store of wealth'. It is this wealth that translates to an asset that could be either tangible [the asset is cashed out into hard legal tender] or non-tangible [the asset remains on the for example, a blockchain and is never cashed out]. It could be argued the numbers are a source of information. On the other hand, it must be noted that a chose in action or chose in possession are not information, but classified at law as a thing.

2.1. Australia

Notwithstanding the above, arguments in favour of these types of assets being classified as currency and in turn property has begun to be hotly debated. The Hon Justice I. Jackman puts forward the proposition that the 'well-established Australian High Court authority on various aspects of the concept of 'property' should yield a clear answer in favour of cryptocurrency constituting property. Arguably, this is not a definition of these assets, but rather outlining the essential technology features that allows the cryptocurrency to be used. Also pertinent to this observation is how the UK are of the view that a crypto asset is ultimately defined by reference to the rules of the rules of the system that exist, including national laws and judicial decisions. This report noted that in 2019 that such assets could treated 'in principle as property'.

Notwithstanding this, Hon Justice I. Jackman posits the following questions can cryptocurrency be treated as a chose in action, and what follows if it cannot? This section will draw on his recent work, which compares a number of jurisdictions court decisions to determine whether this currency is property. Is cryptocurrency properly treated as merely information and therefore not property? Can cryptocurrency be held on trust, for example through custodial intermediary exchanges and other holding arrangements which give relatively low-cost access to trading? Can one grant a mortgage or charge over it? These are complex questions that will go some-way to confirming or otherwise with are these types of assets can be treated as property. However, it must be noted that such a

treatment will likely differ from country to country. This is because there is a lack of agreed international law and standards that, can be used to direct nation states to develop their own legal frameworks.

The problem is that some features in the process of buying and selling of crypto assets is via private platforms, that is blockchain/s, and hence a judicial rectification of errors in the blockchain is practically impossible. The challenge is aligning these new forms of asset with the traditional legal form of property. In reconciling this challenge, property law has evolved over a long period of time, 'property is equated with a thing, an asset, not a relationship'. Therefore, under the historical legal framework of property, it was divided into two categories namely choses in action (an intangible right and choses in possession) and a tangible right.

Centrally though, cryptocurrency can be bought and sold, it is definable and those who are authorized to sell it are identifiable. It is further argued that, the private key is no more than the access to a safe where the currency is stored. As his Honour Jackman J. correctly noted the 'genius of the common law lies in the way in which well-reasoned statements of fundamental principle can be adapted and applied to circumstances which previous generations could never have imagined'. On that basis and by adopting the common law approach, it is argued that there is the ability to accept new developments. Where cryptocurrency is accepted in common law jurisdictions it can safely to be classed as property. The ensuing question is whether not common law countries do, would or will do the same? Most noteworthy, the Australian Taxation Office (ATO) has already issued guidelines in relation to the treatment of cryptocurrencies for tax purposes. [15] In the Australian context, the ATO does have significant level of influence in directing how developing currencies are to be treated for tax purposes. This could include defining or classifying such currencies as property for tax purposes. Importantly though, and while one arm of government may define these currencies as such, the judiciary and other arms of government may treat them very differently. This will depend on the issue that has to be addressed.

Nonetheless, the Victorian Supreme Court in the case of Re Blockchain Tech Pty Ltd in 2024 affirmed that such assets constitute property. The Court noted that:

> No judge of a superior court in Australia has determined upon a trial of a proceeding that a person's interest in cryptocurrency, such as Bitcoin, is property. Some judges in Australia have determined or proceeded upon an interlocutory application on the basis that a person's interest in cryptocurrency, such as Bitcoin, is property. A number of judges in England and Wales, New Zealand and the Republic of Singapore have found that a person's interest in cryptocurrency is property. [16]

