Security Interests: Bitcoins and Other Cryptocurrency Assets

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A discussion on collateral comprised of bitcoins and other cryptocurrencies and the methods of perfecting a security interest therein under the UCC. This Note also examines other issues relating to cryptocurrency collateral.

Over the past few years ownership of bitcoin and other cryptocurrencies has become more widespread. Lenders have been faced with questions regarding how to deal with borrowers issuing, holding, and trading cryptocurrencies. One fundamental question is whether cryptocurrencies owned by a borrower can be used as collateral for a loan.

In the US, Article 9 of the Uniform Commercial Code (UCC) governs the process of making an otherwise valid security interest in personal property enforceable against third parties (called "perfection"). Perfection requirements vary depending on the category of the property, with the categories being defined in the UCC. For more information, see Practice Note, UCC Creation, Perfection, and Priority of Security Interests (6-381-0551).

This Note provides an analysis of cryptocurrency collateral, including:

- How to transfer cryptocurrency collateral and what it means to own it.
- Its classification under the UCC.
- How a lender perfects its security interest in it.
- Pitfalls for secured lenders.
- Legal developments.

CRYPTOCURRENCIES AND BLOCKCHAIN TECHNOLOGY

A cryptocurrency is a digital asset that uses cryptography to make transactions between parties secure. Blockchain technology was designed as a key component of the bitcoin cryptocurrency, which required a blockchain because it was set up specifically to avoid use of a centralized database.

With a blockchain, data is shared across a decentralized network of computers in a way where records are linked in chronological order with no central database. A blockchain maintains a history of all the transactions that have occurred since the beginning of that blockchain and uses cryptography to prevent tampering.

Individual digital tokens are in fact entries recorded on a blockchain. Digital tokens may have a variety of purposes. They may serve as a medium of exchange, be used as part of the operation of a particular blockchain, or represent a claim on a particular asset.

TRANSFER OF CRYPTOCURRENCY

The exchange of a cryptocurrency between parties is recorded as a ledger entry on a blockchain. However, the blockchains on which ownership of cryptocurrencies, such as bitcoin, are recorded typically do not include any identifying information about the owner. These distributed ledgers instead list an address to which a particular token is associated. The tokens at an address are controlled by way of a cryptographic private key issued by the blockchain network to the owner of the address. The bitcoin blockchain was deliberately designed this way: there is transparency regarding the address to which bitcoins are associated but there is no record of the identity of the owner of a token.

Significantly, if someone sends bitcoins to an address Person A controls but Person B obtains Person A's private key, Person B has the power to move the bitcoins out of Person A's address. The bitcoin system does not provide a way for a user to recover bitcoins lost in this way because knowledge of the private key is the mechanism by which the bitcoin network determines which party has the right to transfer the bitcoins. This type of "theft" must be dealt with by a legal system outside of the bitcoin network.

OWNERSHIP OF CRYPTOCURRENCY

As noted above, cryptocurrency blockchains, such as bitcoin, are often set up so that there is no record of the identity of the owner of a particular token. Cryptocurrencies can have features that do not fit well into the existing legal framework for property ownership and transfer. Even determining whether a cryptocurrency token is property (for purposes of the UCC and otherwise) and, if it is, which party owns that property is not straightforward.

If a lender is taking a security interest in cryptocurrency assets, the lender must consider the risk that the purported owner of the asset cannot be recognized by a court as the owner as well as the possibility that cryptocurrency assets may be determined not to be personal property at all and therefore not subject to Article 9 of the UCC.

In the US, state law is typically the basis for determining ownership of most types of property, although federal law may control in certain cases. In California, for example, the standard for determining whether a property right exists is as follows:

> "First, there must be an interest capable of precise definition; second, it must be capable of exclusive possession or control; and third, the putative owner must have established a legitimate claim to exclusivity."

(*G.S. Rasmussen & Assocs., Inc. v. Kalitta Flying Serv., Inc.*, 958 F.2d 896, 903-04 (9th Cir. 1992).)

