



INSOL International

Cryptocurrency and its impact on insolvency and restructuring

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INSOL SPECIAL REPORT



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Acknowledgement

Following on from the very successful sessions on cryptocurrency at the INSOL Singapore annual conference at the beginning of April 2019, we are pleased to provide our members with a Special Report titled “Cryptocurrency and its impact on insolvency and restructuring”, by Rick Chesley and Malithi Fernando of DLA Piper.

In this Special Report the authors look at a variety of issues relating to cryptocurrencies, starting with the most basic description of cryptocurrency, blockchain and initial coin offerings (ICOs). This is followed by a discussion of the legal characterisation of cryptocurrencies (also from the point of view of various jurisdictions) and a discussion on whether or not security rights may be taken over cryptocurrencies. The report then looks at cryptocurrencies in the context of insolvency and restructuring, concluding with a forward-looking discussion on the regulation of cryptocurrencies.

INSOL International would like to thank Rick Chesley, Malithi Fernando and the whole DLA Piper team for this very timely and interesting paper on cryptocurrency and its impact on insolvency and restructuring.

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The authors would like to thank the DLA Piper team listed below for their contribution to this Special Report:

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Cryptocurrency and its impact on insolvency and restructuring

By Richard Chesley¹ and Malithi Fernando,² DLA Piper

1. Introduction

The UK government recently released certain papers under the Official Secrets Act 1989, where the 1994 government advisors during John Major's premiership confidently commented that e-mail would never catch on. As our inboxes fill up while we are on holiday, and smartphones presage new technologies, we may wish that they had been right but history will judge their greatest prophetic moment. History has been littered with intelligent predictions about how innovations will either change our very essence or become a white elephant. In 1920, The New York Times dismissed the possibility of space travel by claiming that "a rocket will never be able to leave the Earth's atmosphere." In 1969, the paper issued a retraction of its original article as the Apollo 11 headed to the moon. Undoubtedly, cryptocurrency has inspired numerous predictions on both sides and in time we may be able to judge which were accurate but at the moment it remains to be seen whether cryptocurrencies will remain the successes of the internet and space travel, or disappear like Google glasses.

The world is changing in such a way that the lines between the "virtual" and the "real" world are becoming less distinct. Banks and traditional financial institutions have moved to online platforms and physical cash is becoming obsolete. Modern payment systems are computerised and money exists mostly as digital records on a bank's account ledger.

1.1 Where do cryptocurrencies fit into our world?

Digital currencies are currencies stored and transferred electronically; cryptocurrencies are a form of digital currency. On 3 January 2009, the cryptocurrency revolution commenced with the launch of the first cryptocurrency in the form of the Bitcoin network. However, digital currencies have been around for some time. For example E-gold was a digital gold currency operated by Gold & Silver Reserve Inc., founded in 1996. It allowed users to open an account denominated in grams of gold (or other precious metals) on their website and make an instant transfer of value to other E-gold accounts. Certain digital currencies can be held and used only in the context of a virtual world, for example, video games like World of Warcraft allow users to purchase certain virtual products within the game using virtual currencies. These virtual currencies are those that are not intended for use in real life or for the purchase of real assets. On the other hand, cryptocurrencies are mathematical and cryptographical constructs designed with the intention of acting as a substitute for traditional payment platforms. Cryptocurrencies originated from the shadows of the financial crisis, as a direct contender against the traditional system of currency and central banks. The new generation of consumers are disillusioned by the traditional financial system, the cost associated with transactions and the role that banks and financial institutions played in the recent financial crisis. This has led to the growing interest in a decentralised financial system which is inclusive of all consumers irrespective of credit history and a system which has the ability to give the consumer greater control.

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The growth in popularity of digital currencies with consumers over the years has forced markets, legislators and regulators to pay attention. How things will be litigated can be postulated but no one really knows whether something will continue to grow or whether it will fail. Cryptocurrencies exemplify this notion. What we do know is that all innovations will need the benefit of the insolvency and restructuring profession at some point through their development journey. As crypto-transactions infiltrate the mainstream markets and become part of the bankruptcy estate of individuals and corporations alike, insolvency professionals will be asked to answer questions that have not yet been made clear through legislative guidance and regulation. We also know that only through the lens of insolvency will the real nature of the legal relations of cryptocurrency be tested. Insolvency professionals will need to adopt new and innovative methods to tackle the issues arising from the uncharted legal complexities of cryptoassets and the difficulties of consolidating a legal black hole.

The purpose of this paper is to provide an overview of cryptocurrencies, particularly looking at Bitcoin. The paper commences with an analysis of what cryptocurrencies are and how they function within the current economic environment. We then continue to consider the legal characterisation of cryptocurrencies, or the lack thereof, and the implications of this for those participating in the cryptocurrency markets. We also consider what security interests are capable of existing in a cryptoasset. We analyse the challenges that insolvency professionals face when confronted with an insolvency estate that contains various cryptoassets. We then conclude by providing an overview of the current regulatory position of cryptocurrencies in a number of jurisdictions to get a sense of the issues that they are confronting. It is not surprising to learn that there is little universalism. It soon becomes clear that the issues surrounding cryptocurrencies and blockchain have outpaced legislation and regulation.

2. Cryptocurrency and blockchain

2.1 What is cryptocurrency?

2019 is the tenth anniversary of the world's first cryptocurrency, Bitcoin. Cryptocurrencies emerged as a bi-product of digital cash and within a few years would be worth more than USD 10 billion, peaking at above USD 300 billion. Despite the overwhelming success of cryptocurrencies over the years, the technology appears to still linger on the fringes. In this part of the paper the essential characteristics of cryptocurrency and blockchain are considered, particularly looking at Bitcoin (considered to be the first and most important cryptocurrency in play at present) as our case study and its journey so far.

A paper on cryptocurrencies would be incomplete without a brief history of the development of cryptocurrency and paying particular homage to the legendary Satoshi Nakamoto, the enigmatic inventor of Bitcoin. We know very little about Nakamoto, not even whether the name is a pseudonym for an individual or a group of likeminded individuals.³ We do know that in 2008 Nakamoto developed a paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System" which was posted to an obscure list of "cypherpunks"⁴ looking to incite social, economic

³ As this paper goes to print, the unveiling of the actual invention of Bitcoin is gathering substantial media attention.

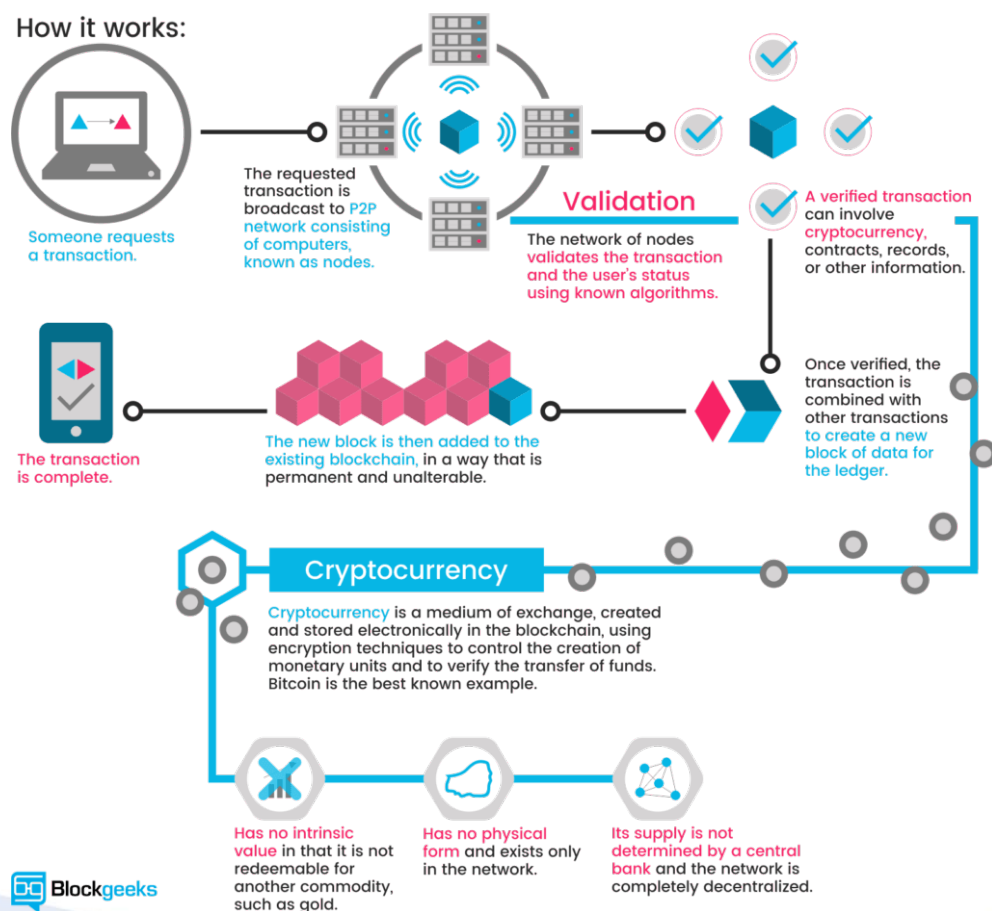
⁴ A "cypherpunk" is an activist advocating the widespread use of strong cryptography and privacy-enhancing technologies as a route to social and political change.



and political change through cryptography and computer science. The idea emerged from the ashes of one of the worst financial crises the world had ever seen; Nakamoto idealised a society which is independent and capable of performing basic functions of life without the need for bankers, accountants and government (seen by some to be the instigators of the financial crises). The paper set out the blueprints for Bitcoin, which intended to prevent double spending and to create a completely decentralised digital cash system. The basic idea is to allow money to be transferred between individuals in the online community in a transparent environment without restrictions and extra fees being paid to a third party. This is in contrast to the traditional payment system that requires a central server (charging fees) that maintains a record of the balances.

Bitcoin consists of a network of peers and every peer has a record of the history of all transactions, including the balance of every account. When a transaction is requested, it enters the peer-to-peer network consisting of computers known as nodes. Using algorithms, the network of nodes validate the transaction including the user's status. When the transaction is verified by the network it is combined with other transactions to create a new block of data for the ledger. The new block is added to the existing blockchain in a way that is permanent and unalterable. The transaction is known almost immediately by the entire network. Miners alone can confirm transactions in the cryptocurrency network and they are rewarded with a token of cryptocurrency for fulfilling this role.

The diagram below demonstrates how Bitcoin transactions work:⁵



⁵ <https://blockgeeks.com/guides/what-is-cryptocurrency/>.



The essential characteristics of Bitcoin are:

- transactions confirmed by the network are irreversible;
- transactions and the accounts are not connected to the actual identities of users. The accounts consist of a random chain of thirty characters. It is possible to analyse the transactions that have been made using the account address as these are available on the decentralised network for anyone to view. However, it is difficult to connect to a real world identity without co-operation from the user or an exchange platform;
- transactions made using the network are near instantaneous and can be confirmed within a few minutes. The system consists of a global network of computers and it is not affected by geographical location, business hours or public holidays;
- cryptocurrency funds are stored in a public key cryptography system which can only be accessed by the holder of the private key;
- due to the decentralised nature of the network, cryptocurrency transactions are reviewable by anyone on the platform without restriction. It only requires an individual to download the software which is free of charge.

Bitcoins are created by “mining”, which is the processing of transactions by adding to the record of past transactions. Anyone in the cryptocurrency community can be a miner since the decentralised system does not have an authority to delegate the role. In order to prevent fraud, Nakamoto created the rule that miners will need to solve a cryptologic puzzle in order to qualify to perform the role of a miner. With the solution to the puzzle, the miner can proceed to build a block and add to the blockchain. A finite number of Bitcoins can be mined by this process; 21 million according to Nakamoto’s design. This determines the market value of Bitcoins. Ethereum is the second largest alternative cryptocurrency to the Bitcoin. Ethereum, unlike Bitcoin, has automated transaction functionality.

A study by the European Financial and Administrative Authority in 2015 set out the types of cryptocurrency payment arrangements in existence, taking into account the interaction between cryptocurrency and traditional currency:

- **closed arrangements** have no connection between the global economy and cryptocurrencies. Cryptocurrencies are only exchanged with other cryptocurrencies, that is, in computer games using in-game currency. This type of cryptocurrency is not yet considered to require regulation or legislation;
- **unidirectional flow arrangements** are where the cryptocurrency can be transformed into fiat currency (currency that has been declared by a government as legal tender). However, the opposite cannot occur (for example, Facebook Credits sold by Facebook in 2009, whereby fiat currency could be used to purchase the Facebook Credit, but the Facebook Credit could not be converted back to fiat currency). This would also not require a great deal of regulation as long as users do not oversubscribe to it; and
- **bidirectional flow arrangements** are where cryptocurrency could be converted freely into cash and *vice versa*. Therefore, cryptocurrency can be used to buy and sell goods and services. This type of payment arrangement will be of particular interest to lawmakers and regulators.



2.2 What is blockchain?

As described above, blockchain provides a new approach to holding and authenticating data. It is a database operating through distributed ledger technology (DLT) in which data is recorded on computers, by way of a peer-to-peer mechanism, based on pre-agreed consensus algorithms in the applicable participating network. It is a form of database where data is stored in the chain in either fixed structures called “blocks” or algorithm functions called “hashes”.

Each block includes unique features, such as its unique block reference number, the time the block was created and a link back to the previous block. Each block is reviewed by a number of nodes and the block is only added to the database if the node reaches consensus that the block only contains valid transactions. Content includes digital assets and instructions that reflect the transactions and parties to those transactions. The ability to track previous blocks in the chain makes it possible to identify transactions back to the first ever transaction completed, enabling parties to verify and establish the authenticity of the assets in the latest block. This makes blockchain exceptionally accurate and secure.

Specialist users on the system apply advanced computing software to identify time-stamped blocks, verify the accuracy of the blocks using sophisticated algorithms and add the verified blocks to the chain. As the number of participants increases, the replication of the data over a wider base makes it harder for any person to alter the data in the chain. Any attempted addition or modification to the information on a block needs to be approved by all users in the network and verification of any block can only happen through a “proof of work” process. This process requires vast amounts of computing power, making it practically impossible to insert fake transactions into a block.

As a result, the data is identified and authenticated in near real-time, providing a permanent and incorruptible database sufficiently robust to operate as a store of value (for example, in the case of Bitcoin) or providing an indisputable record, for example, relating to securities transfer.

Blockchain may be public and open (also known as “permissionless” or “unpermissioned”) or structured within a private group (also known as “permissioned”). Permissionless blockchains include Bitcoin and Ethereum, in which anyone can set up a node that, once authorised, can validate, observe and submit transactions. The identities of the participants are not known (other than the unique and random identities known as an address). Permissioned ledgers restrict participation in the network and only the specific participants are given access and are known within the network. The network is private and only organisations that have been authorised can participate and view transactions. The technology supporting a distributed ledger could be used for recording ownership and transfer of property, potentially replacing organisations such as a land registry. However, adapting blockchain technology for public ledgers, such as land registries, will require the real life identities of the individuals to be easily accessible.

Due to the cost efficiency of blockchain, many financial institutions have been investing in several blockchain-based services and smart settlement systems. Accenture has estimated that the largest investment banks could save USD 10 billion annually by using blockchain technology to improve the efficiency of



clearing and settlement.⁶ Major financial institutions (including JP Morgan Chase and Citigroup) have been exploring blockchain technology for tracking derivative trades. In 2015, New York fintech firm R3 created a consortium with a number of financial institutions including Barclays, BBVA, Commonwealth Bank of Australia, Credit Suisse, JP Morgan, State Street, Royal Bank of Scotland and UBS. The consortium seeks to investigate blockchain use in securities settlement payments.

The Financial Conduct Authority (FCA), the financial regulator in the UK, is currently considering a number of applications from blockchain firms that could lead the way for UK consumers using products underpinned by blockchain technology.

2.3 What is an initial coin offering (ICO)?

ICOs are a form of digital currency or token using blockchain technology. ICOs are often a means by which funds are raised for a new blockchain or cryptocurrency venture (the market for ICOs was booming in early 2018). ICOs come in a wide variety of forms and may be used for a wide range of purposes. Some forms of ICOs may be directed at customers or suppliers as a form of loyalty programme, or a form of access or purchasing power (preferential or otherwise) in respect of assets of the issuer's business. Other forms may be more focused on raising initial funding. It is essential to examine the legal and regulatory basis of any ICO. An unauthorised offering of securities is illegal and may result in criminal sanctions in a number of jurisdictions. Legal analysis of the underlying token will determine whether it should be treated as a specified investment or as a form of regulated security, or is more appropriately a form of asset that is not itself subject to the regulatory regime.

Typical attributes provided by tokens will include:

- access to the assets or features of a particular project;
- the ability to earn rewards for various forms of participation on the platform; and
- prospective return on the investment.

Key aspects to consider will include the:

- availability and limitations on the total number of the tokens;
- decision-making process in relation to the rules or ability to change the rules of the scheme;
- nature of the project to which the tokens relate;
- technical milestones applicable to the project;
- basis and security of the underlying technology;
- amount of coins or tokens that are reserved or available to the issuer and its sponsors and the basis of existing rights;
- quality and experience of management; and
- compliance with law and all regulatory requirements.