Arguably, based on the above, and in the jurisdictions mentioned, it is far from settled in common law countries that crypto assets are property. They have emerged as elements of property. Yet the Court also drew upon the work undertaken by the Law Commission of England and Wales and speech delivered by Justice Jackman titled '*Is Cryptocurrency Property?*', in which his Honour concludes, inter alia, that cryptocurrency is property and that, within Australian law, no impediment exists to treating cryptocurrency as a chose in action, despite the absence of an identified or identifiable counterparty. Significantly, the Court ruled that such a currency 'is not a chose in possession as it is intangible. It cannot be possessed. It is a chose in action'. Centrally, the Court drew upon judicial decisions from a number of other countries including but not limited to Singapore and New Zealand. Most notably, the Court ruled that where a 'person has an interest in a Bitcoin [cryptocurrency] is property'. The Court reasoning was that bitcoin constituted a thing which is an electronic coin. Essentially the court is arguing that two forms of coins have now emerged and are slowly integrating into the world economy. First is the traditional and tangible currency coin. Second, is the new electronic coin. They are replacing traditional currency transactions, and also, challenging well settled financial and banking institutions, particularly international cross border payments and transactions.

2.2. United Kingdom

As stated above, the UK had undertaken an initial study into whether crypto asset could be classified as property in 2019. This initial study did not fully affirm whether these assets constituted property. Since then, the UK established the Property (Digital Assets Etc.) Bill, [17] which will be implemented in 2025. The importance of this modern-day Bill cannot be underestimated, and extends those things that are digital or electronic in nature to constitute a personal property right even though they may not be a thing in possession of, or, in action. This is a significant departure from the traditional concept of property being a chose in possession or a chose in action. Notably in 2025, the Court in Sachs v Snape and others accepted that for the purposes of a proprietary and freezing injunctions related to cryptocurrency, is at least property which can be subject of an injunction. In applying these financial products to the current day law of property, it arguably, makes sense that the judiciary are other studies have looked to those elements of property law under the common law such as a chose in action and possession for guidance. [18]

Notwithstanding the above, the final report from the UK Government in relation to Digital Assets concluded that the 'case law demonstrates that the courts of England and Wales now recognize crypto-tokens as distinct things which are capable of being objects of personal property rights'. [19] Further, courts have 'deliberately proceeded in a manner that carves out a third common law-based category of thing to which personal property rights can relate'. [20] On closer observation, the Court further stated, the report importantly noted that 'courts in other jurisdictions (e.g. Australia, Canada, Hong Kong, New Zealand, Singapore, United States) have reached the same or a similar conclusion. Courts across the

common law world now consistently proceed on the basis that crypto tokens are capable of being objects of personal property rights. The Court went further stating this includes recognition that crypto-tokens can be subject to an interlocutory proprietary injunction, which are capable of being held on trust and fall within the broad statutory definition of "property". Of note these jurisdictions rely on the common law. Thus, it could be conceivable that this may vary when it comes to civil law jurisdictions.

2.3. United States

In the United States similar to other common law jurisdictions, cryptocurrency is viewed as property for tax purposes. In a sign that the US is moving a similar way to that of the UK, the Genius Act was established in 2025 to regulate stablecoins. [21] In addition, the Digital Asset Clarity Act is in Congress. [22] Once passed it will provide a greater level of clarify in relation to the status of crypto assets. In United States v. Chastain whereby at issues was money laundering. The Court had to decide on whether there was an error in relation to defrauding of an entity 'OpenSea of its property if he misappropriated an intangible interest unconnected to traditional property rights'. [23] By way of background 'OpenSea is an online marketplace for buying and selling NFTs. An NFT is a "unique digital artifact" that "can be bought and sold on the blockchain'. Furthermore, 'Chastain purchased approximately fifteen NFTs that were then featured on the website. Chastain generally purchased and sold the featured NFTs using anonymous accounts. For each trade, Chastain transferred cryptocurrency from his personal account into an anonymous account that he used to purchase the NFT'. In applying the concept of property, Chastain moved to 'dismiss the indictment, arguing that it failed to allege that the featured NFT information was OpenSea's property because it lacked commercial value'. Chastain also argued that the NFT could not be property as the 'company did not take steps to protect its confidentiality'. The early decision by the district court argued that company information does not qualify as property. However, the Court stated that 'confidential business information must have commercial value to a company to qualify as its property'. On this instruction provided to the jury in the district court was to evaluate the commercial value of the confidential business information. It was this argument of commercial value that was not separated from the broader notion of confidential business information and instructing the jury to consider such. Thus, the court affirmed that where crypto-NFT forms part of confidential business information, it is categorized as the entity's property.