The first of the three criteria above ("an interest capable of precise definition") is met regarding cryptocurrency tokens. There are a specific number of tokens in existence at any point in time and the ledger shows the distribution of those tokens.

The second of these criteria ("capable of exclusive possession or control") appears to be met as well. A user needs to know the relevant private key to move tokens from a particular address.

However, meeting the third of the criteria (establishing a "legitimate claim to exclusivity") seems more difficult. As noted above, there is no definitive registry of real-world identities of owners of a given address. The ability to exercise exclusive control of tokens at an address is based on actual knowledge of a given private key. It may be argued that a party can claim exclusivity by demonstrating the ability to move tokens out of an address by using a private key, but this does not prove that no one else can do this.

Even if a user of a cryptocurrency may prove that the user created an address, there is no way to prove that only that user has exclusive access to a particular private key for that address. Therefore, while a user may be able to prove that the user can control the tokens at an address by using the appropriate private key to transfer tokens to another address, it is impossible for that user to prove that it is the only party that may do so. The user could have shared the private key with other parties, sold control of the address to a third party, or the private key may have been stolen. While it is true that there is a risk of duplication of physical keys to physical vaults as well, in the cryptocurrency context these risks are far greater; there are no physical objects or physical locations to safeguard, only information.

CRYPTOCURRENCY AND UCC CLASSIFICATION

To determine what steps are required to perfect a security interest under Article 9, one must first determine what UCC category the relevant property falls in.

Article 9 provides a list of property categories including chattel paper, commercial tort claims, deposit accounts, documents, goods, instruments, investment property, letter-of-credit rights, letters of credit, money, as-extracted collateral, and a "catch-all" category of general intangibles (see the definition of General Intangible in UCC § 9-102(a)(42)).

Assuming that cryptocurrencies are personal property, two categories that may initially seem to apply to cryptocurrencies are "money" and "investment property."

MONEY

Money, is defined as "a medium of exchange currently authorized or adopted by a domestic or foreign government. The term includes a monetary unit of account established by an intergovernmental organization or by agreement between two or more countries" (UCC § 1-201(b)(24)). A cryptocurrency, to be recognized as "money" under Article 9 of the UCC, must be authorized by a government. In context, Article 9 "money" also only includes physical paper and coin mediums of currency (see Jeanne L. Schroeder, Bitcoin and the Uniform Commercial Code, 24 U. Miami Bus. L. Rev. 1, 21 (2016) (arguing that even if a cryptocurrency were backed by a government, the UCC definition is still limited to physical paper money or coin)). Therefore, cryptocurrencies are not money under the UCC.

INVESTMENT PROPERTY

Investment property is defined as "a security, whether certificated or uncertificated, security entitlement, securities account, commodity contract, or commodity account" (UCC § 9-102(a)(49)). While the Securities and Exchange Commission (SEC) has taken the position that many sales of cryptocurrency tokens are securities offerings, this determination by the SEC has no bearing on whether cryptocurrencies are securities for purposes of the UCC.

Under Section 8-102(a)(15) of the UCC, a security is "an obligation of an issuer or a share, participation, or other interest in an issuer or in property or an enterprise of an issuer:

- which is represented by a security certificate in bearer or registered form, or the transfer of which may be registered upon books maintained for that purpose by or on behalf of the issuer;
- which is one of a class or series or by its terms is divisible into a class or series of shares, participations, interests, or obligations; and
- which:
  - is, or is of a type, dealt in or traded on securities exchanges or securities markets; or
  - is a medium for investment and by its terms expressly provides that it is a security governed by this Article."

While it is conceivable that certain companies may decide to issue securities "on the blockchain" that may fit into the above definition, cryptocurrencies, such as bitcoin, do not qualify as securities under the UCC. A bitcoin, for example, is not an obligation of an issuer or an interest in an issuer, but rather is a standalone asset and medium of exchange.