⁶ https://www.accenture.com/t20170120T074124Z_w_us-en_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Consulting/Accenture-Banking-on-Blockchain.pdf#zoom=50, at p 6.



The nature of the business and the purpose and structure of the token offering will typically be set out in a white paper available to potential purchasers.

Set out below is a list of some of the largest ICOs to date:

- 1) Cayman Islands-based Block.one raised USD 4 billion through an ICO selling a proprietary token, EOS. Block.one did not have a live product at the time it collected investments, thereby raising capital on investor confidence alone. The investments were used to fund a decentralised alternative to current cloud-hosting services;
- 2) Filecoin is a decentralised storage network that was converted to a cloud storage company which runs on blockchain, with Filecoin tokens earned by miners who provide storage to clients (similar to the Bitcoin miners who are rewarded with Bitcoins for validating the blockchain). Filecoin raised USD 257 million to develop and unlock unused storage in data centres;
- 3) Telegram provides an encrypted messaging and blockchain ecosystem and raised USD 1.7 billion. The company used the ICO funding to develop the Telegram Open Network, which can be likened to the Ethereum ecosystem with apps, services and a store for digital and physical goods;
- 4) Venezuela's cryptocurrency, the Petro, was reported to have raised USD 5 billion, which is considered to be the most successful ICO of all time.

In September 2017 the UK's FCA issued a statement warning the public that "ICOs are very high-risk, speculative investments" and outlining the potential risks associated with investing in unregulated parts of the financial sector. The FCA stated that it will consider whether ICOs fall within the FCA's regulatory boundaries on a case by case basis. This is due to the fact that some ICO's may involve regulated investments and regulated firms; consequently, it may fall within the definition of a regulated activity. The FCA gave the following warning:

"Businesses involved in an ICO should carefully consider if their activities could mean they are arranging, dealing or advising on regulated financial investments. Each promoter needs to consider whether their activities amount to regulated activities under the relevant law. In addition, digital currency exchanges that facilitate the exchange of certain tokens should consider if they need to be authorised by the FCA to be able to deliver their services."⁷

Now that we have a better understanding of what cryptocurrencies are and the environment in which they developed, why should we care about them? Is it just another bubble that will grow exponentially in the short run and die a quick and painful death? Are all of the investors in tokens just throwing their money away, is it just another form of gambling, or are they onto something that is likely to continue to develop and grow? Today, it is difficult to provide an answer to any of these questions. One thing that everyone can agree on is that the crypto-market is volatile and uncertain. However, if cryptocurrencies are able to achieve the principles idealised by their inventors in a safe and effective way, it could be a serious competitor to the financial *status quo*. Clearly cryptocurrencies have slowly infiltrated into the financial markets in the form of ICOs and as an alternate payment system and the insolvency and restructuring profession should pay attention. As more consumers and corporations engage in transactions involving cryptocurrencies, the greater the likelihood of

⁷ FCA - Consumer warning about the risks of Initial Coin Offerings (ICOs), published 12 Sep 2017.



insolvencies and bankruptcies involving cryptoassets. This is particularly evident from the insolvency cases that have arisen in jurisdictions such as Russia and the US, which are considered in greater detail later in this paper. The pertinent question remains: is it likely to emerge from the fringes as a serious alternate currency or payment system? This will depend on a number of factors, both commercial and legal. The rest of this paper will consider some of these legal factors in greater detail.

3. Legal characterisation of cryptocurrencies

How does the law deal with cryptocurrencies and cryptoassets, what is the legal characterisation of cryptocurrencies and why is it necessary to consider these questions? At around the time of the finalisation of this paper, one Bitcoin was equivalent to GBP 4,114.75. If individuals were looking to spend a substantial price to purchase one Bitcoin, they would want to understand their legal rights over the Bitcoin. On purchasing the Bitcoin from an exchange or another individual, does one “own” the Bitcoin? If so, how can this ownership right be demonstrated? Bitcoin is intangible; at its core it is merely cryptographic code held on a digital system in a virtual account under a pseudonym, which might not have any connection to someone’s real world identity.

Why does this matter to the insolvency and restructuring profession? It matters because insolvency professionals are already having to address these issues when dealing with insolvent estates that include some form of cryptoassets, and they come in various forms. The difficulty arises where there is no clear legal characterisation of the cryptoasset; is it a currency due to the fact that it has been coined as one, or is it a financial instrument or a commodity? It is important for an insolvency professional to understand how to treat a cryptoasset within an insolvent estate, as the primary duty of an insolvency professional is to maximise the value of the assets in that estate. In order to do this, the insolvency professional needs to decide the characterisation of cryptocurrencies within the context of the relevant insolvency regime and the security interests attached to such assets. To date, there is little guidance in bankruptcy case law as to how Bitcoin and other cryptocurrencies should be valued. This will in turn permit creditors to call into question the actions of an insolvency professional dealing with cryptoassets. This is more clearly demonstrated in the case study dealing with MtGox later in this paper.

Before considering what rights reside over cryptocurrencies, the legal status of cryptocurrency needs to be understood. In this part of the paper the categories that cryptocurrencies can fall within, are considered.

3.1 Cryptocurrency as currency

Currency is a medium of exchange and fiat money is currency that has been declared by a government as legal tender. In *California Bankers Association v Schultz*⁸ the US Supreme Court set out the test to determine currency: “currency is defined in the Secretary’s regulations as the “coin and currency of the United States or of any other country, which circulate in and are customarily used and accepted as money in the country in which issued.” The European Central Bank (ECB) has defined virtual currencies as a “type of unregulated, digital money which is issued and usually controlled by its

⁸ 416 US 21 (1974).



developers and used and accepted among the members of a specific virtual community”.⁹ Whilst Bitcoin would not likely be considered a currency as it is not issued or sanctioned by a government, the ruling of the European Court of Justice (ECJ) in *Skatteverket v David Hedqvist*¹⁰ supported the position that cryptocurrency may be regarded as currency. The ECJ ruled that the services of a Bitcoin exchange were exempt from VAT on the basis of the “currency” exemption in Article 135(1)(e) of the VAT Directive.¹¹ The decision confirmed that the exchange of Bitcoin for fiat currency is a supply of services equivalent to a transaction concerning currency, bank notes and coins used as legal tender.

Legal tender is a medium of payment recognised by a legal system to be valid to meet a financial obligation. Fiat currency is legal tender in many countries. In order for cryptocurrencies to truly be accepted as a form of currency, they must be accepted as legal tender within the relevant jurisdiction.

In Russia, cryptocurrencies, or in fact any type of virtual currency, do not constitute legal tender or money. The Federal Law “On the Central Bank of Russia” and the Russian Civil Code state that the rouble (the monetary unit of the Russian Federation) is the only legal tender in Russia. That means there is no obligation in Russia to accept payments made in cryptocurrencies.

As is determined in articles 10 and 11 of Council Regulation (EC) No 974/98 on the introduction of the Euro, the Euro is the only lawful currency within the Eurozone. This rules out the possibility of cryptocurrencies being a currency in the legal sense. The Dutch civil code determines that an obligation to pay under a contract can be legally fulfilled by paying with a currency that is “accepted”. Although this seems to open the door to the ability to pay dues with cryptocurrencies, this is not the case. “Accepted” currencies in this sense must be seen as currencies that are tolerated by the government or that are accepted from a societal point of view. At the moment cryptocurrencies are not generally accepted in the Netherlands.

In the US, cryptocurrencies are not authorised or adopted by the US government; on the face of it, cryptocurrencies do not meet the Uniform Commercial Code definition of “money” under article 1-201(b)(24). However, in the criminal and civil sector, courts have treated Bitcoin in a manner more similar to currency. For example, in *United States v Murgio*,¹² in which the defendants were charged with operating an unlicensed Bitcoin exchange business in violation of 18 USC § 1960, the court reasoned that when a term goes undefined in a statute, courts should give it “its ordinary meaning.” Utilising this line of reasoning, the court concluded that the ordinary meaning used by numerous courts of “funds” is “available pecuniary resources” or “money, often money for a specific purpose” and in turn, “money” is defined as “something generally accepted as a medium of exchange, a measure of value, or a means of payment.” In applying these definitions, the court held that Bitcoins qualify as “funds” or “money” within the plain meaning of the term and can be accepted as a payment for goods and services or bought directly from an exchange with a bank account. Bitcoin clearly qualifies as “money” or “funds” under these plain meaning definitions. The court reasoned that Bitcoins are “funds” because they

⁹ “Virtual Currency Schemes” by the European Central Bank (October 2012) - <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>

¹⁰ C-264/14.

¹¹ Directive 2006/112/EC.

¹² No. 15-CR-769 (AJN) (SDNY April 21, 2016).



“can be either used directly to pay for certain things or can act as a medium of exchange and be converted into a currency which can pay for things.”

In addition, in *Securities Exchange Commission v Shavers*,¹³ the court held that “Bitcoin is a currency or a form of money...”. Further, the court in *United States v Ulbricht*¹⁴ found that “Bitcoins carry value - that is their purpose and function - and act as a medium of exchange” and Bitcoins may be exchanged for legal tender, be it US dollars, euros, or some other currency.

3.2 Cryptocurrency as electronic money (E-money)

Could cryptocurrencies fall within the remit of E-money? In Europe, E-money is defined by the ECB as “an electronic store of monetary value on a technical device that may be widely used for making payments to entities other than the E-money issuer. The device acts as a prepaid bearer instrument which does not necessarily involve bank accounts in transactions.”¹⁵ The meaning of E-money can differ between jurisdictions. In Russia, the Federal Law “On the National Payment System” recognises the notion of E-money, which is defined as “monetary funds which are advanced by one person (provider of funds) to another person that records the information on the amount of advanced funds without opening a bank account for the purpose of discharging payment obligations of the provider of funds to third parties and in respect of which the provider of funds is entitled to give instructions only with the use of electronic means of payments.” However, it is likely that cryptocurrencies in most cases will not fall within the framework of E-money as it is decentralised, based on blockchain technology and, as a general rule, the payment is made in other cryptocurrencies.

Similarly, in Europe, cryptocurrency cannot be classified as E-money under the Electronic Money Directive.¹⁶ The Electronic Money Directive uses three criteria to define E-money: it should be stored electronically, issued on receipt of funds of an amount not less in value than the monetary value issued and accepted as a means of payment by undertakings other than the issuer. A cryptocurrency such as Bitcoin probably complies with the first and the third criteria, but not with the second. Since it cannot be defined as E-money, the Electronic Money Directive would not be applicable. Interestingly, on 14 March 2018 the digital currency exchange, Coinbase, received an Electronic-Money authorisation from the FCA. Coinbase is a San Francisco-based digital currency exchange that offers users the ability to trade Bitcoin, Bitcoin Cash, Ethereum and Litecoin. The authorisation of Coinbase by the FCA is highly significant as it makes Coinbase the first cryptocurrency exchange to be authorised as an E-Money Institution. It marks a significant development in the interaction between the cryptocurrency sector and traditional financial regulation.

3.3 Cryptocurrency as a financial instrument

There are some jurisdictions that claim that cryptocurrencies do not appear to be financial instruments. For example, pursuant to Swedish legislation, a financial instrument must be considered a transferable security. Under Swedish law, cryptoassets are not considered a transferable security and are therefore

¹³ 4:13-CV-416, United States District Court, Eastern District of Texas, Sherman Division (6 August 2013).

¹⁴ No. 15-1815, US Court of Appeals for the Second Circuit (31 May 2017).

¹⁵ https://www.ecb.europa.eu/stats/money_credit_banking/electronic_money/html/index.en.html.

¹⁶ 2009/110/EC.



unlikely to be a financial instrument. Therefore, it is unlikely that Bitcoin and other cryptocurrencies will be classified as securities (that is, as a derivative, shares or bonds). On the other hand, in a recent case *Banca Dati S.r.l. - Uninvest* the Court of Verona considered the offer of cryptocurrency as a financial services transaction.¹⁷

A recent EU legislative discussion has considered including cryptocurrency within the list of financial instruments under existing financial regulation. This was first considered by the European Parliament and secondly in the context of making an amendment to the Markets in Financial Instruments Directive¹⁸ (MiFID II) to extend the list of financial instruments in MiFID II. The reasoning behind this is that investors treat cryptocurrency as a substitute for financial instruments. The definition would reflect the terms defined in the anti-money laundering (AML) regulation which contains a broad scope covering all and any cryptoasset. Classifying a wide range of cryptoassets within the financial instrument definition, means that a lot of the activities currently undertaken by those trading in cryptoassets could become a regulated activity (that is, mining, arranging ICOs and advising on transactions related to cryptocurrency transactions).

According to the European Securities and Markets Authority (ESMA), the aim is to classify certain cryptocurrencies as financial instruments, in particular those assets that are created in the course of an ICO seeking to raise funding. A recent report by the Commission of the European Banking Authority stated:

“[t]ypically crypto-assets fall outside the scope of EU financial services regulation. Moreover, divergent approaches to the regulation of these activities are emerging across the EU. These factors give rise to potential issues, including regarding consumer protection, operational resilience, and the level playing field.”¹⁹

3.4 Cryptocurrency as money

The legal characterisation of cryptocurrencies is a fairly new concept and it may therefore be necessary to consider whether cryptocurrencies satisfy the economic functions of money. Adam Smith defined money by the roles it plays in society, in particular how it serves as a store of value with which to transfer purchasing power from today to some future time; a medium of exchange with which to make payments for goods and services and a unit of account with which to measure the value of a particular good, service or loan.²⁰ Money as a token of value and exchange has been regarded as property under English law.²¹ There is no clear consensus as to whether Bitcoin fulfils the economic functions of money.

Mark Carney, the Governor of the Bank of England, is of the opinion that cryptocurrencies perform poorly under the three criteria. He is of the opinion that cryptocurrencies do not function well as a store of value. Even the more stable cryptocurrencies, such as Bitcoin, experience very high volatility in price which,

¹⁷ Judgment n 195/17, Court of Verona.

¹⁸ 2004/39/EC.

¹⁹ Report with advice for the European Commission on crypto-assets, dated 9 Jan 2019.

²⁰ Adam Smith, *The Wealth of Nations* (W Strahan and T Cadell, London, 1776).

²¹ David Fox, *Property Rights in Money* (Oxford University Press, 2008).



according to him, disqualify them as a store of value. Furthermore, the volatility is an effect of a lack of intrinsic value and external backing.

As a means of payment, cryptocurrencies do not currently offer a great deal. Even Bitcoin can only be used to pay in a very small proportion of businesses. The speed and the cost of transacting in Bitcoin compete very unfavourably with the established payment methods. There is very little evidence of cryptocurrencies being used as a unit of account. Even the businesses that accept cryptocurrencies as payment frequently update the price to reflect a constant fiat value of goods or services. The Bank of England is also “not aware of any business that accepts Bitcoins in payments that also maintains its accounts in Bitcoin”. As a result, Mark Carney stated that “cryptocurrencies act as money, at best, only for some people and to a limited extent, and even then only in parallel with the traditional currencies of the users”.²² The Bank of England further remarked that “how far an asset serves these roles can differ, both from person to person and over time. And meeting these economic definitions does not necessarily imply that an asset will be regarded as money for legal or regulatory purposes.”²³

The Bank of England reviewed the nature of fraud risk and unreliability of cryptocurrencies. It was noted that in a decentralised system, there is no requirement for users to share personal information, thus removing the risk of data breaches. However, it was acknowledged that the risk of direct loss of digital currencies is higher than that for deposits held (electronically). For example, a lost password to an online bank account is recoverable or can be reset by the bank. On the other hand, if the private key granting access to the cryptocurrency wallet is lost then it would be unrecoverable as there is no central server to provide a reset. However, in these terms, it was apparent that “a digital wallet is more analogous to a physical wallet containing physical currency”.²⁴ Therefore, a robust cryptocurrency scheme would not be less reliable as a store of value than “real world” currencies in their physical form.

The Swedish National Bank has stated that cryptocurrency is under no circumstances to be seen as cash, but has not provided any further definition. The main reasons that it should not be seen as cash are that cryptocurrencies lack official publishers and do not have the potential to form well-functioning means of payment. Cryptocurrencies are only a mode of handling payments between those within the network, excluding the possibility for it to be a financial instrument or regular cash / currency. It is also difficult to obtain a stable value of the asset and there is no underlying asset of intrinsic value.

There is a clear debate as to whether cryptocurrencies fulfil the functions of money. However, as highlighted by the Bank of England, compliance with the economic theory of money would not definitively conclude that cryptocurrencies will be regarded as money for legal and regulatory purposes.

²² “The Future of Money”; speech given by Mark Carney, Governor of the Bank of England on 2 March 2018.

²³ Bank of England 2014 Quarterly Bulletin Q3. published on 16 Sep 2014.

