Blockchain Law

Property and contract in the digital world

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While the path to the destination is not always simple, legal systems are becoming more comfortable with treating digital assets as property and "smart contracts" as legally enforceable. In this edition of his Blockchain Law column, Robert A. Schwinger discusses recent illustrative developments.

Property and contract are the foundational concepts underlying commercial law. As digital assets and "smart contracts" operating autonomously on blockchain networks become more commonplace features of commercial dealings, legal systems around the world and in the United States have had to grapple with if and how they fit under existing notions of property and contract. While the path to the destination is not always simple, legal systems are becoming more comfortable with treating digital assets as property and "smart contracts" as legally enforceable, as recent developments illustrate.

The United Kingdom

In the United Kingdom, the LawTech Delivery Panel is an industry-led group focused on the digital transformation of the UK legal services sector. It consists of six taskforces. One of these, the UK Jurisdiction Taskforce (UKJT), issued in November 2019 a "Legal statement on cryptoassets and smart contracts" (UKJT statement) to address (1) if and/or to what extent cryptoassets should be viewed as "property" under English law, and (2) whether "smart contracts"—contracts that to at least some extent are recorded in code so that they can be performed without the need for (or possibility of) human intervention—can constitute legal contracts

that courts can recognize, interpret and enforce. In these inquiries, the UKJT examined how the concepts of "property" and "contract" have been understood and applied under English law in a variety of settings.

While cautioning that in any particular case the specific facts and nature of the cryptoasset in question would have to be considered, the UKJT statement concluded that "cryptoassets have all of the indicia of property" and that "the novel or distinctive features" of certain cryptoassets, such as "intangibility, cryptographic authentication, use of a distributed transaction ledger, decentralisation, [and] rule by consensus" do not render them "pure information" or otherwise "disqualify them from being property." ¶ 15. However, being "purely 'virtual,'" they "cannot be physically possessed" and thus "cannot be the object of a bailment, and only some types of security can be granted over them." ¶ 17. The UKJT statement also rejected characterizing cryptoassets as documents of title, negotiable instruments or goods. ¶ 17, 117-130.

With respect to smart contracts, the UKJT statement concluded that "[a] smart contract is capable of satisfying th[e] requirements [under English law for forming a contract] just as well as a more traditional or natural language contract, and a smart contract is

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therefore capable of having contractual force," although in each case this will depend "on the parties' words and conduct, just as it does with any other contract." ¶ 18. Regardless of whether the code defines the parties' obligations to the point where "there may be little room for 'interpretation' in the traditional sense" or whether a smart contract "merely implement[s] an agreement whose meaning is to be found elsewhere," a smart contract still "can be identified, interpreted and enforced using ordinary and well-established legal principles." ¶ 19.

The UKJT statement also concluded in regard to smart contracts formed over computer networks that: "English law does not struggle with the concept of anonymous or pseudonymous parties contracting; nor with the notion that a contract can be formed between individuals by virtue of them each having agreed to subscribe to a set of rules." ¶ 20. It further concluded: "In principle, a statutory 'signature' requirement can be met by using a private key which is intended to authenticate a document, and a statutory 'in writing' requirement can be met in the case of a smart contract whose code element is recorded in source code." ¶ 21.

The UKJT's conclusions about whether cryptoassets can qualify as property were soon tested the following month on Dec. 13, 2019, when the England and Wales High Court issued its decision in *AA v. Persons Unknown*, [2019] EWHC (Comm.) 3556, granting an interim proprietary injunction to an insurer over a bitcoin ransom payment made to a third-party wallet. The insurer had paid the bitcoin ransom to obtain a decryption tool for its insured whose systems had been hacked and encrypted. However, only some of the bitcoin ransom was immediately converted by the wrongdoers into fiat currency. The rest was transferred to an exchange and remained there. The insurer thus sought an injunction over those bitcoin assets to prevent them from being further transferred while the insurer pursued recovery of those assets through the courts.