However, while cryptocurrencies may not be securities it is possible that they may in some circumstances otherwise qualify as investment property.

Under Section 8-501(a) of the UCC, a "securities account" is defined as "an account to which a financial asset is or may be credited in accordance with an agreement under which the person maintaining the account undertakes to treat the person for whom the account is maintained as entitled to exercise the rights that comprise the financial asset."

The term "financial asset" is defined in Section 8-102(a)(9) of the UCC to include, among other things, "any property that is held by a securities intermediary for another person in a securities account if the securities intermediary has expressly agreed with the other person that the property is to be treated as a financial asset under this Article."

Therefore, if a securities intermediary and a customer agree that specific cryptocurrency assets are financial assets and those assets are held by the securities intermediary in a securities account, the cryptocurrency assets may qualify as investment property.

GENERAL INTANGIBLES

Assuming that cryptocurrency assets are in fact property, given that cryptocurrencies may not fall under the definitions of money or investment property and that there appears to be no other category that describes cryptocurrencies, general intangibles is the only remaining possibly applicable category. General intangibles are types of personal property that do not fall into the other UCC categories.

PERFECTION UNDER THE UCC

The requirement under the UCC for perfecting a security interest in a general intangible is to file a UCC-1 financing statement identifying the debtor and describing the collateral in the appropriate jurisdiction.

While perfection of a security interest in a general intangible under the UCC appears simple, in practice, however, cryptocurrency collateral raises several issues for lenders.

Note that if a cryptocurrency asset can be classified as investment property by virtue of being agreed to be a financial asset in a securities account as described above, perfection by control would apply instead (see Section 9-314 of the UCC). Depending on the mechanics of how control is established, enforcement of the security interest by the secured party could be easier as compared to perfection by filing a financing statement (see discussion below in "Future Strategies to Enhance Security Interests in Cryptocurrency").

ISSUES WITH CRYPTOCURRENCY COLLATERAL

Before taking cryptocurrency as collateral, a lender should consider, among many issues:

- How it controls the collateral.
- How it enforces its security interest in the collateral.
- How the general intangible classification affects cryptocurrency collateral.
- The regulatory issues facing cryptocurrency collateral.

ENFORCEMENT OF A LENDER'S SECURITY INTEREST IN CRYPTOCURRENCY AND CONTROL OF CRYPTOCURRENCY COLLATERAL

Before taking cryptocurrency as collateral, a lender should consider how it would enforce its rights to foreclose on the pledged cryptocurrency tokens after a default. Access to the debtor's private key controlling the cryptocurrency address is critical to enforcement. If the lender does not have the private key controlling the address at which the tokens are located, the lender must rely on the defaulting borrower to either:

- Send the tokens to the lender.
- Provide the private key in response to the lender's demand.

If the borrower is unwilling or cannot provide the private key, the lender will not be able to access the tokens.

Even if the lender has the private key, it is possible that either the borrower or another party with access to the private key may move the tokens to another address first. In this situation it would likely be difficult for the lender to recover the tokens. It also may be challenging for the lender to determine which party transferred the collateral. There is a risk that the borrower may transfer the collateral and then claim that it was actually moved by someone else.

Alternatively, the lender may require the borrower move the collateral tokens to an address solely controlled by the lender. This may not be practical if the terms of the security arrangements permit the borrower to freely trade the tokens before an event of default has occurred under the loan agreement.

SIGNIFICANCE OF GENERAL INTANGIBLES CLASSIFICATION OF CRYPTOCURRENCY

As discussed above, under the UCC a security interest in general intangibles is perfected by filing a UCC-1 financing statement in the appropriate jurisdiction. A security interest in a general intangible, such as a cryptocurrency token, continues even after it is transferred or sold by the owner to another party unless the secured party consents to the transfer free of its security interest, the obligations secured by the security interest have been satisfied or the security interest has otherwise terminated, and the secured party remains perfected in the proceeds of the collateral, including any cryptocurrency received as proceeds (UCC § 9-315(a)). This is a key difference in the treatment of general intangibles versus the treatment of money. Under Section 9-332(a) of the UCC, a "transferee of money takes the money free of a security interest unless the transferee acts in collusion with the debtor in violating the rights of the secured party."