²⁴ *Ibid.*



3.5 Cryptocurrency as a commodity

On the other hand, it has been argued that cryptocurrency is a commodity. A commodity is a good that is used in commerce that is interchangeable with other goods. On 6 March 2018, Judge Weinstein of the US District Court for the Eastern District of New York ruled that virtual currencies are commodities subject to US Commodity Futures Trading Commission (CFTC) regulation. The ruling was issued in response to a *pro se* motion to dismiss in *CFTC v McDonnell*²⁵ and is the first judicial endorsement of the CFTC's long-held position that the Commodities Exchange Act (CEA) authorises it to regulate virtual currencies. The CFTC asserted that the CEA's "definition of commodity is expansive in scope" and extends to "intangible commodities" ranging from "renewable energy credits and emissions allowances" to virtual currencies. As explained by the CFTC, "virtual currencies . . . fall within the [CEA's] category of all other goods and articles" and "the rights and interests that inhere to each unit of virtual currency constitute rights [or] interests . . . in which contracts for future delivery are presently . . . dealt in." In his 6 March 2018 order, Judge Weinstein explained, "[v]irtual currencies can be regulated by CFTC as a commodity" because they "are goods exchanged in a market for a uniform quality and value" and "fall within the CEA's definition of commodities as all other goods and articles . . . in which contracts for future delivery are presently or in the future dealt in."²⁶

Bitcoin has some similarities to gold:

1. Bitcoin and gold are not overseen by a government;
2. there is a finite supply of Bitcoin (the total number of Bitcoins that can be mined is 21 million) and it is estimated that there are only 171,000 metric tons of gold in the world;
3. Bitcoin is theoretically free of political interference in the same way as gold (supply of currency can be increased by government monetary policy); and
4. the value of gold fluctuates in correlation to demand and it is evident that the price of Bitcoin is connected to the demand in the market.

Evidently, there are inherent flaws in this comparison whereby there is an intrinsic value in gold whereas the same cannot be said about Bitcoin.

From a legal perspective, pursuant to US case law, Bitcoin can fall within the definition of a commodity pursuant to US law under "useful articles of commerce", as Bitcoin may be traded online for goods and services or even exchanged for fiat currency. Bitcoin is capable of possession as the holder of the private key has control over the transfer of the Bitcoin-holding in the digital wallet. Furthermore, control of this nature over the Bitcoin-holdings could be interpreted as constructive possession where the holders of the Bitcoin have the ability to guide the destiny of the Bitcoin.²⁷ If cryptocurrencies were classified as a commodity, then the Bankruptcy Code would not automatically afford the same protections. To qualify for protections as a commodity, any agreement related to the transfer of Bitcoins would have to constitute a "forward contract"

²⁵ *Commodity Futures Trading Comm'n v. McDonnell*, No. 1:18-cv-00361-JBW-RLM, slip op. (EDNY Mar 6, 2018).

²⁶ <https://www.dlapiper.com/en/us/insights/publications/2018/05/how-one-new-york-court-is-shaping-the-future-of-cryptocurrency-regulation/>.

²⁷ Tara Mandjee, "Bitcoin, its Legal Classification and its Regulatory Framework", 15 *J Bus & Sec L* 157 (2016).



as defined in the Bankruptcy Code, providing for the commodity's delivery days in advance of the contract's maturity date. Forward contracts provide numerous protections, including immunity from the automatic stay, prohibition against bankruptcy defaults and the ability to continue "business as usual".

3.6 Tax treatment of cryptocurrencies

3.6.1 Italy

In Italy, under Article 1 of Legislative Decree No 90/2017, cryptocurrencies are defined as "digital exchange methods representing value, which are not issued by any Central Bank or public Authority and which are not related to any currency". Pursuant to Resolution No 72/2016, the Italian Tax Authority (*Agenzia delle Entrate*) equated cryptocurrencies to foreign currencies. Certain Italian scholars deem that encompassing the cryptocurrencies within the foreign currencies scope might be erroneous. The volatility of the cryptocurrency market, for instance, is not comparable with the volatility of material currencies. Note that the resolutions of the Italian Tax Authority do not have the value and authority of the law but only express guidelines for the interpretation of the relevant specific cases and circumstances.

3.6.2 Denmark

According to the Danish tax authorities, the Bitcoin system is "nothing more than a payment system facilitating payment of digital currency not regulated by a central bank and where the rate is set on the basis of supply and demand of Bitcoin."²⁸ The Danish tax authorities classified the digital currency Bookcoin as being a structured claim, that is, a claim regarding a semi-generic purchase of the underlying asset at a future point in time.²⁹ The digital currency in question was very closely tied to the price of silver and the issuer of Bookcoin backed the coin with actual silver bars. Owners of Bookcoins could exchange the digital currency for silver at a fixed exchange rate of one Bookcoin to one gram of silver. Due to these ties to an actual commodity's price, Bookcoin is now subject to a different taxation regulation than Bitcoin.

Under Danish law a business must present its annual report in either Danish kroner (DKK) or in another foreign currency. Seeing as Bitcoin is not regulated by a foreign central bank, it does not meet this "foreign currency" requirement. Likewise, considering that invoices are required to be issued in DKK or in another foreign currency due to the requirement to explicitly list the VAT amount on each invoice, Danish businesses are not permitted to issue invoices solely in digital currencies. The Danish tax authorities have taken the stance that any purchase or sale of Bitcoin will be an act of speculation and, therefore, taxable, irrespective of whether the purchase was made many years before digital currencies came to the public's attention.

3.6.3 Sweden

Cryptocurrencies are not acknowledged as a currency under Swedish tax legislation. Instead, transactions involving cryptocurrencies are seen as individual transactions involving assets. In each case, the acquisition price of the

²⁸ Taxation and Duties Gazette, 2014.466

²⁹ Taxation and Duties Gazette, 2017.592



specific asset / cryptocurrency (for example, Bitcoin) should be calculated. The asset is taxed upon divestment on the difference between the acquisition price and the remuneration. For example:

- a) if someone bought their cryptocurrency, the acquisition price is the amount they paid for the cryptocurrency converted to Swedish krona;
- b) if someone mined their own cryptocurrency, the acquisition price is the market value converted to Swedish krona upon the allocation of cryptocurrency in the mining process;
- c) if someone has received cryptocurrency as a means of payment in an individual business transaction, the acquisition price is the value they report as revenue, including VAT; and
- d) if someone has received cryptocurrency as salary, the acquisition price is the value that they report as income from employment.

Mining of cryptocurrency is not subject to VAT and transactions involving exchange of fiat currency against cryptocurrency are also exempt from VAT. The Swedish Tax Agency has issued specific accounting guidelines for when a company receives cryptocurrencies as means of payment in its business and stipulates that the subsequent change in value should be taxed as income of capital. Bitcoin has been used to make online purchases and the Swedish Tax Agency has defined Bitcoins as other assets that are subject to capital gains on disposal.

3.6.4 The Netherlands

If a person conducts business activities and the profits (or losses) related to the cryptocurrencies are attributable to the business activities, this profit or loss falls within the scope of the taxable profits from business activities. In the case of cryptocurrency mining, depending on the size of the mining operation, it may be considered to constitute business activities (by virtue of the mining activities qualifying as a material business enterprise). In that case, any profits attributable to these activities would constitute taxable profits from business activities. If a person is employed and receives his or her wages in cryptocurrencies, the value of the cryptocurrency at the moment the employee receives the wage constitutes the amount of employment income enjoyed by an employee. If a person performs work (that does not qualify as a business activity or employment income), income from cryptocurrencies may constitute results from other activities if the work performed could be considered to be more substantial than the active (normal) management of funds (as may be the case for individual portfolio investors). The taxable base attributable to cryptocurrencies would be their market value (as it may be derived from cryptocurrency exchanges) at the reference date, being 1 January of each calendar year.

3.6.5 England and Wales

In England and Wales all forms of assets, including incorporeal property generally and any currency other than sterling, are considered an asset under tax legislation.³⁰ Accordingly, in order for cryptocurrencies to be an asset for tax purposes it will need to have the following characteristics:

³⁰ Taxation of Chargeable Gains Act 1992, s 21(1).



- it must be something that is capable of being owned; and
- its value must be capable of being realised.³¹

The UK tax authorities recognise cryptocurrencies as an asset falling within this definition. Cryptocurrency is not a recognised sovereign currency; therefore, any transactions that use cryptocurrencies as consideration (given or received) will be regarded as “barter transactions”. The UK tax manual defines a barter transaction as “a transaction in which an asset is disposed of for some consideration which is not sterling cash, but which takes the form of some other asset.”³² This means that where the transaction is at arm’s length, the cryptocurrency consideration is measured as the sterling worth at the date of the acquisition or disposal of what is given or received. This is the case where the other asset is a foreign currency. The UK tax authorities will treat each cryptocurrency according to the pre-defined agreed rules and so each case will be dealt with on its individual facts.

On 3 March 2014, the UK tax authorities considered the position of the tax treatment of income received from and charges made in connection with activities involving Bitcoin and other similar cryptocurrencies. A summary of the VAT position is set out in the table below:³³

Type of income	Is VAT payable?
Bitcoin mining activities	Outside scope and does not constitute an economic activity
Received by miners for activities (that is, services with verification of transactions)	Exempt ³⁴
Bitcoin is exchanged for Sterling or for foreign currencies	No VAT due on value of Bitcoins
Arranging or carrying out a transaction in Bitcoin	Exempt ³⁵
Payments in cryptocurrency for supply of goods and services	Yes - sterling value of the cryptocurrency at point of transaction

This Revenue and Customs brief only outlined the provisional position of the UK tax authorities pending further developments and confirmed that taxpayers could rely on the treatment outlined unless the UK tax authorities announce any changes. Any changes would not apply retrospectively.

3.7 Miscellaneous

The final category to consider is particularly varied. Considering the diverse features of cryptocurrency, it may be possible to align it to a range of characterisations.

³¹ “Chargeable assets: intangible assets: rights”, HMRC Internal Manual CG12010.

³² “Foreign currency: assets acquired or sold for currency”, HMRC Internal Manual CG78310.

³³ Revenue and Customs Brief 9 (2014): Bitcoin and other cryptocurrencies on 3 March 2014 (Policy Paper).

³⁴ EU VAT Directive, art 135(1)(d).

³⁵ *Ibid.*



3.7.1 *Surrogates*

The Central Bank of the Russian Federation (CBR) compared cryptocurrencies to monetary surrogates, which indicated the risk of prospective prohibition and penalties for issuers and owners. However, these concerns were alleviated by the Federal Tax Service in 2016 which emphasised that the current legislation does not provide definitions or rules for monetary surrogates, cryptocurrencies or tokens and does not therefore restrict the circulation of the respective instruments. In its latest circular of 2017 the CBR, still sceptical about cryptocurrencies and ICOs, questioned the practicability of their admission to the public trading infrastructure, but no longer called for a general ban. Any definitive answer in regard to the position of tokens in Russia would require the adoption of special legislation, preparation of which is currently on hold due to the legislator's intention to look at the further development of the market and regulation in other jurisdictions before taking any regulatory steps.

3.7.2 *Claim*

In Sweden, it has been argued that cryptocurrency could be classified as a claim.³⁶ In order for a claim to arise there must be an established creditor and debtor relationship. The fact that a claim can be seen as a means of payment is quite obvious and the value of the claim is based on a combination of the size of the claim and the risk that the receiver of the claim takes, which depends on the debtor. It may not be very well known that money was legally defined as a claim for quite some time. Historically, currencies based on a natural asset such as gold has been seen as a claim against the state. The Swedish National Bank has historically taken a debtor position and had to make sure there was a gold reserve that guaranteed the holders of the currency (Swedish krona) that their claim corresponded to a certain amount of gold which guaranteed the value of the currency. There have been discussions as to whether cryptoassets could be seen as a claim in a similar way. However, it is likely that the idea is too far-fetched since there is no one to take the debtor position nor is there any underlying instrument to ensure the value of the claim.

3.7.3 *Tangible asset*

It would seem that cryptocurrencies cannot qualify as tangible assets since they are in essence not tangible, which is, rather unsurprisingly, one of the prerequisites for something to be a tangible asset. There are, however, cases of criminal law in the Netherlands where the court decided that information could qualify as a tangible asset and that it can therefore be stolen.³⁷ Unfortunately, this only applies to criminal law and thus does not apply to civil law cases. In the Netherlands, there are some that claim that cryptocurrencies do not fall within any of the given categories. Cryptocurrencies would then be treated in the same way as goodwill. While it is apparent that a cryptocurrency can be of value, they do not fall within the scope of Dutch civil law. As such, they cannot be transferred in a legal sense, nor is it possible to secure repossession through a legal action (for example, by using the *rei vindicatio*). Therefore, it appears that a clear legal characterisation of cryptocurrencies in the Netherlands does not yet exist.

³⁶ *Crypto currencies: a special legal effect on holdings of Bitcoins and other similar means of payments*, Emil Elgebrant, 2016

³⁷ The "Runescape-arrest", ECLI:NL:HR:2012:BQ9251.



3.8 Is there a legal characterisation of cryptocurrencies?

It is evident that cryptocurrencies could fall within a range of categories due to their unique features. Without legislative interference, it is unlikely that this uncertainty will be clarified. It is essential that any guidance from the legislators and regulators shows that assets derived from cryptocurrency are not all alike, even tokens (such as Ethereum) encompass different features when compared to Bitcoin. It is therefore unlikely that an unsophisticated legislative regime would suffice. Jackson Palmer, an Australian entrepreneur, launched a token named Dogecoin in late 2013 as a parody of the numerous cryptocurrencies flooding the market at the time. However, Dogecoin soon became an educational starting point for new investors in cryptocurrency (due to its low price) and it grew through social media to value at USD 2 billion market capitalisation in 2018. Dogecoin is a good example of how easy it is for anyone to enter the cryptocurrency market where there is no regulatory or legislative guidance in place. In the absence of an appropriate legal characterisation, we tend to primarily rely on the name of something when characterising something as a cryptocurrency or cryptoasset. An asset named or referred to as a cryptocurrency or cryptoasset should not by default mean it is a cryptocurrency. However, with no legislative guidance on the legal status of cryptocurrency we dangerously tend to rely on something being named or called a cryptocurrency or token. Until clear legislative guidance has been provided, insolvency practitioners will need to keep themselves informed of reliable sources in order to ensure that they are fulfilling their duties and to avoid their actions being called into question.

3.9 What proprietary rights exist over cryptocurrencies?

3.9.1 Introduction

This part of the paper considers the crucial question of what ownership rights exist over an intangible asset that is yet to be legally categorised. As explained in paragraph 2.1 of this paper, cryptocurrency at its core is cryptographic code. The relevant underlying asset appears to be knowledge of the private access key which bestows the holder with control over the cryptocurrency in the wallet (including transfers). Cryptocurrencies do not have a physical existence in the same way as fiat currencies; therefore, how can proprietary rights exist over cryptoassets? What follows is an analysis of the proprietary rights that might exist over cryptocurrencies in the jurisdictions mentioned below.

3.9.2 Russia

The Russian doctrine presents a wide range of opinions on the definition of the legal nature of cryptocurrency. In particular, some authors support the illegitimacy of cryptocurrency as a whole with the imposition of punishment (administrative or criminal) for the use or release of cryptocurrency. However, most researchers consider it appropriate to introduce a special term in legislation which would serve as a reference point for the subsequent development of the corresponding legal regime of cryptocurrencies. In Russia, the discussion focuses on determining the place of cryptocurrency in the system of objects of civil rights and attempts to define it. There are generally quite a few systematised and generalised works on cryptocurrency and other crypto-technologies.



At present, the concept of tokens or cryptocurrencies is not recognised in Russian legislation; likewise, the question of proprietary rights attached to cryptocurrencies has not yet been resolved. However, it is indicated in Article 2 of the draft law “On Digital Financial Assets” that a digital financial asset (the term that was provided for use when referring to cryptocurrency and other tokens) is electronic property created using encryption (cryptography). Ownership of this property is verified by making digital entries in the register of digital transactions. Thus, the draft law proposes to extend the proprietary regime to cover cryptocurrency.

Furthermore, a recent case heard in the Commercial Court of Moscow³⁸ noted that the objects of property rights are not exhaustively listed in Russian Law, in particular the reference to “other assets” under Article 128 of the Russian Civil Code which is open to interpretation. The court emphasised that considering the current economic realities the “broadest interpretation [of other assets] is justified”. It was further noted by the court that any property of the debtor having economic value, including cryptocurrency, shall not be arbitrarily excluded from the insolvency estate.

3.9.3 Sweden

Swedish academics agree that cryptocurrencies are to be defined as non-physical property; however, it has not been further defined under Swedish law.³⁹ Since it is difficult to determine what sort of property cryptocurrency constitutes, it is difficult to determine whether there are any proprietary rights attached to it. There are those who argue that there are proprietary rights attached to cryptoassets in general, but it has not been defined in what way or tested in court yet.⁴⁰

3.9.4 The Netherlands

Academics in the Netherlands favour the idea of proprietary rights existing over cryptoassets.⁴¹ Although most seem to agree that cryptocurrencies fulfil most of the criteria of a proprietary right, they also note that it is problematic to qualify a cryptocurrency as a “right”. After all, a right under Dutch law implies consideration has been provided. When one lends money to someone, the claim he has pursuant to the loan qualifies as a proprietary right since it gives the claimant the right to consideration, namely repayment under the conditions of the loan. The ownership of a cryptocurrency does not give a right to such consideration as there is no clear counterparty due to the inherent decentralised nature of cryptocurrencies.