2.4. New Zealand

Across the Tasman sea from Australia, New Zealand has not regulated for cryptocurrency. Since 2020 crypto assets themselves have followed other similar common law judiciaries and classified them as property. [24] Consequently, 'crypto is classified as property, section CB 4 of the Income Tax Act 2007 is relevant: "An amount that a person derives from disposing of personal property is income of the person if they acquired the property for the purpose of disposing of it'. [25]

The High Court of New Zealand in, dealt with the question whether cryptocurrency can be held in trust which in one view is only possible if the cryptocurrency is property. The Court made the point that 'before a right or an interest can be admitted into the category of property, or of a right affecting property, it must be definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability'. [26] Centrally, traditional forms of property provide all of the above. That is, tradition forms of property such as land and shares are definable and easily identified. They come with a degree of performance and stability. In the case of shares, they are unstable when the economy is exposed to shocks. Problematic though is cryptocurrency has no physical attributes in the same way as traditional legal tender. Once established over the technology by a private or some other key, it can be replaced. In comparing a cryptocurrency to legal tender that is provided by government highlights the stark reality of differences. Legal tender generally has is registered by the government with a unique number if identification marks (pictures, material used, name of country amongst others). It can be physically held. On the other hand, cryptocurrencies are not legal tender and formally registered by governments with unique identifying marks. They exist on technology. Thus, it could be argued that without having a physical coin, attaching property to it could be problematic. However, it could be conceivable that this type of currency comes with other categories of property. More recently what has emerged in New Zealand is the establishment of a register of Crypto Asset Service Providers. Such a register does make available who is trading and holding these assets. [27]

2.5. Singapore

In Singapore the High Court in *ByBit Fintech Limited v Ho Kai Xin* classified these assets as a form of property. [28] Although the Court relied on *Rules of Court 2021* which defines movable property to be 'cash, debt, deposits of money, bonds, shares or other securities, membership in clubs or societies, and cryptocurrency or other digital currency' [emphasis added]. The Court states that 'cryptocurrency has thus been expressly recognized as a form of property capable of being the subject matter of an enforcement order. The 2021 Rules of Court 2021 did not specify a precise method for carrying out such an enforcement order, it is observed in passing that the procedures for serving a notice of seizure on the persons or entities having possession or control of movable property (O 22 r 6(4)(*b*) of the Rules of Court 2021) or on the persons or entities which register the ownership of intan-

gible movable property (O 22 r 6(4)(*g*) of the Rules of Court 2021) are logically extendable to cryptocurrency or other digital currency. By adopting the above, in Singapore, even if people are sceptical of the value of crypto assets, this does not affect the classification of property as the value should not affect a classification of any object. In fact, the approach adopted is applying the well settled legal concept of property to a modern-day issue.

More centrally, the above was reaffirmed in 2025 by the High Court in *Re Taylor*, whereby, at issue as part of an insolvency was whether 'cryptocurrency constitutes property and would be capable of being held on trust. At paragraph 32, the Court highlighted how a resulting trust arises under existing law where party A makes a voluntary payment to party B or pays (wholly or in part) for the purchase of property, which in the case of a joint purchase by A and B in shares proportionate to their contributions. ref in the alternative, a trust also arises where, party A transfer's property to party B on express trusts, but the trusts declared do not exhaust the whole beneficial interest. Most importantly, the Court ruled that under both scenarios that neither of the two sets of circumstances seem to be present here'. [30] Thus, the Court did not conclusively confirm whether such assets constituted property.

3. Cryptocurrency as a Transaction

The first and powerful argument is that crypto assets have a level of transactional power. [31] This is because the currency itself is transacted across technology, and knows no international borders. It affirms that these assets come with a function's that enables the facilitation of transactions between individuals and entities. On the other hand, such a transactional power consists of the following a notional quantity unit, and is manifested through the combination of software operated by a network of participants, and data instantiated on a network; rivalrous; and independent of the legal system and other persons. [32] These are the necessary features of crypto [tokens] assets and accordingly, a Digital Asset ' a) exists as a notional quantity unit manifested by the combination of the active operation of software by a network of participants and network-instantiated data; b) exists independently of any particular person and legal system; and c) the thing is not capable of duplication and use or consumption of the thing by one person or specific group of persons necessarily prejudices the use or consumption of that thing by one or more other persons. [33] However, it must be noted that jurisdictions may classify tokens differently with that of cryptocurrencies. They can and do perform different functions. More specifically, it is the they are supported differently over technology such as blockchain. For instance, cryptocurrencies rely on code to facilitate issuance and transactions [asset on blockchain], while, tokens are generally created and transacted on a platform [on an existing blockchain].