Therefore, if a cryptocurrency token is transferred from one address to another address that transfer may not result in the release of the lender's lien. There is however a practical consideration that even if a court were to find that the lender's security interest still applied to a token that had been transferred, it is not obvious whether it may be possible for the lender to foreclose on the token and take possession of it. While the lender may identify the address to which the token had been transferred, it does not have the private key for that address and it is unclear whether it can easily determine the identity of the owner of that address.

If the pledged token was traded for another cryptocurrency token, as noted above, this new token becomes proceeds of the collateral and is subject to the lender's security interest. The lender may pursue action against the borrower to foreclose on this asset.

REGULATORY ISSUES

As noted above, different digital tokens have different purposes. The regulations that are applicable to particular cryptocurrency collateral must be determined on a case by case basis. For instance, all the major US banking regulators have, to some degree or another, taken the position that their existing regulatory authority permits them to regulate cryptocurrencies.

In March 2013 the Financial Crimes Enforcement Network (FinCEN) issued guidance concluding that an:

> "administrator or exchanger that (1) accepts and transmits a convertible virtual currency or (2) buys or sells convertible virtual currency for any reason is a money transmitter under FinCEN's regulations."

(FIN-2013-G001.)

However, mere use of cryptocurrencies by a user to "purchase real or virtual goods or services" does not fit within the definition of "money transmission services" under FinCEN regulations. This designation means that exchangers and administrators of cryptocurrencies qualify as money service businesses (MSB) under the Bank Secrecy Act (BSA). Covered entities must comply with AML and KYC regulations, including those that require the monitoring and reporting of suspicious transactions.

FinCEN noted in the guidance that "accepting and transmitting anything of value that substitutes for currency makes a person a money transmitter under the regulations implementing the BSA." The guidance requires people in the business of exchanging cryptocurrencies for traditional or other type of currency to register with FinCEN and follow other anti-money laundering measures.

The Securities and Exchange Commission (SEC) has taken the position that certain digital tokens, including those that are essentially digital representations of traditional equity or debt interests, are plainly securities by the Securities Act. These include digital tokens representing things, such as partnership interests or bonds. For other tokens, the characterization as securities is less clear. An analysis is therefore needed on a case by case basis.

A digital token may be considered to be a security if the participants in the offering made an investment of money in a common enterprise with a reasonable expectation of profits that are derived from the entrepreneurial and managerial efforts of others. The SEC relies on the test developed in *SEC v. W.J. Howey & Co*. in making this determination. If the digital token is a security, several obligations are triggered under US securities laws, including the need to either register the offering of these securities with the SEC (unless an exemption is available).

For instance, if the token is transmitted to purchasers on behalf of issuers or sellers, the party transmitting the token may be considered a "broker-dealer" for the purposes of the Securities Exchange Act of 1934 and that party may be required to register as a broker-dealer.

Since 2014, the Commodities Futures Trading Commission (CFTC) has taken the position that cryptocurrencies may constitute "commodities" under the Commodity Exchange Act and thus be subject to CFTC jurisdiction. As a consequence, the CFTC alleges that it has broad jurisdiction over derivatives that reference cryptocurrencies and market participants that are involved in those contracts. The CFTC has also asserted its authority to pursue allegations of fraud or manipulation regarding the cryptocurrency itself.

In addition to the above US federal agencies, US state laws may apply to transactions involving cryptocurrencies. Non-US laws may apply as well.

A lender that decides to take a security interest in cryptocurrency assets should perform an analysis of all regulatory regimes that may be applicable to the particular assets in question.