A recent case heard by the Dutch courts on 17 January 2018, considered whether the obligation to transfer Bitcoins was verifiable for the purpose of opening insolvency proceedings. The court affirmed that it was, on the basis that “Bitcoin represents a value and is transferable. [...] it thus shows characteristics

³⁸ *Tsarkov* (case number: A40-124668/2017 dated 5 March 2015).

³⁹ Emil Elgebrant, *Kryptovalutor: särskild rättsverkan vid innehav av bitcoins och andra liknande betalningsmedel* (Eng: “Crypto currencies: special legal effect on the holding of Bitcoins and other similar means of payments”), Wolters Kluwer, 2016.

⁴⁰ *Ibid*; Gabriel Söderberg, “Are Bitcoin and other crypto-assets money?”, article published by Sveriges Riksbank in *Economic Commentaries* (No 5, 2018) – see: <https://www.riksbank.se/globalassets/media/rapporter/ekonomiska-kommentarer/engelska/2018/are-bitcoin-and-other-crypto-assets-money.pdf>.

⁴¹ Valérie Tweehuysen, “Goederenrechtelijk pusselen met bitcoins”, *Ars Aequi* AA20180602.



of a property right. A claim for payment in Bitcoin is therefore to be regarded as a claim that qualifies for verification.”⁴² The court considered the obligation to transfer the Bitcoin as legally valid and capable of commencing insolvency proceedings if it was not transferred. However, the Dutch courts did not fully characterise the legal nature of Bitcoin in its judgment.

3.9.5 *Denmark*

Under Danish law, similar intangible assets such as shares or intellectual property rights are afforded certain proprietary rights, for example voting rights in the case of shares. Cryptoassets are, however, not covered by any legislation affording such statutory proprietary rights. Therefore, cryptoassets only carry the inherently technical based proprietary rights that the blockchain itself affords it, that being digital proof of ownership and the right to sell the asset.

3.9.6 *England and Wales*

Property under English common law “must be definable, identifiable by third parties, capable in its nature of assumption by third parties and have some degree of permanence or stability.”⁴³ Furthermore, under English law property is categorised as real or personal property. Real property is any interest in land, real estate, growing plants or the improvements on the property. Personal property is everything else that is the subject of ownership that does not come under the definition of real property. This can be divided into tangible personal property (which includes animals, merchandise, etcetera) and intangible personal property (which includes rights over stocks, bonds, patents and copyrights). Intangible personal property can be a chose in action or another form of intangible. Sovereign currency can be categorised as tangible property as it can be in the physical form of coins and notes which can be possessed by a user; therefore, these are choses in possession. On the other hand, a chose in action can exist over a bank account containing a deposit of fiat currency that does not entail physical possession of the money but can be claimed through legal action.

Evidently, English law does not clearly set out the proprietary rights that may exist over a cryptoasset. It is unlikely that legislators contemplated the concept of a cryptoasset at the time such legislation was determined. Therefore, in the absence of new legislation that clearly tackles the issues of proprietary rights over cryptoassets, common law precedents will need to be considered in order to answer these questions.

For instance, it could be argued that cryptocurrencies may be classified as intangible property and categorised in the same class as that of a chose in action. A chose in action is “a thing recoverable by action, as contrasted with a chose in possession, which is a thing of which a person may have physical possession. The meaning ... has expanded over time, and is now used to describe all personal rights of property which can only be claimed or enforced by action, and not by taking physical possession.”⁴⁴ However, there are some characteristics of cryptocurrencies that overlap with the rights under a chose in possession. Certain cryptocurrencies can be transferred from one wallet to another, stored in a wallet and lost when the private access key to the wallet is

⁴² *Koinz Trading BV*, 20 March 2018 (case ECLI:NL:RBAMS:2018:869).

⁴³ *National Provincial Bank v Ainsworth* [1965] 1 AC 1175 at 1247–8, by Lord Wilberforce.

⁴⁴ Halsbury's Laws of England (5th ed) Vol 13 para 1.



lost. Therefore, it could be argued that some forms of cryptocurrencies could be possessed in the same way as physical coins and notes in an actual wallet.

Under English law, a record of the private key could be capable of being property. On the other hand, the private key itself would only be considered as confidential information which can be protected by enforcing a duty of confidence, or awarding damages for breach of confidence. However, the information itself cannot be regarded as a form of property⁴⁵ except in reference to patents and trademarks (unless extended by legislation). Therefore, it would appear useful to review the proprietary interests over certain assets such as intellectual property and bearer shares, which appear to have features similar to those of cryptocurrencies.

It is accepted that proprietary rights exist over intellectual property even though intellectual property refers to creations of the mind such as goodwill, brand recognition, patents and trademarks – all of which are intangible. Intellectual property is divided into industrial property (which includes patents for inventions and trademarks) and copyright (which covers literary works, films and artistic works). Intellectual property rights allow the creator to protect their work and benefit from the creation and can be protected in England to prevent theft and plagiarism. In England, copyright and design rights exist automatically by law whereas an application will need to be made in relation to protection by trade mark, patents and registered designs. Since intellectual property rights are territorial, they give the owner exclusive rights only within the territory in which the application is granted. The UK Intellectual Property Office (IPO) is the official government body responsible for intellectual property rights in the UK and maintains a record of intellectual property rights. Evidently, an intangible asset such as intellectual property has been brought within the remit of property through legislative intervention and can be identified easily on the IPO register. Certain parallels can be drawn between intellectual property and cryptocurrencies where both are intangible assets of value to the holder. Evidently, cryptocurrency transactions are publicly reviewable through the blockchain; however, the issue relates to the anonymity of the wallet holders which means that a cryptocurrency register in the same form as the IPO register would be impractical. It is clear that legislative guidance clarifying the position as to whether there are proprietary rights over cryptocurrencies is necessary in order to provide greater certainty.

Bearer shares are equity securities wholly owned by whoever holds the physical stock certificate, as the issuing company does not register the owner of the stock or track transfers of ownership. Bearer shares clearly differ from registered issued shares which are required to be certificated and documented on an internal stock register and, in jurisdictions such as England, disclosed publicly. Similar to cryptoassets, the evident benefit of bearer shares is anonymity in ownership. Many jurisdictions have enacted legislation that restricts the use of bearer shares in order to deter illicit nefarious corporate activities. Cryptocurrencies appear to have similar characteristics to a bearer instrument, whereby control over the object could entitle the holder the rights of ownership or title to the underlying property. As with bearer shares, cryptoassets can be lost or stolen. Losing a cryptoasset could be as simple as misplacing or forgetting the private key which provides access to the digital wallet. This has been illustrated to devastating effect by the Quadriga cryptocurrency exchange

⁴⁵ *OBG v Allan* (2008) 1 AC 1.



which filed for protection from creditors in January after the CEO died suddenly without disclosing the private key to a number of crypto wallets. Consequently, the cryptocurrency held in the wallets, valued at approximately USD 135 million, was inaccessible. In this sense, cryptoassets could be categorised as a bearer asset and proprietary rights considered to be held by those who have the private key.

The issues relating to cryptocurrency have been dealt with by the Court of England and Wales in a criminal case at the Kingston Crown Court,⁴⁶ involving the Proceeds of Crime Act 2002 (POCA). In this case, the police had discovered the private access key of a digital wallet held by the defendant who was subsequently convicted of drug and money-laundering offences. The digital wallet contained 295 Bitcoins worth GBP 975,000. The police applied to the Court for a restraint order over the defendant's assets, including permission to convert the cryptocurrency held by the defendant into sterling. The Court was satisfied to make the order. In order to make such an order, the Court had to be satisfied that seizure (undefined in the POCA) could apply to cryptocurrencies in the same way as seizing a car or valuable items (cash is subject to a separate seizure regime which the police did not utilise). The definition of realisable property under the POCA includes incorporeal property. If we consider the definition of "seize" in the New Oxford Dictionary, it is to "take possession of (contraband, assets, documents, etc) by warrant or legal right". Therefore, in this case the Court determined that cryptocurrency was realisable property under POCA and could be seized by the police.⁴⁷

It is important to note that recent judicial decisions in England have tended to support the categorisation of a proprietary right wherever they have acquired economic value and shown themselves susceptible to transfer and trade. The hypothesis, therefore, is that units of cryptocurrency convincingly shown to have economic value and transferability among market participants and robustly engineered enough to trade freely, are likely to be categorised as a type of property in common law.⁴⁸ The nature of this proprietary right in England is yet to be clarified.

3.9.7 China

The Shenzhen Court of International Arbitration recently published a case analysis⁴⁹ which dealt with the issue of proprietary rights over cryptoassets. The cryptocurrencies in dispute were valued at around USD 493,158. The claimant had entered into a contract with the defendant, who permitted the latter to trade and manage the cryptoassets on the claimant's behalf and to return the assets on a specified date. The defendant failed to return the assets on the agreed date and the claimant sought the return of the assets with accrued interest. Chinese law does not explicitly govern cryptocurrencies and the arbitrator's analysis of the proprietary rights over the cryptoassets provided an insight into the application of Chinese law in these circumstances. The defendant argued that the ban on cryptocurrencies and ICOs in China resulted in the invalidation of the contract. However, the arbitrator determined that the claim relied on the contractual obligations of returning the cryptoassets, which does not fall within

⁴⁶ *R v Teresko (Sergejs)* – unreported, 11 October 2017.

⁴⁷ Interestingly, the way in which the police seized and confiscated the cryptocurrency was by transferring the Bitcoin from the digital wallet held by the defendant into a digital wallet held by the police.

⁴⁸ Joanna Perkins and Jennifer Enwezor, "The Legal Aspects of Virtual Currencies", [2016] 10 *JIBFL* 569.

⁴⁹ Shen Guozhong Case Selection https://mp.weixin.qq.com/s/U_qDgQN9hceLBbpQ13eEdQ.



the cryptocurrency ban. It was further noted that there is no prohibition on the possession of Bitcoins and transactions between individuals. It was concluded that the uncertainty as to the status of Bitcoin as legal tender does not impact the fact that ownership rights over Bitcoin should be protected under the law of contract in China. The Court further noted that “Bitcoin has the nature of a property, which can be owned and controlled by parties, and is able to provide economic values and benefits.” Although the Court did not consider the legal status of cryptocurrencies in this case, it is clear from this decision that proprietary rights over cryptocurrencies will be protected in China.

3.9.8 *United States*

The growth of cryptocurrencies will impact the determination of issues concerning whether cryptocurrencies of a debtor constitute property of such debtor’s estate. The commencement of a bankruptcy proceeding “creates [the bankruptcy] estate.”⁵⁰ Section 541(a) of the Bankruptcy Code provides that property of the estate includes “all legal or equitable interests of the debtor in property as of the commencement of the case, wherever located and by whomever held.” Property interests under the Bankruptcy Code are thus defined broadly. Therefore, subject to certain exceptions, cryptocurrencies are considered property of a debtor’s estate if owned on the petition date or date of the filing of the bankruptcy case.

The US Bankruptcy Court for the Northern District of California considered whether there are proprietary rights over cryptocurrencies in *Re Hashfast Technologies LLC*.⁵¹ This case involved an attempt by a bankruptcy trustee to set aside a transfer of 3,000 Bitcoins, equating to USD 360,000 at the time of the transaction, which had by then appreciated to a value of USD 1.2 million. The trustee argued that the Bitcoins were property that could be recovered by the estate at present day value (the higher rate), while the defendant transferee argued that the Bitcoins were the equivalent of US dollars and thus retained the transfer date value. In accordance with the US Bankruptcy Code, the judge ruled “it is sufficient to determine that, despite the defendant’s arguments to the contrary, Bitcoins are not United States dollars.” Judge Montali further ruled that the Bitcoin should be categorised as “intangible personal property”, which is defined in the Bankruptcy Code as something of value that cannot be touched or held (that is, trademark or copyright). However, the judge emphasised that this categorisation should be limited to actions for fraudulent transfers under section 550 of the Bankruptcy Code. The case at hand dealt with a motion to dismiss and did not rule on the application made by the trustee to set aside the Bitcoin transfer.

3.9.9 *Conclusion*

Clearly then, cryptocurrencies are too complex for a simple categorisation and there are several arguments as to the type of proprietary right that could exist over a cryptoasset. On review of the various jurisdictions, there does not appear to be a definitive position. Thus, some level of statutory interference will be necessary to bring cryptocurrencies within the parameters of the existing legal framework.

⁵⁰ US Bankruptcy Code, s 541(a).

⁵¹ Bankruptcy case no 14-30725DM, 19 Feb 2016.



3.10 Characteristics of security in the context of cryptocurrencies

Ideally, security should have the following characteristics:

- 1) it should be enforceable by a secured creditor with limited recourse to the courts;
- 2) the claim should be enforceable in priority to other unsecured claims against a secured asset;
- 3) there should be certain mechanisms to prevent or control dealings with the secured asset which might be detrimental to the value or enforcement of the security.

It is evident from a review of cryptoassets that the above characteristics are unlikely to be fulfilled without an actual transfer of the cryptoasset to the creditor, or disclosure of the private key. Cryptoassets are intangible and it is likely that an uncooperative debtor will need to be coerced by an order of the court to provide the private key in order to access the crypto wallet. Unlike the situation with proprietary rights over other intangible assets, such as intellectual property, there is no central registration system that provides notice to third parties who may seek security over the same cryptoasset. It appears that without a system for registering a security interest over the cryptoasset which can be reviewed by the public, it is the responsibility of the debtor to inform the parties involved that a security interest already exists over the cryptoasset. This could be avoided altogether if the creditor was to obtain “possession” of the cryptoasset which would ensure that their claim is enforceable in priority to any other claims. This would also prevent the debtor from dealing with the cryptoasset in a way that might be prejudicial to the security interest granted over it. The meaning of “possession” in these terms is the transfer of the cryptoasset to a wallet controlled solely by the creditor in order to prevent the debtor dealing with the secured asset in a way that is detrimental to the enforcement of the security.

However, outright transfer of the cryptoasset to the creditor could lead to concerns about the solvency of the creditor, in particular how the debtor would recover a cryptoasset from the insolvency estate of a creditor. It has been suggested⁵² that if this is a preferred method, the parties could utilise a third party escrow agent to hold the cryptoasset under the terms of a security agreement. The escrow agent would transfer the cryptoasset to the appropriate party based on the performance of the obligations under the security agreement. Clearly the parties would have to be satisfied that the escrow agent is reliable and also be aware that, although there are several escrow agents offering cryptoasset related escrow services, this is an area that is not regulated.

There are clearly several legal concerns associated with the creation of a security interest over a cryptoasset. There are also commercial difficulties that might deter a creditor from accepting a cryptoasset as security for debt. The most prominent obstacle appears to be that cryptocurrencies are not backed or regulated by central governments. Cryptocurrencies may be popular in the current market and have grown exponentially in the past few years, but they are still not easily exchangeable for assets of real value. Creditors should be particularly cautious about accepting large quantities of cryptocurrency as security for debt. Similarly, the value of cryptocurrency is volatile and valuing a

⁵² David Quest, “Taking security over bitcoins and other virtual currency”, (2015) 7 JIBFL 401.



cryptoasset can be a very speculative exercise. A secured creditor might at the start of the life of the lending agreement be in a strong position should the value of the cryptocurrency be high and may even lead to the creditor's claim being over-secured. However, the situation could easily reverse as a sharp drop in the value of the cryptoasset may result in the creditor being under-secured. Consequently, the secured creditor cannot be certain that there will be adequate value in the cryptoasset given as security to cover the debt. The cautious approach would be to avoid such a volatile asset being used as security. However, if it is necessary or desired that cryptoassets be used as security, it seems sensible not to rely solely on these types of assets as security and to instead obtain a security package with a mix of cryptoassets and other traditional assets.

3.11 What security interests exist over cryptocurrencies?

3.11.1 Introduction

A brief review of various jurisdictions shows that there is no clear legal characterisation of cryptocurrencies and, consequently, there is a lack of guidance as to what proprietary rights may exist over a cryptoasset. From our analysis, it seems likely that the courts will recognise some form of proprietary right over cryptoassets. In this part of the report we will consider whether security interests can exist over cryptocurrencies by looking at the situation in various jurisdictions. This is relevant to the insolvency professional, since the primary duty of such a person is to maximise the value of assets in the insolvency estate to ensure that creditors can maximise returns. In order to do this, it is important for an insolvency professional to be able to determine which assets are part of the insolvency estate and, of these assets, which contain a security interest held by a third-party creditor. It is crucial that an insolvency professional completes this exercise so that they have taken reasonable steps to ensure that the secured creditors can realise their security interests and that the sale of any other assets in the insolvency estate are free from encumbrances such as security rights. As we have already discussed, there are various difficulties associated with identifying cryptoassets that form part of an insolvency estate and consequently this is not an easy task to undertake.

There is always some form of risk present when lending money to a third party and a creditor would usually require some degree of comfort in the knowledge that there will be recourse to something of value in the event that the debtor fails to repay the outstanding debt. Indeed, this is the whole purpose of providing security. With the benefit of a valid security interest, a creditor will be able to realise the value of the secured asset and apply it to the payment of the outstanding debt. Security is also important when a debtor is no longer able to make the payments that are due to creditors and enters into an insolvency process. Security therefore provides the creditor with a proprietary interest in an asset of value until the outstanding liability is discharged.