The court noted that "this application raises certain novel legal issues relating to crypto currencies," explaining:

> [T]he first and perhaps fundamental question … is whether or not in fact the Bitcoins … are property at all. Prima facie there is a difficulty in treating Bitcoins and other crypto currencies as a form of property: they are neither chose in possession nor are they chose in action. They are not choses in possession because they are virtual, they are not tangible, they cannot be possessed. They are not choses in action because they do not embody any right capable of being enforced by action.

In addressing this issue, the court referenced the UKJT statement but cautioned that it had not been issued by judges in their judicial capacity and thus was "not in fact a statement of the law." Nevertheless, citing the UKJT statement's analysis and quoting from it at length, the court concluded that "it is fallacious to proceed on the basis that the English law of property recognises no forms of property other than choses in possession and choses in action" and held that "a crypto asset such as Bitcoin are property. They meet the four criteria set out in [the] classic definition of property … as being definable, identifiable by third parties, capable in their nature of assumption by third parties, and having some degree of permanence."

Thus, it held, "crypto currencies are a form of property capable of being the subject of a proprietary injunction." Proceeding with the remaining English law principles that govern issuance of a proprietary injunction (similar to typical U.S. preliminary injunction requirements), the court held those principles satisfied and accordingly issued the injunction.

While this case may have been the first time an English court formally addressed the status of cryptoassets as "property" under English law, and did so with reference to the UKJT statement, an earlier English case had, without discussing the issue, treated cryptocurrency as property by making it the subject of a proprietary injunction in a world-wide freezing order. See *Vorotyntseva v. Money-4 Ltd.*, [2018] EWHC (Ch.) 2596.

Singapore

The property and smart contract issues discussed in the UKJT statement had already been addressed earlier in 2019 by the Singapore International Commercial Court (SICC), in a ruling that just recently has been reviewed on appeal. *B2C2 Ltd v. Quoine Pte Ltd*, [2019] SGHC(I) 03 (Sing. Int'l Comm. Ct.), aff'd in part, rev'd in part on other grounds sub nom. Q*uoine Pte Ltd v. B2C2 Ltd*, [2020] SGCA(I) 02 (Sing. Ct. App.). *B2C2* involved an automated cryptocurrency trading platform, which due to what the defendant's co-founder termed "an architectural flaw" and "an oversight in the design of the system" (as opposed to a programming "bug"), had executed the plaintiff's trades at a highly inflated exchange rate that benefited the plaintiff. The platform operator later reversed the trades as being the product of a mistake, even though the platform contract provided that all trades were to be "irreversible." The plaintiff sued the defendant platform operator for breach of contract and breach of trust, and prevailed.

B2C2 was the SICC's first cryptocurrency judgment. A key issue that the SICC addressed was whether the buyer and the seller who used the defendant's platform had formed a contractual relationship with each other through their use of the platform or whether they were just two disconnected individuals who had each entered into separate contracts with the platform as an intermediary. The SICC concluded that "[t]here is more than one contractual relationship that will exist when parties trade on a currency platform," beyond just their respective relationships with the platform. "[W]hen a trade is executed, the buyer and seller will have some form of contractual relationship *inter se*." ¶ 126. It explained:

> The orders were matched by the Platform acting as programmed to perform an exchange function so as to complete the contract for those trades between the respective parties by the operator of the Platform, ... which was not itself a party to the contract. The fact that neither party knew the identity of the other was irrelevant. Pursuant to the Platform contracts, all traders knew that any orders would be matched with other traders who were subject to the same Platform contract. ¶ 127.

> [Defendant] is solely providing the Platform and that the parties are themselves responsible for determining whether and on what terms they shall place or fill orders. The actual contract of sale is therefore a contract directly between buyers and sellers whose rights *inter se* are determined by the Terms and Conditions. ¶ 131.