FUTURE STRATEGIES TO ENHANCE SECURITY INTERESTS IN CRYPTOCURRENCY

If a lender is considering accepting cryptocurrency tokens as part of a collateral package, the secured party must get comfortable both from a legal perspective as well as a practical perspective with the risks of relying on cryptocurrency collateral, including those noted above. Control of the private key is a critical concern. One possible solution to the control issue may be similar to an existing arrangement that banks are used to, namely using a control agreement similar to a securities account control agreement.

Perfecting a security interest in a securities account is established by the secured party obtaining control over the securities account (see UCC Section 9-314). The UCC has specific requirements for perfecting a security interest in a securities account. While those technical requirements for control over a securities account are unique to that type of collateral, the control concepts in those agreements may provide guidance for control of cryptocurrency.

A typical securities account control agreement directs the securities intermediary where the collateral is held to transfer the exclusive right to give instructions regarding the securities account from the borrower to the secured party, either immediately on execution of the securities account control or later on delivery of a notice of exclusive control by the secured party to the securities intermediary. Once the secured party has exclusive control of the account, the securities intermediary will no longer accept instructions from the borrower with respect to the securities account and will only accept instructions from the secured party.

While there is no third-party bank holding the cryptocurrencies akin to a securities intermediary holding the securities account, it may be possible to design a smart contract that serves a similar function. The borrower may be required to send all tokens to be included in the collateral to an address controlled by the smart contract. Neither the borrower nor the secured party know the private key relating to this address, but instead the smart contract itself stores this information. The smart contract then issues two new private keys, one to the borrower and one to the secured party. The borrower is allowed to use its private key until the secured party uses its own private key to send a notice of exclusive control to the smart contract. After that, the smart contract only responds to instructions from the secured party.

This system takes advantage of the escrow agent-like features of a smart contract to ensure that there are no other parties able to use a pre-existing private key to transfer funds away from the secured party after the secured party has exercised control over the address. It also makes it harder for other parties to argue that the tokens in fact belonged to them, as the borrower is using a new private key generated by the smart contract for day-to-day transactions and not a pre-existing private key.

LEGAL DEVELOPMENTS

Several US states have passed regulation relating to cryptocurrencies**.** For example, New York passed legislation that defined the term "virtual currency" and created a new license for virtual currency businesses.

In July 2017, the Uniform Law Commission completed a uniform model state law, the Uniform Regulation of Virtual-Currency Businesses Act (the Act). The Act is intended to bring clarity regarding which types of entities require state licenses for "virtual-currency business activity," essentially similar activities to existing "money transmitter" or "money services" activities.

In July 2018, the Uniform Law Commission approved a supplement to the Act (the Supplement) which is intended to provide virtual-currency businesses and their customers duties and rights comparable to those of customers of securities intermediaries under Article 8, Part 5 of the UCC. The Supplement requires that transactions governed by the Act include an agreement between the licensee and the user that among other things states that the cryptocurrency asset is to be treated as a financial asset credited to the securities account of the user and that the licensee is a securities intermediary.

However, the Supplement only applies if the licensee has "control" of the user's cryptocurrency. Control is defined in the Act as the "power to execute unilaterally or prevent indefinitely a virtual-currency transaction."

Cryptocurrency subject to the Supplement qualifies as a financial asset as defined in Article 8 of the UCC because the cryptocurrency is held in a securities account with the express agreement by the parties that the cryptocurrency is a financial asset (see discussion above in "Cryptocurrency and UCC Classification – Investment Property").

As of the date of this article, no states have adopted the Act or the Supplement into law. The Bitcoin Foundation has strongly opposed adoption of the Act and the Supplement, taking the position that it is too soon to create a model law of this type in an unsettled and changing area.

CREDIT CONSIDERATIONS

While cryptocurrencies are considered by many to be a form of money or a financial instrument, their legal status as a form of property and how to determine legal ownership of particular tokens is unclear. Cryptocurrencies may be general intangibles under the UCC, but they are different from property that financial institutions are used to dealing with in the ordinary course of business. Lenders that decide to accept cryptocurrency tokens as collateral need to consider both legal issues as well as practical considerations.

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