The questions that arise here are:

- Can the traditional methods of granting security be applied to a cryptoasset?; and
- Can a cryptoasset be used as a commercially viable form of security?



3.11.2 England and Wales

It is evident from the previous discussion on the legal characterisation of cryptocurrencies, that it is unclear how cryptoassets will be legally categorised. If they are held to be currency, it may be possible to utilise the traditional methods of granting security over currency in the form of a deposit of the currency in a bank account or in the form of a debt due to the party giving the security. Under English law, the deposit account and the debt would be classified as intangible property, thus creating a chose in action that represents the account holder's right to be paid the balance if the obligation owed is not discharged. The debtor may be able to grant a charge by way of a legal or equitable assignment. In principle, a bank could do the same for cryptoassets where the cryptocurrency would be transferred to the bank on certain terms. Accordingly, if a bank was to offer a deposit account denominated in cryptocurrency and the debtor's cryptocurrency is deposited in that bank account, the debtor could grant a charge or assignment over the bank account to the creditor. Thereby, the creditor would have the right of a chose in action over the cryptocurrency bank account pursuant to the terms of the security documentation. In reality, banks do not offer cryptocurrency denominated bank accounts in the UK. As a result, the cryptoasset will be held directly by the grantor of the security and there will be no third party involved.

The difficulty in considering whether a security interest can exist in a cryptoasset relates to the issue that the "owner" of a cryptoasset is whoever has control over it; this would be the holder of the private key. It is unclear whether cryptoassets confer any legal rights against third parties and it only appears to have value to the extent that there is a demand for it.

It would be unlikely that, under English law, a creditor will be able to take a lien over a cryptoasset. This is because, according to case law, "rights properly classified in English law as a general lien were incapable of application to anything other than tangibles and old fashioned certificated securities".⁵³ This was further reiterated in a case where the Court of Appeal ruled that a lien could not be granted over an electronic database.⁵⁴ Based on this judgment, the English Courts are unlikely to accept that a lien exists over an asset which is fundamentally cryptographic code. At paragraph 3.9.6 of this paper, we reviewed the proprietary rights that exist over bearer shares and made comparisons to cryptoassets. It is possible to grant a pledge over bearer shares because ownership of the bearer instruments can be transferred by delivery of possession. Similarly, it may be possible to do the same for a cryptoasset, whereby the debtor transfers the cryptocurrency from their digital wallet to that of the creditor's digital wallet, or transfers the private key to the creditor. This transfer should be documented in a memorandum stating that the intention is to create a pledge whereby the cryptocurrency is deposited with the creditor for safekeeping until the payment of the debt, thereby purportedly creating a security. If a valid security is created, the creditor would have an implied common law right under English law to sell the pledged asset if the debtor does not comply with the terms of the underlying transaction. It is then important to set out the terms of the contractual right of sale in the memorandum. Therefore, it appears that it may be possible, under English law, to grant a pledge over the cryptoasset. There are, however, several practical issues that may arise from

⁵³ *Re Lehman Brothers international (Europe) (in administration)* 2012 EWHC 2997 (Ch).

⁵⁴ *Your Response Ltd v Datateam Business Media Ltd* (2014) EWCA Civ 281.



this type of transfer. Sharing the private key does not prevent the debtor from using the private key himself and transferring the cryptoasset to a separate wallet held by the creditor. Furthermore, a transfer would result in the debtor losing the economic benefit and risk associated with the cryptoasset.

3.11.3 Sweden

There are three types of security that can be created under Swedish law; pledge, charge (mortgage) and separation rights.

The debtor may grant a pledge that can be perfected by handing over all control of the pledged object to the creditor (pledgee), that is, handing over possession of a physical object to the creditor. In order to perfect a pledge containing an intangible asset such as shares or other financial instruments registered at a bank, it may be assigned and notice given to the bank. Where the asset is a right to intellectual property, the pledge agreement must be registered at the Swedish Patent and Trademark Office. Since there are no official registers in relation to cryptocurrencies, a pledge securing a cryptoasset cannot be perfected by registration similar to cases dealing with intellectual property and, since there are no trusted third party banks or central securities depository, there is no one to give notice of the assignment. In order for a pledge of cryptocurrencies to be complete, the cryptocurrency must be in the possession of the creditor. There are those who argue that this could be done by a transaction in the blockchain, provided the transaction is transferred to a new e-wallet where the key to the transferred asset is left in the old e-wallet and a new key is issued within the new e-wallet.⁵⁵ Otherwise the pledgor may still have possession over the asset by copying the existing key. Whether or not a cryptocurrency can be transferred and secured by a pledge is still highly speculative as it has never been tested in court.

Academics argue that cryptocurrencies should be excluded from assets that are included in a floating charge certificate and draw parallels to the exceptions of cash and the similarities to financial instruments.⁵⁶ There are also those who argue that an agreement on a purchase of cryptocurrencies should be included in a floating charge certificate as a claim connected to a specific performance, that is, to sell the cryptocurrencies. The same argument applies to a claim on the purchase price for sold cryptocurrencies. Cryptocurrencies should be exempted from floating charge certificates pursuant to the preparatory work in the Swedish Limited Floating Charges Act,⁵⁷ where it is argued that cash in a bank account and financial instruments should be exempt since they are to be considered funds that are immediately available for lifting and are usually included in what a debtor considers to be liquid assets. Whether or not cryptocurrencies really are immediately available for lifting and thereby constitute liquid assets, is debatable.

If a legal entity is declared bankrupt it could hold assets that belong to someone else; for example, if the entity has sold goods to a buyer but has not yet transferred them, or if the entity holds assets that someone else has the ownership of. The rightful owner of the asset can in certain situations retrieve

⁵⁵ Emil Elgebrant, *Kryptovalutor: särskild rättsverkan vid innehav av bitcoins och andra liknande betalningsmedel* ("Crypto currencies: special legal effect on the holding of Bitcoins and other similar means of payments"), Wolters Kluwer, 2016.

⁵⁶ *Ibid.*

⁵⁷ Limited Floating Charges Act (SFS 2008:990).



the property when the entity is declared bankrupt by pleading the right of separation. In order to separate an asset in a bankruptcy, the asset must be identified and ownership proved. If a legal entity holds cryptocurrencies that belong to someone else, one could ask whether that cryptocurrency could be separated in a bankruptcy. Cryptocurrency is a fungible asset similar to money in a bank account. Fungible assets are difficult to identify and the ownership of one part of the fungible asset is hard to distinguish from another part of the fungible asset that belongs to the bankrupt entity. For example, if a bankrupt entity holds cryptocurrencies in an e-wallet that do not belong to the entity, together with cryptocurrencies that do belong to the entity, they are hard to separate and distinguish from one another. In addition, it is uncertain how the ownership of a cryptocurrency is transferred since there is no third party or trusted intermediary that holds the asset (for example, a bank). There are those who argue⁵⁸ that the ownership of a cryptocurrency has shifted if and when an identified transaction in the blockchain has been completed. Since this has never been tested in court, it cannot be ruled out that the buyer of a cryptocurrency lacks the capacity of pleading separation of rights and would therefore lack the protection of its asset against other creditors.

In Sweden, there is uncertainty in ascertaining when possession and the proprietary rights of a cryptoasset have been transferred. In order for a creditor to take security over a cryptoasset, the creditor should obtain details of the cryptoasset and the e-wallet together with the private key. Generally speaking, it is almost impossible to enforce security over a cryptocurrency without the consent and co-operation of the debtor.

3.11.4 Denmark

Danish law allows for the creation of two types of security rights over assets, namely pledges and mortgages. The form of the security right is essentially dependant on what type of asset is subject to such a right. Security over cryptocurrencies could be created as a pledge, that is, the pledgee taking possession of the digital wallet containing the digital assets. Alternatively, a floating mortgage could conceivably cover digital currencies provided they constitute inventory for the pledgor (that is, the pledgee would need to be trading with the digital assets). The practical enforcement of these security rights is, however, an open question and the value of such security is therefore quite uncertain.

3.11.5 The Netherlands

It is currently unclear whether a security interest can exist over a cryptocurrency as it is not yet apparent how a cryptocurrency is to be classified. It is therefore not yet possible to definitively determine in what manner an (undisclosed) right of pledge can or ought to be vested. Currently it may be best to seek another (conventional) contractual type of security, for example a bank guarantee or a guarantee. Such security would not be vested directly “on” the cryptocurrency itself but would provide a form of enforceable surety.

⁵⁸ Emil Elgebrant, *Kryptovalutor: särskild rättsverkan vid innehav av bitcoins och andra liknande betalningsmedel* (“Crypto currencies: special legal effect on the holding of Bitcoins and other similar means of payments”), Wolters Kluwer, 2016.



3.11.6 Italy

Similarly, in Italy, it would appear that the Italian legal framework does not provide for the creation of traditional security interests over a cryptoasset. According to the recent case *Seven Business Srl - One Coin*,⁵⁹ it would not be possible to create a pledge or foreclose cryptocurrencies. Consequently, the co-operation of the debtor is crucial in order to enforce a secured cryptoasset and the security interests could be documented through a private agreement between the debtor and the creditor.

3.11.7 Conclusions to be drawn

There does not appear to be a clear answer as to whether security interests can be created over cryptoassets. Where a purported security has been created by transferring the cryptocurrency from the debtor's wallet to that of a creditor, an insolvency professional would face the difficulty of determining who the cryptoasset has been transferred to. As already discussed, the value of cryptocurrencies can fluctuate over time and the transferred cryptocurrency may be valued at a greater value than that of the debt owed to the creditor. In such a scenario, it is essential that an insolvency professional has the ability to recover the remaining value of the cryptoasset for the rest of the creditors.

4. Cryptocurrency and insolvency

4.1 What are the challenges facing insolvency professionals?

Where an estate comprises of cryptoassets, it is clear an appointed insolvency professional would need to take into consideration the applicable law, cross border recognition and apply modified identification (due to the anonymity of cryptocurrency holders) and realisation methods. Given the relatively recent rise of cryptocurrencies and their use as a form of payment and storage as an asset, it is vital for bankruptcy courts to identify whether cryptocurrency is an asset that falls under the property of a debtor's estate and is capable of being recovered by an appointed insolvency professional or creditors. The growth in the use of cryptocurrencies has and will continue to create difficulties for the administration of bankruptcy cases. The unique nature of cryptocurrencies will require bankruptcy courts to consider creative interpretations of the existing insolvency regime to protect the interests of both the debtor and its creditors in a liquidation/insolvency scenario. Certain key issues are considered in further detail below.

Where it is determined that a cryptoasset falls within an insolvency estate, the first issue is that of control. The individual in possession of the private key can be regarded as the controller of the cryptocurrency held in the digital wallet. Therefore, in order to realise any of the cryptoassets held in the digital wallet the insolvency professional will require the co-operation of the debtor in obtaining the private key; otherwise the insolvency professional will not have sufficient control over, or access to, the cryptoassets in order to realise their value. It is therefore likely that an insolvency professional will struggle to identify whether an insolvent individual or entity holds cryptoassets if the holder of the digital wallet does not disclose this information.

⁵⁹ Judgment 18/07/2018, Court of Brescia.



In the evolving market of cryptocurrency, bankruptcy trustees in the US, for example, face the challenge of identifying both the owner and / or location of a debtor's cryptocurrency, which may prove even more difficult if the debtor attempts to hide such assets during the bankruptcy proceedings. Fortunately, the Bankruptcy Code in the US provides an incentive for a debtor to reveal its cryptoasset. In the US, the bankruptcy courts can release an individual debtor from personal liability for most debts in a chapter 7 bankruptcy by making a discharge order. After a discharge order has been granted the creditors of the bankruptcy cannot bring an action against the debtor. Unless there is an objection or a motion to extend the time to object, the bankruptcy court will issue a discharge order. Section 727 of the US Bankruptcy Code sets out the grounds for denying a chapter 7 discharge, including such cases where the debtor transfers, removes, destroys, mutilates, or conceals Bitcoin or any associated records. On the request of a trustee, creditor or the US trustee the bankruptcy court may revoke a chapter 7 discharge if the debtor fraudulently failed to report an asset or surrender it to the trustee.⁶⁰ Consequently, a debtor will likely be motivated to disclose the cryptoasset in order to avoid being denied a discharge or the revocation of a discharge. This is of course relevant only in relation to an individual debtor rather than a corporate debtor. Nevertheless, bankruptcy trustees still face significant challenges in identifying other account holders or transfer recipients that the debtor may be unaware of and in compelling the handover of Bitcoin held overseas. However, there is hope as the fintech sector continues to develop new technology and innovative methods to trace and identify cryptocurrency transactions.

Where an insolvency professional is able to gain sufficient control over the cryptocurrency holding, the next issue is whether the distribution of the payments should be made in cryptocurrency or converted to fiat currency. This might not be an issue if the relevant security arrangements with creditors set out the specific amount of cryptocurrency that is attributable to discharging the debt of the creditor. However, where this is not the case the distribution process becomes difficult. Due to the volatile nature of the value of cryptocurrency, the point of valuation will be critical as the value is capable of drastically rising or falling. It may be the case that creditors may want their entitled portion of the cryptoasset to be converted to fiat money. In this scenario, the question of conversion arises. As with most things in life, cryptocurrencies are valuable to the extent that other participants are willing to accept them as payment, or will purchase them. Therefore, the insolvency professional needs to be aware of the impact a large disposal of cryptocurrency will have on the value of the asset. Without a credible strategy in the disposal of the cryptocurrency, the insolvency professional's actions could devalue the cryptoasset and this would be a breach of duty of the part of the insolvency professional who has a duty to consider the interests of the creditors as a whole. In order to avoid a situation where the actions of the insolvency professional are called into question by the creditors, it is advisable that any disposal or the decision to hold the cryptoasset is validated by an order of a Court with relevant jurisdiction.

A good example of this is the insolvency of the cryptocurrency exchange MtGox (this case is analysed in more detail below in paragraph 4.6.1). On 25 September 2018, the trustee, in consultation with the Court and the examiner, made a disposal of Bitcoin. The decision to implement a sale was heavily criticised as it resulted in the sale of roughly 35,841 Bitcoins for approximately

⁶⁰ <https://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/chapter-7-bankruptcy-basics>.



USD 360 million. The sell-off was perceived as driving down the price of Bitcoin and it was claimed this was contrary to the trustee's duty to maximise and protect the value of the assets on behalf of the creditors. Had the trustee not consulted the Court prior to making this decision, it is likely that the criticism would have accelerated into litigation against the trustee.

Volatility of the cryptocurrency market is an important factor which an insolvency professional must take into consideration for a liquidation plan over an estate which comprises of a significant holding of cryptoassets. As seen in MtGox, the trustee followed the Japanese bankruptcy rules which state that the claims are to be valued at the April 2014 Bitcoin market price; consequently, the trustee had priced the Bitcoins at their 2014 value of USD 483. The creditors, dissatisfied with this, petitioned the Court to reinstate civil rehabilitation proceedings (from bankruptcy proceedings) so that they could reclaim the cryptocurrencies at the value of the cryptocurrency in 2016, which had accelerated to USD 1.3 billion. Due to the increase in value of the Bitcoin, the Court reinstated the civil rehabilitation.

The question of conversion of cryptocurrencies into fiat currency arose in a recent unreported criminal case in England, in the context of a seizure of Bitcoins from an individual who was convicted of drugs and money-laundering offences (details of this case is set out at section 3.9.6 of this paper).⁶¹ The police applied to the Courts for an order permitting them to convert the cryptocurrency into sterling due to the volatility of the value of Bitcoin and its susceptibility to theft. The police submitted evidence in relation to two methods of conversion of the cryptocurrency: public auction (which has been successfully used in the US) and a Bitcoin exchange (which has been used by the Dutch police for over five years). The court held that the appropriate means of conversion was the approved Bitcoin exchange, as the fees for this method of conversion was lower and its effectiveness had been established. While what is stated above took place in relation to a criminal case, it is possible that an insolvency professional could present options to the Court in order to obtain directions as to the best method of conversion.

4.2 Antecedent transactions

In most jurisdictions, including the ones under review in this paper, an insolvency professional is provided with a set of clawback tools in order to challenge a reviewable transaction made within a certain period of time. Where a challenge is successful, the court will make an appropriate order to reverse the effect of the transaction, for example by setting aside a transfer and ordering the return of the assets. The returned assets or proceeds of such transaction would form part of the assets of the insolvent company and would be available for distribution to the creditors. In most jurisdictions it is yet to be tested whether the clawback powers available to an insolvency professional will apply also in the context of a cryptoasset. However, it is likely that clawback powers would be applicable to crypto-transactions in most jurisdictions, unless there is a clear exclusion contained in legislation.

⁶¹ *R v Teresko (Sergejs)* – unreported, 11 October 2017.