Having found contracts both between the buyer and the plaintiff seller and also between the plaintiff and the defendant platform operator, the SICC considered whether the platform operator was justified in reversing the trade on grounds of mistake—the issue it termed "the most troubling and difficult in this case." ¶ 183. It asked: "What mistakes have been made and to what extent are they fundamental? How does one assess knowledge or intention when the whole operation is carried out by computers acting as programmed? Whose knowledge is relevant? At what date is this knowledge to be assessed?" ¶ 198.

The SICC rejected the defendant's argument "that mistakes can be identified by comparing theoretically what would have happened in face-to-face negotiations with what actually happened at the computer interface" (¶ 200), i.e., "treat[ing] the algorithms or computers used to enter contracts as the legal agents of their human princip[al]s" (¶ 201). Rather:

> I have concluded that when the law is faced with a contention that a contract made by and between two computer systems acting as programmed but otherwise without human intervention is void or voidable for mistake, it is necessary to have regard to the mindset of the programmer when the relevant programs, or the relevant part of those programs, were written. ¶ 106.

Here, since "[t]here is no suggestion that the Platform computer acted otherwise than in accordance with its instructions" (¶ 217), and the plaintiff "knew that the Platform was an automated system and that therefore no opportunity would arise for any particular trade to be reviewed by the parties in advance," and plaintiff had no actual knowledge that other parties might have expected otherwise (¶¶ 230-231), the SICC concluded that the defendant platform's post-trade reversal of the transaction, which under the terms of the system was supposed to be "irreversible," could not be sustained on grounds of mistake, and thus amounted to a breach of contract (¶¶ 231, 238-239).

The SICC also concluded that reversing the trade constituted a breach of trust against the plaintiff, by taking cryptocurrency belonging to plaintiff out of its account. In reaching this conclusion, the SICC paused briefly to evaluate the property status of cryptocurrency, because only legally-recognized forms of property can be deemed to be held in trust. Even though the defendant did not attempt to dispute the property status of cryptocurrency, the court still addressed the issue briefly, stating: "Cryptocurrencies are not legal tender in the sense of being a regulated currency issued by a government but do have the fundamental characteristic of intangible property as being an identifiable thing of value." ¶ 142.

Citing case law that a property right "must be definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability," the court concluded that "[c]ryptocurrencies meet all these requirements," even if "there may be some academic debate as to the precise nature of the property right." ¶ 142. Accordingly, it found that a breach of trust had occurred. ¶ 146.

On the appeal, the Singapore Court of Appeal affirmed the holding that a contract had been formed directly between the buyer and seller, and not just between the defendant trading platform and each of them separately (¶¶ 49-50), notwithstanding that the parties were trading on the platform anonymously (¶ 58). The Court of Appeal also upheld (over one dissent) the SICC's

rejection of the defense of mistake, holding that even in the changing area of "algorithmic trading" no "fundamental redesign of the applicable legal framework is called for" and that "the existing body of law can be meaningfully adapted to deal with the situation at hand." ¶ 79. Because the parties had "decided to form contracts using … deterministic algorithms," the defense of mistake must be analyzed "by reference to the state of mind of the programmers of the algorithms at the time of the programming" (id. ¶ 97), just as the SICC had held. Thus: "Because the Trading Contracts had been entered into pursuant to deterministic algorithmic programs that had acted exactly as they had been programmed to act, it is not clear what mistake can be said to have affected the formation of the contracts." ¶ 114.

Regarding the other issue of whether cryptocurrency could be deemed "property" so as to support a breach of trust claim, the Court of Appeal noted in dicta that "[t]here may be much to commend the view that cryptocurrencies should be capable of assimilation into the general concepts of property," though also noting that this might raise "difficult questions as to the type of property that is involved." ¶ 144. However, it ultimately declined to decide this point, holding that even if cryptocurrency were "property," there had been no intention to create a trust by placing it in the plaintiff's account, and thus reversed the SICC's judgment as to the breach of trust claim. Id.