On the one side, crypto assets are ultimately an abstract 'asset as opposed to a physical one. The undeniable fact is that crypto assets can be traded and trading suggests that something of value exists. It is of interest to note that Stevens in a follow up article did suggest that crypto assets are "of course capable of being the object of property rights.' [34] On the other side the reasons to not confer property rights in respect of crypto assets, despite them being conceptually capable of being the subject of property rights. An important and compelling argument is that if crypto assets were not classed as property, the current day legal framework would struggle to afford any level of protection to them.

Moreover, this is not to say that the law cannot or will not introduce penalties under the criminal law. Put another way 'classifying crypto assets as property under the criminal law would be sufficient to solve the non-consensual interference problem, on the basis that there would be criminal penalties for acts such as intentional destruction of a crypto asset. However, this would be insufficient because the criminal law does not provide a ready mechanism for remedies to be granted to the *claimant* in an adequate range of situations'. By taking this approach, the end result is that specific legalization would need to be drafted to overcome the criminal action such as theft of crypto assets. Arguably, under the common law this is not necessary as demonstrated above, there enough case law is currently available to classify crypto assets as property. As property they are transacted nationally and internationally. The next section briefly discusses these digital assets in the context of investment treaties.

4. Cryptocurrency and International Investment Treaties

The regulatory landscape for cryptocurrencies is evolving rapidly. The question is whether these digital assets fall within the current day investment treaty framework. Noteworthy is that this section does not examine existing state-based investment treaties, which is an area of further research. Rather, it draws upon recent work undertaken by legal and other current and emerging scholars in this area such as Sara Nicola D'Sousa and others. [35] D'Sousa in referring to Professor Zachory Douglas who places these assets under a protected investment framework, which in turn, 'requires recourse to municipal law to ascertain the proprietary nature of that investment'. Doing so then poses a further question that a crypto [currency] asset is a security or a commodity?

Firstly though, to qualify as a 'protected investment', an investment must have a legal materialization under municipal law, and must possess economic characteristics that typically conceptualize foreign direct investment (FDI), which Bilateral Investment Treaty (BIT) intend to promote. As noted by D'Sousa, Tribunals will take the literal approach to how an investment is defined. On the other hand, 'tribunals do not assess whether an investment's individual legal components meet the elements under the BIT and The International Centre

for Settlement of Investment Disputes (ICSID Convention); rather, they view the investment as a single economic operation to assess whether an 'investment' has been made'. In relation to property itself when 'covered investments in BITs include intangible property such as equity and debt securities, and claims to money/performance'. Notably, 'an essential requirement is that the investment has been made with a 'contribution', but tribunals have been fairly broad in their definition: 'any dedication of resources that has economic value'. It can be argued that cryptocurrency does and has over time increased its economic value.

Notwithstanding the above, Professor Douglas describes the legal materialization of an investment to be 'acquisition of a bundle of rights in property', aligned with the characteristics of an investment under the relevant BIT, and territorially linked to the host State. More importantly, Professor Douglas 'conceptualises investments into four categories: investment-as-property, investment- as-contractual-rights, investment-as-expectations and investment-as-value, each having implications at the jurisdiction and merits stage'. The *subject matter* of the property right, however, is a *factual* ability to 'effect a blockchain transaction that will be recognised as valid under the relevant consensus algorithm. Yet the role of the nation state becomes important. This is because the local and/or national law, or, the judiciary that will determine the classification of these assets. On that basis, 'the crypto-assets for a BIT claim are necessary because [nation] States can be held responsible only for measures taken against assets over which they have control, and such control can be exercised only in their territory. To determine the, territorial link (*situs*) for intangible property, tribunals typically refer to the private international law rules (relying on territorial connecting factors) of the host State'. Today, this will vary from state to state. It will be determined by the local legal regime, with numerous factors involved, from, tax, securities, investments, funds or sovereign bonds, amongst others.