4.2.1 United States

There has been one particular case in the US where a bankruptcy trustee has sought to utilise claw-back powers to recover cryptoassets for the insolvent estate. In *In re Hashfast Techs LLC*, the trustee moved for partial summary judgment (Motion) seeking two determinations from the court.⁶² First, he sought a determination that Bitcoin constitute commodities, not currency, for the purpose of recovery under section 550(a) of the US Bankruptcy Code.⁶³ Section 550(a) of the Bankruptcy Code provides that once a trustee has avoided a transfer, the trustee may recover, for the bankruptcy estate's benefit, either the transferred property or, if the court orders, the value of the property.⁶⁴ Second, he sought a determination that the bankruptcy estate was "entitled to [recover] either the Bitcoin or the value of the Bitcoin as of the transfer date or time of recovery, whichever is greater."⁶⁵ In support of the latter, the trustee argued that the purpose of section 550(a) of the Bankruptcy Code was to restore the bankruptcy estate to the financial condition it would have been in had the transfers not occurred.⁶⁶ In opposition, the defendants argued that the bankruptcy estate was only entitled to recover the value of the Bitcoin as of the transfer date.⁶⁷ The defendant further argued that restoring the bankruptcy estate to the financial condition it would have been in had the transfers not occurred, "would involve paying the dollar value for services rendered, not the windfall sought here."⁶⁸ In addition, the Defendant argued that the Bitcoin transfers he received do not constitute fraudulent transfers because the transfers satisfied an antecedent debt and, therefore, the debtors received value for the Bitcoin transfers to the defendant.⁶⁹

In February 2016, the Court entered an order granting in part the trustee's Motion.⁷⁰ As noted above, the Court determined that "Bitcoin are not United States dollars," rejecting the defendant's argument.⁷¹ The Court stated that it need not determine "whether Bitcoin are currency or commodities for purposes of the [Bankruptcy Code] fraudulent transfer provisions."⁷² The Court also stated that if the Trustee ultimately prevailed in the action, then it would determine "whether . . . he may recover the Bitcoin (property) transferred or their value, and if the latter, valued as of what date."⁷³ Ultimately, however, the Court did not have the opportunity to determine this, as the parties stipulated to dismiss the action with prejudice.⁷⁴

⁶² See Pl's Mot for Partial Summ J at 2, *Kasolas v Lowe (In re Hashfast Techs. LLC)*, No 15-03011 (Bankr ND Cal Jan 22, 2016), ECF No 42; see also Pl's Mem of Points and Authorities in Supp of Mot for Partial Summ J, *supra* note 53, at 3 ("[T]he Motion is not directed to avoidance of the Bitcoin transfers, but rather to the discrete legal issue of whether, once avoided, the Bitcoin constitute mere currency – the equivalency of dollars – or a commodity which can rise or fall in value based upon changing market conditions.").

⁶³ See Pl's Mot for Partial Summ J, *supra* note 56, at 2.

⁶⁴ See 11 USC, § 550(a).

⁶⁵ See Pl's Mot for Partial Summ J, *supra* note 56, at 2.

⁶⁶ See Pl's Mem of Points and Authorities in Supp of Mot for Partial Summ J, at 2, 3, 6, 8, *Kasolas v Lowe (In re Hashfast Techs. LLC)*, No.15-03011 (Bankr ND Cal, Jan 22, 2016), ECF No 42-1.

⁶⁷ *Idem*, at 3, 14.

⁶⁸ *Idem*, at 12.

⁶⁹ *Idem*, at 13.

⁷⁰ See Order on Motion For Partial Summary Judgment, *Kasolas v Lowe (In re Hashfast Techs LLC)*, No 15-03011 (Bankr ND Cal, Feb 22, 2016), ECF No 49.

⁷¹ *Idem* at 1.

⁷² *Ibid*.

⁷³ *Idem*, at 1–2.

⁷⁴ See Order Approving Stipulation to Dismiss Adversary Proceeding with Prejudice, *Kasolas v Lowe (In re Hashfast Techs LLC)* (2016) (No 15-03011).



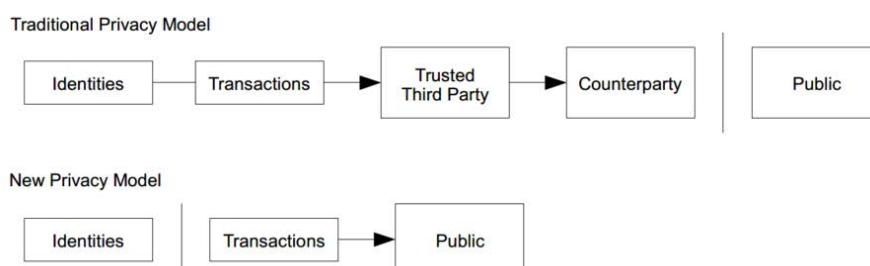
It can be argued that if virtual currencies were classified as money or currency, Bitcoin transactions would receive greater protection under the Bankruptcy Code. Specifically, cryptocurrency transfers or contracts in which individuals exchanged it for dollars or other currencies, may be classified as “swap” agreements (swap agreements) and receive beneficial protections under sections 362, 546 and 560 of the Bankruptcy Code. Under sections 362 and 546 of the Bankruptcy Code, swap agreements would be protected from avoidance as constructive fraudulent transfers. Under section 548 of the Bankruptcy Code, a transfer made by a debtor within two years of filing for bankruptcy can be reversed if it is deemed constructively fraudulent. Specifically, under section 548 of the Bankruptcy Code, transfers can be reversed within two years of the filing of a bankruptcy case if the debtor: (i) transferred an interest in its property; (ii) was insolvent at the time of the transfer or was rendered insolvent thereby; and (iii) received less than reasonably equivalent value in exchange for such transfer.” Section 546(g) of the Bankruptcy Code may offer protections to swap agreements by prohibiting a bankruptcy trustee from avoiding preferential transfers made before the filing of a bankruptcy case, unless the transferor intended to hinder, delay, or defraud creditors. Lastly, section 560 of the Bankruptcy Code provides swap agreements broad protection from the automatic stay, in that swap participants would not be prohibited by the automatic stay to liquidate, terminate, or accelerate a swap agreement. Therefore, Bitcoin holders would have the ability to sell Bitcoin in exchange for US dollars without the fear that such transfers would be deemed constructively fraudulent, receiving the same protection under the Bankruptcy Code as if they were exchanging US dollars.

4.3 Tracing transactions

When it comes to cryptoassets, there may be an added difficulty for insolvency professionals when seeking to trace the cryptoasset. One of the compelling bases of cryptocurrencies is that they allow anonymity and that transactions are untraceable. Although there are certain types of cryptocurrencies, such as Moreno and Zcash, designed to avoid tracking, there are methods to trace transactions by studying the relevant distributed ledger technology. For example, Bitcoin provides for a level of anonymity in the sense that the users use pseudonymous identities through a public key to secure transactions and the public key does not contain any identifiable information about the user. All of the transactions made using this public key are publicly available to the entire Bitcoin network through the blockchain. Blockchain contains detailed information about the nature and the context of every transaction ever made, including time, values, recipients and user public keys. This allows data scientists and statisticians to identify links between exchanges and certain transactions which can be traced back to a digital wallet with a unique identifier. The user remains anonymous unless the Bitcoin address can be linked to the real-world identity of the user.

The diagram⁷⁵ below sets out the differences in the traditional privacy model against the new Bitcoin privacy model. The traditional banking model achieves a level of privacy by limiting access to information to the parties involved and trusted third parties. The transactions are generally not transparent. However, Bitcoin transactions are available for review but without linking the transaction to a particular individual / entity.

⁷⁵ Bitcoin: A Peer-to-Peer Electronic Cash System (<https://bitcoin.org/bitcoin.pdf>).



Cryptocurrency exchanges are websites where users can buy, sell or exchange cryptocurrencies for other digital currency or fiat currency. Certain exchanges maintain a database of identities of their users and the co-operation of the exchange platform will therefore be required in order to identify the individual who controls the digital wallet. This is only possible where the exchange platform has obtained the necessary information from the digital wallet holder. Sophisticated exchange platforms would normally require users to verify their identity; the majority of Bitcoin trading platforms both in the US and the UK require some form of identity verification. However, there are other platforms that do not require a user to create an account and consequently no personal information in relation to the user will be stored by the exchange platform. At present there is no regulatory or legal requirement for exchange platforms to maintain the identities of their users. Another shortcoming of the tracing process is that the companies that provide these services have to set up an intricate tracing system for each type of cryptocurrency. There are 2,143⁷⁶ different types of cryptocurrencies that exist in the world today with a total market cap of USD 177,151,636,370. Realistically, these tracing companies are probably only in a position to track the high profile cryptocurrencies.

Due to the nature of cryptocurrencies, an insolvency professional will most likely need the expertise of a tracing company to track any reviewable transactions. With the help of experts it is not impossible to create a roadmap of the transactions. Therefore, an important consideration for an insolvency professional is whether the costs associated with tracing are reasonable in relation to the ability to realise value from the cryptocurrency holdings. If the cost of tracing cryptocurrency transactions is greater than the amount that could be realised from the asset, then this is obviously not a worthwhile exercise. This might not be a simple decision to make, as an insolvency professional may not have a clear understanding of the value of the cryptocurrency holding without further investigation, which in itself may be costly without the co-operation of the insolvent entity or bankrupt individual. It is also important to note that the analytics companies that have assisted with the tracing of cryptocurrency transactions, have done so in the context of detecting fraud. They do not therefore specialise in identifying transactions within the context of insolvency. It does not seem unrealistic that tracing companies could apply similar forensic techniques for the purpose of tracing transactions in the context of insolvency.

4.4 Choice of law and jurisdiction

Cross-border issues are common in corporate restructurings and insolvencies as most large corporates have operations or assets in several locations. It is

⁷⁶ <https://coinmarketcap.com/all/views/all/>.



therefore important to understand that there is a disparity between the insolvency regimes of different jurisdictions. The distributed nature of cryptocurrency and Blockchain technology raises significant jurisdictional questions that will need to be considered. Due to the complexities of jurisdiction and choice of law in relation to cryptocurrencies, one could produce an entire paper on this topic alone. It is for this reason that the paper only deals with this topic at a very high level.

The two key issues that arise in matters with a multi-jurisdictional aspect are where the principal proceedings should be opened and which law will govern the process. Answering the first question helps in answering the second.

In the context of the European Union (EU), the European Insolvency Regulation⁷⁷ (EIR) seeks to co-ordinate insolvency proceedings through the concept of a centre of main interest (COMI) in order to determine which member state of the EU (other than Denmark) has jurisdiction to open insolvency proceedings and which state's laws take precedence if competing insolvency procedures are commenced in different member states. Although the term COMI is not defined, there is a rebuttable presumption that the debtor's registered office (or place of residence in relation to an individual) is the centre of the debtor's main interest. Additionally, proceedings can be brought in a state in which the debtor does not have its COMI but has an "establishment." This is defined as any place of operation where the debtor carries out an economic activity with human means and goods, which is not of a temporary nature. In addition, the UNCITRAL Model Law on Cross-Border Insolvency (Model Law) provides a legal framework that sets out when and how a court can recognise insolvency proceedings opened in another jurisdiction. The Model Law has no legal or binding status but serves as a framework that can be adopted by jurisdictions around the world. Some concepts contained in the Model Law are similar to the EIR where it categorises foreign insolvency proceedings into main proceedings and foreign non-main proceedings. Commencing proceedings in one jurisdiction may be just one of many proceedings in various jurisdictions that are necessary to resolve a debtor's financial difficulties. It is therefore essential that courts of other jurisdictions can be enabled to recognise and give effect to the proceedings commenced in the first jurisdiction and to co-ordinate an effective realisation of the assets.

Many jurisdictions rely (in part) on the *lex rei sitae* in order to establish jurisdiction over assets; in other words, the physical location of the asset determines who has jurisdiction over that asset. This raises the issue of where cryptoassets are located:

- a) Is it the location of the digital wallet, which could be online, on a local machine or on a backup storage system?
- b) Is it the location of the Blockchain itself?
- c) Is it the location of the exchange used by the person in question?

Where the insolvency relates to an exchange platform that has been incorporated in a particular location, it is likely that the governing law and jurisdiction would be that of the country where the exchange platform has been incorporated. On the other hand, the location of the Blockchain is akin to a

⁷⁷ Regulation (EU) 2015/848 of the European Parliament and of the Council of 20 May 2015 on insolvency proceedings.



circular determination of jurisdiction due to the distributed nature of the technology, whereby it has no single fixed location. It must, however, be noted that the value of the cryptoasset is dependent on the ledger contained in the Blockchain reflecting the existence / ownership of the assets in question. In this regard it shares some similarities with shares in non-listed companies, where the *lex rei situs* over the shares would point to the law of the registered office of the company.

The physical location of the wallet would be the natural starting point, that is, the local machine that contains the wallet or the location of the online wallet. But considering that any number of backups of the wallet could exist elsewhere, any one of these could conceivably establish jurisdiction. The wallet itself is, however, just digital proof of ownership of part of the Blockchain. It could therefore be argued that the wallet is merely the key to accessing the actual asset, the Blockchain, and not the asset itself. The keys to a house would not constitute an asset and would not in itself establish jurisdiction over the house.

Furthermore, exchange platforms and companies that provide digital wallets operate through software that is globally accessible. These companies may not follow a traditional corporate structure, hold physical assets or occupy office space but will engage with customers worldwide. As evidenced by the multiple proceedings that arose from the insolvency of MtGox, the greatest challenge that insolvency professionals will face is that their appointment may not be recognised by other jurisdictions around the world. Even if an insolvency professional was able to overcome the issues surrounding jurisdiction, the issue of which law should govern the proceedings will remain. As has already been established, there does not appear to be clear legislative guidance in any jurisdiction as to how cryptocurrencies should be characterised.

In terms of governing law, every modern country provides guidance on how to deal with a dispute. Where there is a difference in the result achieved through the application of the rules in one jurisdiction compared to another, the question of governing law becomes a pertinent one. This is particularly relevant where one jurisdiction might have structured legislative guidance on dealing with cryptocurrencies compared to another. However, as has already been shown in this paper, there is little legislative guidance regarding cryptocurrencies in most countries around the world. This brings us to the second issue; if the governing law has been agreed, which category of law will apply to cryptocurrencies? Which juridical concepts can be applied to cryptocurrencies when they cannot be legally categorised as something? Unfortunately, at this point one can only raise these issues as the answers have yet to be discovered.

4.5 Cryptocurrency exchanges

As already mentioned, users in the cryptocurrency community engage with cryptocurrency exchanges in order to invest in cryptoassets. The exchange platform will usually hold cryptocurrency deposits in an account pursuant to the terms of engagement. For example, if a comparison is made to the traditional banking system involving cash deposits, under English law where a customer deposits cash with a bank the customer has a debt claim for the amount of the cash deposit against the bank in the event the bank enters an insolvency procedure. Furthermore, in order to mitigate the risk to customers, there are banking regulations that require financial institutions holding cash deposit accounts to maintain certain levels of capital reserves to cover the deposits. In



addition to this, the government provides further protection through government bank deposit protection schemes, such as the Financial Services Compensation Scheme in the UK. There appears to be very little protection provided to customers who invest by using cryptocurrency exchange platforms. The EU's Fifth Anti-Money Laundering Directive⁷⁸ seeks to bring exchange platforms and custodians within its regulatory remit. However, it contains no equivalent capital reserve requirement or any form of compensation scheme. It would therefore appear that cryptocurrency investors have a mere unsecured claim against an exchange platform that enters a process of insolvency.

The relationship between an investor of cryptocurrency and an exchange platform could also be compared to that of a custodian / broker of traditional securities. With traditional securities investments, the investor will make relevant investments in the securities through a custodian or broker, who will then hold the securities on behalf of the investor. This relationship is usually governed by a custody agreement which requires that the custodian return the securities and interest accrued by the securities back to the investor. In order for investors to retain a proprietary interest over the securities held on their behalf, it is a common occurrence that the custodian will hold the assets on trust for the investor. The assets of the investor should therefore be clearly identifiable. Under English law, for example, assets that are combined with the assets of another investor would still be capable of being held on trust for the relevant investors. However, where the investor assets are mixed with the assets of the exchange platform, it would be challenging to establish a trust relationship. Ordinarily, regulation dictates that assets of clients should not be mixed with the assets of the custodian; however, such regulation does not apply to cryptocurrency exchange platforms and it is therefore unlikely that this is a common practice by exchanges. In any event, this is based on the premise that proprietary rights are capable of existing over cryptocurrencies, which is presently unclear.

4.6 Case studies

4.6.1 Exchange platform - MtGox

MtGox was founded by Jed McCaleb in 2010 at a time where there were few exchanges for buying and selling Bitcoin. It grew exponentially and was sold to Mark Karpelès who resided in Japan. At its peak, MtGox was reportedly engaged in an estimated 70% of all global Bitcoin transactions. Throughout the life of the exchange it had suffered cyber hacks, technical issues and dealings with the US Government. In 2013, federal agents seized a total of more than USD 5 million after a judge ruled that there was probable cause to suspect that MtGox was engaged in money transmitting without a licence. This seizure set a precedent for Bitcoin exchanges seeking to operate in the US. In 2014, the exchange restricted all withdrawals as it came to light that a cyber-hack was syphoning Bitcoins out of MtGox.