Other Non-U.S. Common-Law Jurisdictions

A number of other common-law jurisdictions outside the United States have had occasion to address to some degree the "property" nature of cryptocurrency assets, and have concluded (with much less discussion than in the above English and Singapore cases) that such assets are property to at least some extent.

- In *Copytrack Pte Ltd. v. Wall*, [2018] B.C.S.C. 1709 (Can. B.C. Sup. Ct. 2018), the Supreme Court of British Columbia confirmed that cryptocurrency is "property" that can be traced and recovered, but left it open for future courts to determine whether it is a "good" that can be subject to claims in conversion and wrongful detention.

- In Malaysia, in *Luno Pte Ltd v. Cheng*, BA-B52NCVC-389-12/2017, slip op. at ¶¶ 52-55 (Sessions Ct. Shah Alam, Malay. Nov. 15, 2018), *aff'd sub nom. Cheng v. Luno Pte Ltd*, No. 12BNCVC-91-10/2018, (High Ct. at Shah Alam, Malay.

Aug. 31, 2019), it was held that "Bitcoin may not be currency or money per se, but it is a form of commodity, albeit in an intangible form," such that its return could be compelled.

- In Hong Kong, in *Samara v. Dan*, [2019] H.K.C.F.I. 2718, a case arising from cryptocurrency fraud and misappropriation, the court issued a worldwide "proprietary" freezing injunction over "assets" that included bitcoins in the defendant's account.

United States

In the United States, the legal status of smart contracts is a matter of state contract law, and only a limited number of states have expressly addressed the issue. The most recent effort, the Illinois Blockchain Technology Act, took effect on January 1 of this year. 205 Ill. Comp. Stat. §730/1 (2020). It seeks to reinforce the legal status and enforceability of smart contracts (defined as "a contract stored as an electronic record which is verified by the use of a blockchain," id. §730/5) by providing that, subject to certain limitations:

(a) A smart contract, record, or signature may not be denied legal effect or enforceability solely because a blockchain was used to create, store, or verify the smart contract, record, or signature.

(b) In a proceeding, evidence of a smart contract, record, or signature must not be excluded solely because a blockchain was used to create, store, or verify the smart contract, record, or signature.

Id. §§730/10 (a)(b).

Somewhat similar provisions have been adopted recently in certain other states. For example, a North Dakota statute that became effective Aug. 1, 2019 provides that: "Smart contracts may exist in commerce. A contract relating to a transaction may not be denied legal effect, validity, or enforceability solely because the contract contains a smart contract term." N.D. Cent. Code §9-16-19(3) (2019), relying on a definition of a "smart contract" as "an event-driven program, with state, that runs on a distributed, decentralized, shared, and replicated ledger and which can take custody over and instruct transfer of assets on that ledger." Id. §9-16-19(5)(b). North Dakota's provision was essentially identical to one passed in Arizona in 2017. See Ariz. Rev. Stat. Ann. §§44-7061(C), (E)(2) (2017).

A very similar provision was passed in Tennessee in 2018, Tenn. Code Ann. §47-10-202(c), but it incorporated a more expansive definition of "smart contract," see id. §47-10-201(2). An Arkansas statute effective July 24, 2019 states that "[a] smart contract shall be considered a commercial contract," and that "[a] contract that contains a smart contract term and relates to a transaction shall not be denied legal effect, validity, or enforceability." Ark. Code Ann. §25-32-122(d). The Arkansas statute defines a "smart contract" for these purposes as: "(A) [b]usiness logic that runs on a blockchain; or (B) [a] software program that stores rules on a shared and replicated ledger and uses the stored rules for: (i) [n]egotiating the terms of a contract; (ii) [a]utomatically verifying the contract; and (iii) [e]xecuting the terms of a contract." Id. §25-32-122(a)(3).