For 'investment treaty cases are the sovereign bonds cases'*Abaclat and others v Argentine Republic*, ICSID [36] whereby, the decision concerned the jurisdictional phase of a dispute relating to Claimants' claims for compensatory damages due to Respondent's alleged breach of its obligations under the Agreement between the Argentine Republic and the Republic of Italy on the Promotion and Protections of Investments (the Agreement) signed in Buenos Aires on 22 May 1990'. Notably, the Tribunal relied on Art 1(1) of the Agreement that investment shall mean, in compliance with the legislation of the receiving State and independent of the legal form adopted or of any other legislation of reference, any conferment or asset invested or reinvested by an individual or corporation of one Contracting Party in the territory of the other Contracting Party, in compliance with the laws and regulations of the latter party. In particular, investment includes, without limitation movable and immovable property and any other property rights such as collateral securities over the property of third parties - to the extent they may be used for investment credits which are directly related to an investment. Lawfully created and documented pursuant to the legislation in force in the State where the investment is made, copyrights, intellectual or industrial property rights - such as patents, licenses, registered trademarks, secrets, industrial models and designs -as well as technical.

The Tribunal in referring to the above went further stating that by analyzing the structure of the various subsections of Article 1(1), it appears that they reflect a categorization of various types of investments from the perspective of rights and values that they generate: lit. a) refers to property rights on movable and immovables, lit. b) relates to participations into companies, lit. (c) refers to financial instruments, lit. d) refers to credits, lit. e) to rights on immaterial property and technology transfer, and lit. f) to all kinds of further rights of economic value. In determining the investment type and location the Tribunal noted that the place of the investment firstly depends on the nature of such investment. With regard to an investment of a purely financial nature, the relevant criteria cannot be the same as those applying to an investment consisting of business operations and/or involving manpower and property. In conclusion and while the Tribunal ruled on 11 elements/issues related to this dispute, in relation to the above on property and bonds, it was ruled that the bonds in question, and in particular the security entitlements held by Claimants in these bonds, qualify as investment under Article 1(1) BIT.

Most importantly, and while this case did not relate directly to cryptocurrency, it confirmed that a Tribunal will look to the definitions of the BIT to determine whether the investment has an economic value and is property. Noteworthy too, in this brief examination is how the 'protection of a BIT only materializes once capital has been committed/expended in exchange for a right *in rem* recognized under municipal law and legally sited in the host State, falling within the notion of an investment under the BIT and/or the ICSID 'acquisition of a bundle of rights in property', aligned with the characteristics of a Convention'. There will be a number of factors that influence and determine how cryptocurrencies will be treated as property under investment law. Generally, an analysis of the relevant BIT definitions will be fundamental to determining whether there is an investment. This narrow approach does not consider other relevant defined terms within a BIT, and while this article has not compared BITs definitions, at this point in time, it is highly unlikely that cryptocurrency's will be specifically defined. Even so, once the currency has been determined to be an investment, it may well fall within the notion of property.

Therese Karlsson-Niska in her 2019 study of the same issue noted that the description of investment constitutes 'referring to "capital" or "money", has later been removed from the dictionary leaving the description of investment as "[a]n expenditure to acquire property or assets to produce revenue; a capital outlay'. [37] Niska goes further noting that there has been a general shift by describing investment more broadly to ensure new forms of transactions are covered. The author in

referring to case law of Salini highlights the criterial of an investment constitutes a contribution of money or other assets of economic value, 2) the duration of time, 3) element of the risk and contribution to the hist state development. However, this criterion is not fully settled and it may evolve over time. Arguably, as different forms of investment take place there is little doubt that the notion of investment along with property will mean different things. Arguably, 'when looking at BITs the broadest definition of investment has been deemed to be the reference to every kind of asset. This accords with a list of examples, usually covering "traditional property rights; participation in companies; money claims and rights to performance; intellectual property rights; concession or similar rights'. Again, it is not fully settled that cryptocurrency used in transnational investments is property. However, it arguably leaning that way and will largely depend on national laws.