MtGox was reportedly the largest cryptocurrency exchange in the world until it went into a process of insolvency after a cyber-hack, which resulted in the theft of nearly all of its own Bitcoins and that of its 750,000 customers at the time. The value of the loss equated to around 7% of all available Bitcoins and was

⁷⁸ Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU.



worth around USD 473 million at the time. In the absence of regulation, the exchange apparently did not back up its Bitcoin deposits with capital.

MtGox filed for civil rehabilitation proceedings in the Tokyo District Court on 28 February 2014, as an attempt to recover from the losses it was making. Civil rehabilitation proceedings in Japan are intended to enable the debtor to reconstruct the business in accordance with a rehabilitation plan approved by a certain majority of creditors. The distribution to creditors under these proceedings should not be less than that in a bankruptcy. The process was dismissed by the court soon after on the basis that there was no prospect of recovery and so an order for provisional administration was made. Within eight days of the order, the company was placed into bankruptcy proceedings. Soon after commencing the Japanese bankruptcy proceedings a petition was filed in the US Bankruptcy Court for the Northern District of Texas, requesting that the civil rehabilitation procedure be recognised pursuant to Chapter 15 of the US Bankruptcy Code. The US Bankruptcy Court recognised the Japanese bankruptcy proceedings as a foreign main proceeding. Similarly, the MtGox trustee successfully obtained an order from the Ontario Superior Court of Justice in Canada, recognising the Japanese bankruptcy proceedings. This was in opposition to a class action petition commenced by Canadian investors alleging negligence, fraud and breach of contract. The recognition of the bankruptcy proceedings in Japan resulted in a stay of all actions brought against the exchange in Canada. This was achieved due to the fact that the trustee was able to demonstrate that the bankruptcy proceeding in Japan was a “foreign main proceeding”.

On 25 May 2016, the trustee completed a review of the assets and claims from customers and creditors; 24,750 claims had been proved, totalling USD 432 million. According to Japanese bankruptcy rules, the claims had to be valued at the April 2014 Bitcoin market price. The trustee proceeded to value the Bitcoins at their value in 2014 (the date on which the insolvency proceedings had commenced), at which time the value equated to USD 483 per Bitcoin. Valuing the Bitcoin at the time the insolvency proceedings were commenced was a contentious issue, as the value of Bitcoin had increased significantly since 2014. It is a rare occurrence indeed to find a company undergoing a bankruptcy procedure becoming solvent as a result of the appreciation in the value of its assets, but this is exactly what transpired in the MtGox case.

On 25 September 2018, the trustee announced that in consultation with the Court and the examiner based on the examination report dated 28 February 2018, the trustee had secured a certain amount of money for the bankruptcy estate through the sale of assets. The quantities sold and the amounts paid into the bankruptcy estate are set out in the table below.⁷⁹

⁷⁹ https://www.mtgox.com/img/pdf/20180925_announcement_en.pdf.



Type of cryptocurrencies	Quantity sold	Amounts paid into bankruptcy trustee's account
BTC	24,658.00762 BTC	JPY 22,561,004,011
BCH	25,331.00761 BCH	JPY 3,414,698,341
	Total amount	JPY 25,975,702,352

As a result of the sale, the balance of the bankrupt trustee's account was approximately JPY 70,059 million.⁸⁰

The decision to implement a sale was heavily criticised as it resulted in the sale of roughly 35,841 Bitcoins for approximately USD 360 million. The sell-off was perceived as driving down the price of Bitcoin and it was claimed this was contrary to the trustee's duty to maximise and protect the value of the assets on behalf of the creditors. The trustee's response to the criticism was that the decision was made to secure fiat value for the Bitcoins while the price was relatively high and that the sale was structured through a private offering to minimise the impact on the market price. Obtaining court approval for the plan to sell-off certain cryptoassets provided the trustee's actions with some legitimacy.

The value of Bitcoin continued to rise through to 2017 and the trustee announced that any assets in excess of the claims against MtGox would be distributed back to the shareholders, including Karpelès. Consequently, on 24 November 2017 the creditors petitioned the court to convert the proceedings to a civil rehabilitation proceeding. On 22 June 2018, the Tokyo District Court complied and issued an order to commence civil rehabilitation proceedings for MtGox. As a result, the ongoing bankruptcy proceedings were stayed and a Civil Rehabilitation Trustee (CRT) was appointed. The stay on the bankruptcy proceedings meant that the mass Bitcoin sell-off that had caused controversy, had also ended. The bankruptcy trustee, Nobuaki Kobayashi, was appointed as the CRT who has the power and authority to administer and dispose of the MtGox assets and implement the civil rehabilitation proceeding, including the administration of assets and investigation of claims subject to the supervision of the Tokyo District Court. Civil rehabilitation proceedings in Japan do not require non-monetary claims (claims in relation to Bitcoin) to be converted into fiat currency value and permits flexibility in the method of distribution to creditors in accordance with a rehabilitation plan.

Pursuant to this order, the CRT launched an online claims submission process which gave creditors until 22 October 2018 to submit a filing. According to the CRT, "if [a] proof of claim is not filed by the deadline, then disenfranchisement (that is, loss of the right to claim) might apply". This process allowed creditors who did not submit claims prior to the bankruptcy proceedings to submit their filings in the rehabilitation proceedings.

The CRT recently announced that the balance of the funds held by him in relation to MtGox is JPY 69,553,086,521 (USD 629,594,540) in cash and BTC 141,686.35 and BCH 142,846.35 cryptocurrency valued at over USD 593

⁸⁰ https://www.mtgox.com/img/pdf/20180925_announcement_en.pdf.



million.⁸¹ The CRT continues to investigate and locate further funds said to have been hacked and / or lost by the exchange. This includes retrieving money owed to MtGox by other parties, such as the former CEO Mark Karpelès and majority owner Tibanne Co.

On 19 March 2019, the trustee announced that he had concluded the processing of creditors' rehabilitation claims and submitted to the Tokyo District Court a statement of approval or disapproval. The claims were submitted via two forms:

- online filing system; and
- supplementary online method or offline method.

On 3 April 2019, the CRT announced that all creditors who had filed rehabilitation claims had received decisions regarding their claims. Creditors can appeal whatever decision was made by making an application for the assessment of the claim with the court. The timing and method of payment had not yet been determined at the time this paper was written but the details will be set out in a rehabilitation plan in due course.

4.6.2 Individual bankruptcy

The status of cryptocurrency in Russia is unclear and, therefore, from a practical standpoint, it is debatable whether cryptocurrency can be included in a bankruptcy estate. In a recent case of individual insolvency in the Moscow *Arbitrazh* Court,⁸² a financial administrator proposed that the debtor's crypto-wallet be included in the bankruptcy estate. According to the documents on file, the financial administrator considered cryptocurrency to have a high pecuniary value and that the exclusion of the debtor's crypto-wallet would therefore violate creditors' rights by reducing the size of the insolvency estate. The trial court dismissed the financial administrator's claim.

The trial court found it difficult to determine whether the cryptocurrency was an asset, or information on decentralised servers. As a result, transactions involving cryptocurrencies were found by the court to be unenforceable. The court justified the decision on the basis that, due to the anonymity of cryptocurrency holders, it would be difficult to identify the owner of the cryptocurrency. This was evidently not relevant to the case at hand as the debtor confirmed that he was the holder of the cryptoasset and provided the relevant information. Furthermore, the court considered the decentralised features of cryptocurrency whereby there was no entity to guarantee the value of the cryptocurrency. It appeared that none of the features mentioned by the trial court affected the ability to recognise cryptocurrency as an asset. Instead, it appears that the court was unwilling to rule on the legal status of cryptocurrencies on the eve of the amendments to the Civil Code of the Russian Federation and the draft law "On Digital Financial Assets."

On 15 May 2018,⁸³ the court of appeal set aside the ruling of the trial court and included the crypto-wallet in the bankruptcy estate. The appellate court obliged the debtor to provide the financial administrator with the relevant access key

⁸¹ <https://www.coindesk.com/mt-gox-creditors-warn-mass-sale-could-put-bitcoin-fork-prices-at-risk>.

⁸² *Tsarkov case* (Case number: A40 - 124668/17 - 71-160).

⁸³ *Tsarkov* (Case number: A40 - 124668/2017).



(password). According to the resolution of the appellate court, cryptocurrency should be regulated as an object of civil rights on the grounds of the broad interpretation of the Civil Code of Russia and should, therefore, be considered a pecuniary asset. The appellate court stated that as far as the debtor himself was able to freely use, possess and dispose of the crypto-wallet, his status should be similar to an owner. Notably, the appellate court stressed the fact that any asset of certain economic merit should be included in the bankruptcy estate unless otherwise directly provided for by the bankruptcy law. In this context, the appellate court concluded that the approach taken by the trial court deprived bankruptcy creditors of the right to have their claims satisfied in full.

5. Regulation of cryptocurrency

The debate in relation to the legal categorisation of cryptocurrencies and their regulation has increased dramatically in recent years. This part of the paper considers how regulation applies to cryptocurrencies and other cryptoassets in various jurisdictions, and discusses its impact.

Whether and to what extent cryptoassets should be regulated, is an open question. Just like conventional assets, cryptocurrencies are vulnerable to being exploited for money laundering, terrorist financing and other criminal activities. In some cases, buying cryptocurrency is akin to investment in traditional financial assets and is vulnerable to the same types of abusive behaviour such as market manipulation, fraud and ponzi schemes. Some cryptocurrencies provide anonymity and are difficult, if not impossible, to trace, making them particularly susceptible to certain nefarious activities.

Challenges arise when considering what level of regulation is appropriate. Cryptocurrency enthusiasts and cypherpunks would say that regulation is a direct contradiction to the basic premise of cryptocurrency, a decentralised digital cash system. Casting an overarching regulatory shadow over cryptocurrencies might result in the suppression of their inherent benefits and value. However, a regulatory framework with requirements for authorisation, personal accountability, mandatory disclosure and other similar rules generally guarantee a certain level of propriety, as well as dramatically reducing due diligence and transaction costs. Cryptoassets are increasingly being experimented with by mainstream financial institutions and being made available to their clients. Although the present cumulative market capitalisation of all cryptocurrencies is relatively small, if linked to the key parts of the financial system they could introduce significant risks to global financial stability. Regulators around the world have expressed a particular interest in asset tokens, which may closely resemble the financial instruments that are currently regulated and may be captured under the existing legislative framework.

There are various types and levels of regulation that can be applied to this relatively new industry / asset class. The application of one type of regulation will not necessarily preclude the use of other types of regulation. Instead, different types of regulation may be used in concert - for example, industry codes of good conduct alongside legal licencing frameworks. Broadly, regulation may come in the form of top-down legislative rules or bottom-up initiatives. The top-down implementation approach is where the government sets out a clear-cut system of command and control, including a clear hierarchy of authority. Bottom-up initiatives begin with implementation strategy formation with the target groups and service deliverers, because the target groups are the actual implementers of

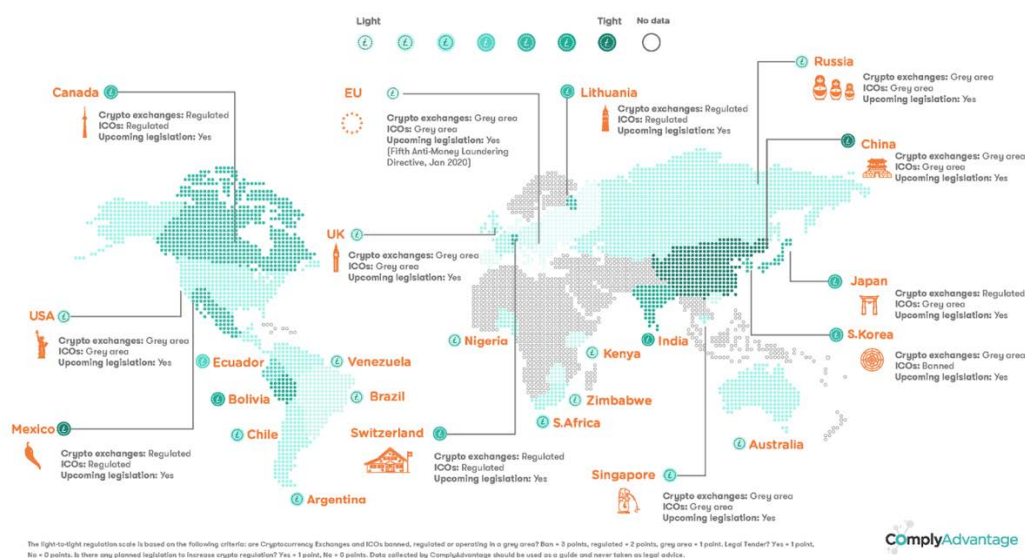


policy. Discretion by the local implementers is the underlying premise of this approach. Some jurisdictions have chosen not to regulate cryptocurrency at all but instead to prohibit it entirely. Evidently, an outright ban fails to recognise the advantages of cryptocurrency but does provide a clear and simple method to handle this new asset class which has the potential to have severe consequences if not managed carefully.

On a broad review of the treatment of cryptocurrencies in a range of jurisdictions, it is evident that there is no clear and consistent approach. As is the case with legal characterisation of cryptocurrencies, the adopted regulatory methods vary between jurisdictions. The map below shows a broad overview of how various jurisdictions are dealing with the regulation of cryptocurrencies.⁸⁴

Crypto Regulations by Country

How do different countries around the world approach crypto-regulations?



The light-to-tight regulation scale is based on the following criteria:

Are cryptocurrency exchanges and ICOs banned, regulated or operating in a grey area?	Legal Tender?	Is there any plan to increase crypto-regulation?
Grey area = 1 point	Yes = 1 point	Yes = 1 point
Regulated = 2 points	No = 0 points	No = 0 point
Ban = 3 points		

⁸⁴ Data has been collected and produced by Comply Advantage and should be used as guidance only: <https://complyadvantage.com/blog/cryptocurrency-regulations-around-world/>.



5.1 European Union

The European Union (EU) is a supranational entity with 28 sovereign member states that delegate a portion of authority and sovereignty to the Union to achieve common goals. In the EU, steps have been taken to establish regulation over cryptocurrencies, including the creation of the FinTech Task Force which seeks to harmonise the existing national laws regulating virtual currencies. On the other hand, the member states have also initiated separate strategies in accordance with their local practices. Firstly, this part will review the guidance of the EU and the practices of the following member states of the EU: the UK,⁸⁵ The Netherlands, Sweden and Denmark.

A recent paper produced by Policy Department A of the European Parliament⁸⁶ emphasised concerns about criminals taking advantage of the unregulated cryptocurrency market for criminal activities, such as money laundering, terrorist financing and tax evasion. It stated that the scale of misuse is as yet unknown but has been estimated to exceed EUR 7 billion worldwide. The paper reiterated the point that the existing European legal framework fails to address the intrinsic difficulties in cryptocurrency, in particular the issue of anonymity. For example, anonymity inhibits the activation of certain tax laws, as an individual cannot be taxed for cryptocurrency transactions if the transaction is not easily attributable to the real world identity of the user. Therefore, it is in the hands of cryptocurrency holders to declare their transactions.

The European Parliament believes that introducing mechanisms of accountability into the crypto-market should prevent the misuse of cryptoassets. The European Parliament acknowledges that “legislative action should always be proportionate so that it addresses illicit behaviours while at the same time not strangling technological innovation at birth.”

One area where the European Commission is taking direct top-down regulatory action, is in regard to laws on anti-money laundering and counter-terrorist financing. The EU’s Fifth Anti-Money Laundering Directive⁸⁷ will apply a new legal definition of cryptocurrency as a “digital representation of value that can be digitally transferred, stored or traded and is accepted...as a medium of exchange.” The Directive provides that cryptocurrency firms and exchanges must comply with the same AML / counter terrorism financing regulations applied to financial institutions. Practically, this involves requirements to undertake customer due diligence and submit suspicious activity reports. The Directive requires providers of cryptocurrency exchanges and wallets – the gatekeepers of the industry – to obtain registration with their local regulator. Member states are required to implement these new rules under national legislation before 10 January 2020. The European Commission believes that the reduction in anonymity surrounding cryptocurrencies will increase the trust of their good faith users. It is likely that certain advocates of cryptocurrencies will disagree, particularly those that believe there should be less, not more, government oversight.

⁸⁵ At the time this paper was written, the UK was in the process of exiting the EU but for the purposes of this paper has been referred to as a member state of the EU.

⁸⁶ <http://www.europarl.europa.eu/cmsdata/150761/TAX3%20Study%20on%20cryptocurrencies%20and%20blockchain.pdf>.

⁸⁷ Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU .



5.2 England and Wales

The Governor of the Bank of England, Mark Carney, acknowledged in an important speech that cryptocurrencies are of growing interest to policymakers.⁸⁸ In his view, cryptocurrencies do not yet meet the various tests in order to be a viable alternative means of exchange to Pound Sterling. The Governor also stated that cryptocurrencies do not, at this stage, pose a material risk to the financial stability of the UK due to their small size relative to the financial system. Currently, systemically important UK financial institutions only have minimal exposure to cryptocurrencies.