There are some other states where proposed legislation to address smart contract enforceability is now under consideration. For example, in the current legislative session in New York, S.B. 4142, which passed in the Senate on Feb. 25, 2020 and has been referred to the Assembly, seeks to add "smart contract" provisions to New York's State Technology Law that are essentially identical to the North Dakota and Arizona provisions.

Even without such provisions, arguments have been made that existing electronic signature laws such as state provisions based on the Uniform Electronic Transaction Act (UETA), 7A U.L.A. 489 (1999), and the federal Electronic Signatures in Global and National Commerce Act (ESIGN), 15 U.S.C. §7001 et seq. (2000), render blockchain-based smart contracts enforceable. See, e.g., Cohn, West & Parker, *Smart After All: Blockchain*, *Smart Contracts, Parametric Insurance, and Smart Energy Grids*, 1 Geo. L. Tech. Rev. 273 (2017).

The property status of cryptocurrency in the United States has not been a subject of much contention. The Internal Revenue Service took the position more than five years ago that "[f]or federal tax purposes, virtual currency is treated as property" and "[g]eneral tax principles applicable to property transactions apply to transactions using virtual currency." IRS Notice 2014-21 (April 14, 2014). A 2018 Ohio trial court decision relied on the IRS position to rule that stolen bitcoin constituted a "property" loss under an insurance policy. *Kimmelman v. Wayne Ins. Grp.*, 2018 WL 7252940 (Ohio Ct. Com. Pl. Sept. 25, 2018). A California bankruptcy judge in 2016 ruled without discussion that bitcoin was "property" and not U.S. dollars for fraudulent transfer purposes. Order on Motion for Partial Summary Judgment, *HashFast Techs. v. Lowe (In re HashFast Techs.)*, No. 14-30725DM, Adv. Proc. No. 15-3011DM (Bankr. N.D. Cal. Feb. 23, 2016).

A California federal district court very recently granted a plaintiff judgment as a matter of law on a claim for conversion of Bitcoins, holding that Bitcoins constituted "quasi-tangible property" and not intangible property that would have been subject to a shorter limitations period under California law. The court explained that "Bitcoin is not merely an 'idea' that is entirely divorced from any physical form. Rather, it is dependent on blockchain, a public ledger which records all the transactions." *OxLabs v. Bitpay*, 2020 WL 1039012 (C.D. Cal. Jan. 24, 2020) (also citing recognition of Bitcoins as "commodities" under federal law).

Many states have statutes that bring cryptocurrency within the reach of their abandoned property statutes. Courts in general have not hesitated to issue restraining orders that encompass cryptocurrency and other virtual assets, and to include them along with other assets in matrimonial proceedings.

Some states have passed statutes that touch upon the "property" status of virtual assets. A Nevada bill that took effect July 1, 2019 expressly lists "virtual currencies" among the kinds of "intangible personal property" that is exempt from taxation under Nevada law. Nev. Rev. Stat. §361.228 (2019). A Wyoming blockchain law also effective July 1, 2019 provides for "digital consumer assets," "digital securities" and "virtual currency" to be classified as "intangible personal property," Wyo. Stat. Ann. §§34-29-102(a)(i)-(iii), and to be regarded as "financial assets," id. §34-29-102(b), as to which a "bailment" can exist. Id. §34-29-104(d). Security interests in such assets can be perfected by taking "control" of the asset, which can be achieved through a "smart contract created by a secured party which has the exclusive legal authority to conduct a transaction relating to a digital asset." Id. §§34-29-103(a)(b), (e)(i)(B).

Conclusion

To become part of the mainstream economy and not merely be a specialized sidelight, digital assets and "smart contracts" need to integrate with the fundamental notions of property and contract on which the commercial world is built. That process is now ongoing around the world. As more and more blockchain projects and ventures of greater sophistication are developed, the union of new technology and established legal concepts is likely to grow ever stronger.

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