More broadly, 'international investment law was developed to protect investors venturing into cross- border investments in assets. The notion of asset defines the scope of the overall field. Still, most IIAs provide generic definitions of the term. Each form of digital economy attracts its own version of investment; investment in digital companies, as well as infrastructure, on the one hand, and investment in purely digital assets—be they of the metaverse, the crypto-world, or otherwise, on the other'. [38] Also pertinent is how the 'economy of the metaverse, where the digital world replicates, to some extent, the physical world'. The resulting effect is that the digital economy has emerged in its own right, whereby, it provides an exclusive for of economic activity. This new economy is arguably separate to that of the traditional human physical economy. Central in delineating the above is how the digital economy and individual or entity can 'purchase movable property such as clothes, accessories, and art, as well as 'immovable' property, that is 'real estate'. Some scholars take the view that the crypto world is part of the digital world, which in turn is the digital economy. In agreeing with this position, is how the 'broad definition of 'investment' and 'asset' typically encompasses non- physical assets including intangible assets and intellectual property'. On this basis alone, it is highly conceivable that cryptocurrency is property under investment law. More realistically though is that, this proposition relates to the wider definition of investment and asset. Nevertheless, the formal and functional dilemma is the various situations and circumstances that will determine whether these assets will have a level of property. Under investment law, which in turn can relate to trade law from an investment perspective, is that, these assets form part of the new digital economy and generally fall within the definition of investment under BITS. In turn, they assume a level of property.

5. Conclusion

The classification of crypto assets such as cryptocurrencies has been problematic from several perspectives. Cryptocurrencies have the potential to help to facilitate digital trade by enhancing the efficiency of cross-border payments through streamlining processes and reducing intermediaries. They enable real-time cross border payments and can overcome challenges such as high costs, slow speeds, operational complexity and improve transparency. They can provide an alternative to credit information for trade finance and allow others in the market particularly rural and regional locations improved access to the financial system. As a form of financial product, they can potentially assist in minimizing and detecting money laundering activities. It is argued that while they are distinct in their activity and definition, they will perform a level of function that is consistent with other such tools that have a property right attached.

A further accentuated point is that they will be wrapped up as part of the overall landscape for international trade and investment. The ensuing problem is that the current systems and infrastructure have been in place for decades and some governments may be reluctant to change. To date, the common law recognizes only two classes of personal property, and these include choses in possession and choses in action and digital currency does not fit into either category. In the UK this has all but been confirmed by the recent introduction of national legislation. Generally, however, the jurisdictions compared above have relied on the judiciary to develop the legal landscape for recognitions of these assets to be property or otherwise. The arguments for crypto assets as valuable information are compelling as are those for crypto assets as transactions but the dilemma remains that a penalty will be needed to deter criminal activity such as theft involving crypto assets. Digital financial data technology is growing in use and acceptance of a classification of crypto assets as property, information or transactions is becoming much needed as guidance for both providers and consumers.

Notwithstanding the above, ultimately the notion that cryptocurrency's can be categorized as property, although this will depend on a number of factors. For instance, it will be influenced by national and local laws within nation states. It will also be influenced as to the category it has been identified to apply such as an investment, funds, securities, does it come with an economic-commercial value, or subject to tax or criminal law, or is it a sovereign-bonds, amongst others. These categories will influence the level of property attached to these assets. It will also depend on whether it is classified as confidential business information. Thus, the resulting outcome will be on a case-by-case basis in the absence of any legislation or regulation that confirms such a classification. A further important influence will be definitions within investment treaties. However, it will be largely left to national laws and judiciary to make this determination.

In a final salutary point, and while this article did not explore trade agreements, further research in needed in the treaty area to better understand how such an asset may be viewed in specific trade and investment treaties. This area of the law is evolving and

will continue to evolve. Governments and regulators will need to be vigilant as technology changes and these activities become more mainstream. Finally, and to a lesser extent, the use and application of specific technology will also be a determining factor as to whether these assets are property.

Abbreviations

BIT	Bilateral Investment Treaty
DLT	Distributed Ledger Technology
FDI	Foreign Direct Investment
UK	United Kingdom
US	United States
WTO	World Trade Organization

Conflicts of Interest

No conflicts of interest arise from this article.

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