The UK's Financial Conduct Authority (FCA) does not directly regulate cryptocurrencies. Instead, it has classified derivatives using cryptocurrencies as the underlying financial instruments, subject to its supervision. For the trading of cryptocurrencies only, there are no formal mechanisms of redress for any consumer, nor any mechanism to facilitate investor compensation for trading losses due to market abuse. ICOs, on the other hand, are reviewed by the FCA on a case-by-case basis to ascertain whether they involve issuing regulated financial instruments or not.

The UK Parliament's Treasury Committee launched an enquiry into cryptocurrencies on 22 February 2018. This enquiry was designed to investigate the use of cryptocurrencies and their potential impact on systemically important institutions and the UK's regulatory environment.

In the FCA's written submission on digital currencies to the Treasury Committee, the FCA reaffirmed that:

“Cryptoassets themselves (i.e. those designed primarily as a means of payment / exchange) are generally not within the scope of FCA regulation. Transferring, buying and selling of cryptoassets, including the commercial operation of cryptoasset exchanges, will also typically fall outside the FCA's regulatory perimeter.”⁸⁹

The Treasury Committee published its final report on 19 September 2018. The report called for the regulation of the cryptocurrency market and stated that the ambiguity of both the UK government and regulators' positions on cryptocurrencies, is not sustainable. The Treasury Committee noted that regulation would improve customer outcomes, enable sustainable growth and reduce risks.

In addition, the FCA is currently working with the UK Treasury and Bank of England as part of the UK's Cryptoassets Taskforce (Taskforce). In October 2018, the Taskforce released its final report, which included submissions by the FCA, Bank of England and other market experts.⁹⁰ The Taskforce concluded that due to the potential significant benefits of distributed ledger technology, the FCA, Bank of England and the UK Treasury will continue to support the development of cryptocurrencies and DLT. The three authorities

⁸⁸ <https://www.bankofengland.co.uk/speech/2018/mark-carney-speech-to-the-inaugural-scottish-economics-conference>.

⁸⁹ <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/treasury-committee/digital-currencies/written/81677.html>.

⁹⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/cryptoassets_taskforce_final_report_final_web.pdf.



promised to take action to mitigate risks to consumers and market integrity, prevent illicit activity and guard against threats to financial stability. The authorities have agreed to consult on:

- a) implementing one of the most comprehensive responses globally to the use of cryptoassets for illicit activity;
- b) a potential prohibition of sale to retail consumers of derivatives where the underlying asset is cryptocurrency;
- c) guidance on how cryptoassets are treated within the existing regulatory framework; and
- d) whether new regulation or an extension of the regulatory perimeters would be required.

In January 2019, the FCA published a consultation paper on cryptocurrencies. The FCA is seeking industry and public feedback on proposals on FCA guidance on cryptocurrencies and the regulatory perimeter.

The table below, provided by the FCA to the Treasury Committee, helpfully sets out the different forms of cryptoassets and products that may relate to the underlying cryptoasset and whether these would fall within the regulatory parameters.⁹¹

Product area	Within perimeter?	Typical use case
Cryptoassets as a medium of exchange	N	Peer-to-peer payments, and investment assets, for example, Bitcoin and Ethereum
Regulated payments services that use cryptoassets	Y	Intermediary in cross-border transactions, for example, GBP – Bitcoin – USD transactions
Derivative instruments referencing cryptoassets	Y	Financial instrument to bet on price developments (Contracts for difference (CfD)) or to hedge a position (futures), for example CfD providers IG, Crypto Facilities and Plus500
Investment assets in cryptoassets	Y	Direct investments in cryptoassets, for example, Swedish registered exchange traded notes

⁹¹ <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/-treasury-committee/digital-currencies/written/81677.html>.



Product area	Within perimeter?	Typical use case
Tokens representing transferable security	Y (security token)	Distribution infrastructure for regulated products such as shares and bonds, for example, issue of traditional shares on public blockchain. Also in the context of ICOs, when tokens amount to a transferable security, more akin to regulated equity-based crowdfunding
Tokens representing a claim on prospective services or products	N ("utility token")	Tokens that do not amount to transferable securities or other regulated products and only allow access to a network or product. Can also be used as a fundraising mechanism akin to unregulated donation and rewards-based crowd funding, also in the context of ICOs

As part of the FCA's Project Innovate initiative, the regulator has granted access to its regulatory sandbox to various fintechs experimenting with cryptoassets. The regulatory sandbox is a way for firms to test new products in a live environment with real customers, by relying on temporary FCA waivers from obtaining authorisation to conduct regulated business. It has existed for a few years and in 2018 40% of the 29 firms granted access were using DLT.⁹²

For issuers and their advisors engaging in ICOs in the UK, the FCA's acknowledgement that it does not consider cryptocurrencies themselves as currencies, commodities or other financial instruments under MiFID II,⁹³ is good news. However, it does serve as a timely reminder for firms considering making offerings of futures or options based on cryptocurrencies, that FCA authorisation and supervision will be a mandatory requirement. The ICO market had tapered off sharply at the end of 2018 as issuers consider the changing regulatory environment and investors pull away from ICOs.

The FCA was investigating 24 businesses that deal with cryptocurrencies in the UK and has opened seven whistleblower reports during 2018 that consider whether the businesses in question might be carrying on regulated activities that require FCA authorisation. The FCA confirmed that it is focusing on "identifying and determining the most serious matters which pose the greatest risk to consumers" and if regulatory breaches are found they will take enforcement action. The FCA noted in April that "it is likely that dealing in, arranging transactions in, advising on or providing other services that amount to regulated activities in relation to derivatives that reference either cryptocurrencies or

⁹² <https://www.paymentscardsandmobile.com/fca-approval-are-cryptocurrencies-going-mainstream/>.

⁹³ Markets in Financial Instruments Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU Text with EEA relevance.



tokens issued through an ICO will require authorisation by the FCA.” Penalties for breach include fines and may potentially involve imprisonment.

The Bank of England has confirmed that it will not be issuing any digital currency. Central bank digital currency is the digital form of fiat money established as money by government regulation and law. Central bank digital currency differs from that of other digital currency as it will be issued and backed by the state.

A report prepared for the European Parliament’s Economic and Monetary Affairs Committee, acknowledges that providing central bank backed digital coins could avoid recurrent instability of the banking system as the fractional reserve character of the current banking system can be a major source of instability. This was contrary to the guidance issued by the Bank for International Settlements, which argued that central banks should not develop their own digital currencies as there may be potentially serious implications for monetary policy and financial stability. The Bank of England has noted these reports but concluded that it will not be issuing central bank digital currency in the medium term.

5.3 Sweden

Trading using cryptocurrencies is not closely regulated under Swedish law. Under Swedish law, trading cryptocurrency is a regulated activity that requires permission from the Swedish Financial Supervisory Authority (Swedish FSA). The Swedish FSA and the Swedish National Bank have agreed that cryptocurrency is not currency or cash. However, the Swedish FSA has stated that a company that allows individuals to purchase cryptocurrencies must be registered under the Swedish Currency Exchange and Other Financial Activities Act.⁹⁴

Cryptocurrencies have not been defined as financial instruments under Swedish regulation. However, it is likely that the purchase of and offering advice on investments in cryptocurrencies will most likely be regulated by the Swedish FSA. It is also likely that cryptocurrencies may be regulated by other Swedish authorities, depending on the type of cryptoasset in question. For example, blockchain technology may fall within the remit of the Swedish Data Protection Authority. If the cryptoasset is associated with medical records or other similar assets, it could be regulated by the Swedish Health Care Authority. However this is highly speculative and as of today the only regulation that exists is that of the Swedish Currency Exchange and Other Financial Activities Act and the Swedish Tax Agency in relation to the sale and purchase of cryptocurrencies.

There remains continued debate over how trades involving cryptocurrencies will be regulated and how to ensure consumer protection. The first concern relates to the financial risks attached to investing in cryptoassets. The Swedish FSA states that it is of high importance that companies offering cryptocurrency investment services in the market ensure that consumers are informed of the novel characteristics of the cryptoasset and the risks involved in trading in it. This is particularly pertinent considering that regulation lags far behind the development of this market and at present consumers are engaging in activities that ought to be regulated but are not. Another concern is the manner in which

⁹⁴ 1996:1006. <https://www.fi.se/sv/bank/sok-tillstand/valutavaxlare-och-annan-finansiell-verksamhet/>.



the cryptocurrency market may be subject to money laundering and the financing of terrorism.⁹⁵

5.4 The Netherlands

The Netherlands Central Bank (DNB) and the Dutch Authority for Financial Markets (AFM) do not categorise Bitcoin and other cryptocurrencies as money. Cryptocurrencies are also not considered e-money under the EU E-Money Directive.⁹⁶ It appears that the centralised system cannot be identified as an issuer and any amount held in, for example, Bitcoin does not represent a claim against an issuer. Accordingly, in the Netherlands cryptocurrencies are not subject to robust regulatory supervision.

As cryptocurrencies do not qualify as e-money, related services do not, for example, fall under the scope of the EU Payments Directive.⁹⁷ Despite the use of the words “currency” and “coin”, holders of cryptocurrencies do not, generally, intend to purchase goods and / or services using the cryptocurrency and cryptocurrencies are not a widely accepted means of payment. Given the high volatility of cryptocurrencies, this is unlikely to change. For most purchasers of cryptocurrencies the purpose is (high-risk) investment. Cryptocurrencies are held with the intention to sell at a higher price. In this respect the Dutch supervisory authorities do not consider cryptocurrencies to be a “financial instrument”, a (tangible) “investment object” or other “financial product” as defined in the Dutch Financial Supervision Act (DFSA). Intermediaries in cryptocurrencies do not therefore require an intermediary license. However, an investment fund (manager) that offers participation rights in, for example, fund holding cryptocurrencies, is subject to financial regulatory supervision. Further, trade in derivatives linked to the value of a cryptocurrency is subject to regulation. Although the DNB and AFM have warned the public in respect of cryptocurrencies and expressed concerns related to financial crime, the prohibition of cryptocurrencies is not currently on the table.

5.5 Denmark

Denmark has not seen a significant demand for the regulation of cryptocurrencies. The Danish National Bank has, however, been quite vocal in its warnings against cryptocurrencies, essentially labelling them as nothing more than highly volatile investment items. The Chairman of the Board of Governors of the Danish National Bank has warned that “its lethal. It’s an effective form of gambling.” and he has compared the 2017 / 2018 digital gold rush to the 17th century tulip mania, where tulip bulbs went from being collector’s items to being speculative items, thereby skyrocketing their market price for the duration of the bubble, after which the price crashed.

⁹⁵ <https://www.fi.se/sv/publicerat/nyheter/2013/eba-varnar-for-virtuella-valutor/>.

⁹⁶ Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC.

⁹⁷ Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC.



5.6 Russia

There has been a dramatic shift in the rhetoric used by Russian officials in relation to cryptocurrencies and blockchain assets in recent years. In a little under a year, officials have gone from proposing that cryptocurrencies be banned and users imprisoned, to suggesting legalisation as a potential solution. In January 2014, the Central Bank of the Russian Federation issued its first statement about cryptocurrencies. They referred to them as speculative, high-risk and not backed by state entities. Then, a few years later, in September 2016, the Russian Central Bank issued a statement warning the public about investing in cryptocurrencies. It mentioned that it would be monitoring cryptocurrencies and developing, together with the state, a legal framework to regulate cryptocurrencies. In October 2017, Russian President Vladimir Putin ordered the government to create legislation for cryptocurrencies, including determining their status and creating a legal framework for crypto mining and ICOs.

At the end of March 2018, the first versions of the draft laws “On Digital Financial Assets”, “On Attracting Investment Using Investment Platforms” and “On the Introduction of Amendments to Parts One, Two and Four of the Civil Code of the Russian Federation”, were presented by Russia’s Ministry of Finance (MinFin) and the government of the Russian Federation. The initial objectives of the documents are to minimise the existing risks of using digital objects for transferring assets into an unregulated digital environment for the legalisation of criminal income, bankruptcy fraud or for sponsoring terrorist groups. Russia has been trying to pass cryptocurrency legislation since the beginning of January 2018, with no success so far.

5.7 United States

The Securities and Exchange Commission (SEC) has engaged in enforcement activities, predominantly focusing on cryptocurrency as a security. Notably, the SEC produced its Decentralised Autonomous Organisation (DAO) Report in June 2017,⁹⁸ concluding that under the *Howey* Supreme Court test, virtual currencies could be considered security contracts for the purposes of SEC regulation. Since the release of that report, the SEC has vigorously pursued cryptocurrency companies under US securities laws. On 16 November 2018, three divisions of the SEC issued a joint statement on Digital Asset Securities Issuance and Trading. In addition, the SEC has promised new guidance regarding cryptocurrencies in early 2019.⁹⁹

Similarly, the Commodities Futures Trading Commission (CFTC) regulates virtual currencies as commodities. The CFTC has argued that cryptocurrencies, like Bitcoin, are commodities and have succeeded in making these arguments to US courts. On 21 May 2018, the CFTC issued an Advisory with respect to Virtual Currency Derivative Product Listing,¹⁰⁰ offering insight into the CFTC’s “enhanced market surveillance” and “risk management” efforts.

⁹⁸ Release No 81207, Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, July 25, 2017; <https://www.sec.gov/litigation/investreport/34-81207.pdf>.

⁹⁹ <https://news.bloomberglaw.com/securities-law/sec-plans-plain-english-crypto-securities-guide>.

¹⁰⁰ https://www.cftc.gov/sites/default/files/idc/groups/public/%40rlattergeneral/documents/letter/-2018-05/18-14_0.pdf.



The US Department of Justice has followed suit, supporting both the SEC's and the CFTC's interpretation of cryptocurrencies as investment contracts and as commodities. The Department of Justice's involvement has ranged from actively levying criminal charges concurrent with the SEC, to engaging in joint investigations with the CFTC related to commodity market manipulation.¹⁰¹

The Inland Revenue Service (IRS) expects individuals to pay taxes on cryptocurrency, whether mined, traded, or otherwise accumulated. According to its 25 March 2014 guidance, "[t]axpayers may be subject to penalties for failure to comply with tax laws, [including] underpayments attributable to virtual currency transactions ...[or] failure to timely or correctly report virtual currency transactions when required to do so."

The Financial Crime Enforcement Network also seeks to regulate cryptocurrency transactions under the Bank Secrecy Act, including application of Anti-Money Laundering and Combatting Financing of Terrorism rules.¹⁰²

5.8 Other jurisdictions

As mentioned previously, certain jurisdictions have banned cryptocurrencies altogether: Bangladesh, Bolivia, China (use by financial institutions / companies), Ecuador and Morocco. In particular, China had been an active cryptocurrency market until the decision to ban exchanges, financial institutions and payment processors from handling them came into force. Individuals, however, appear to still deal in cryptocurrencies in China.

The decision to ban rather than regulate does not appear to take into consideration the benefits and opportunities to be gained from the development of the technologies. However, a decision to regulate may curtail illicit activities, protect the financial system and take advantage of the technological developments.

6. Conclusion

In 2017 there was a period of growth and increased investment in cryptocurrencies where, at its peak, Bitcoin was valued at USD 20,000. Since 2018, there has been a sharp decline in the value of cryptocurrencies: in December 2018 the value of Bitcoin slumped to USD 3,000. However, it is unlikely that the cryptocurrency bubble has imploded as the value has been steadily rising since then and it appears that the crypto winter may be over.

Over the last few years we have seen a rise in the number of insolvency proceedings that comprise some form of cryptoasset. Notably, the formal proceedings in MtGox demonstrates the issues that the insolvency professional is required to contend with where the estate comprises cryptoassets. The MtGox proceeding has been a long and arduous experience for all stakeholders

¹⁰¹ See, eg <https://www.dlapiper.com/en/us/insights/publications/2018/09/edny-us-securities-laws-can-be-used-to-prosecute-ico-fraud/>; <https://www.sec.gov/news/press-release/2018-218>; <https://www.coindesk.com/us-department-of-justice-cftc-probe-crypto-market-manipulation-report>; <https://www.bloomberg.com/news/articles/2018-05-24/Bitcoin-manipulation-is-said-to-be-focus-of-u-s-criminal-probe>.

¹⁰² FinCEN Letter to Senator Ron Wyden (February 13, 2018); <https://coincenter.org/files/2018-03/fincen-ico-letter-march-2018-coin-center.pdf>.



involved and required guidance from the Japanese Courts to validate the decisions taken by the trustee. It is also relevant that the proceedings have twice changed; from a civil rehabilitation proceeding to a bankruptcy proceeding, finally returning to a civil rehabilitation proceeding as the value of Bitcoin increased.

As discussed in this paper, the current regulatory and legislative frameworks around the world have not yet fully evolved to tackle the issues associated with cryptoassets. This paper seeks to consider the rudimentary questions that arise when a new asset class is created. It is clear from our analysis that the legislative frameworks around the world fail to realise the complexities of cryptocurrencies and the need for a sophisticated legislative regime. As with all things, the uncertainty of an unstructured regulatory regime is likely to cause great hindrance to the growth of the cryptocurrency market. It would appear that regulators and legislators will continue to play a crucial role in determining the future of cryptocurrencies.



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