

Crypto-Assets, Bankruptcy, and Innovations to the Uniform Commercial Code

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Crypto Asset Basics

- Class of natively digital assets enabled by distributed database networks
- No consensus as to naming/taxonomy
- Exist exclusively online in digital form
- Vary by number of legal and technical attributes:
- Technical:
 - Number of tokens
 - mechanism of token generation & distribution
 - Transaction types
 - Consensus mechanism
- Legal:
 - Rights/powers of holders
 - Obligations/burdens of issuers
 - Regulation applied to conduct with the instrument
- Different functionalities and representations made by issuer determine legal treatment

Decentralized, internet-operated P2P cash

- Launched Jan. 9, 2009 by "Satoshi Nakamoto"
- Critical Innovation: Participant consensus (mining) instead of reliance on TTP
- Cryptography used to ensure validity of transactions
 - Each transaction is "signed" by the sender's private key and recipient's public key
 - Mining: novel use of cryptography to "confirm" transactions
- Users identified/participate using cryptographic keys pairs provided by "wallet" software
- Native state is escrow- affirmative act required to transact
- Transactions recorded on an "immutable" ledger maintained & synchronized by volunteer network of computers ("nodes")
- Transactions are "pseudo anonymous" traceable but public information does not include user identity



Bitcoin Economics

- Software "pays" new assets at regular intervals to incentivize participants to confirm new blocks of transactions ("mining")
- Bitcoin uses resource -consumptive "proof of work"
- Blocks of confirmed transactions "linked" to evidence tampering
 - "<u>Computationally Impractical to Reverse</u>" not "<u>immutable</u>"
- Asset population & distribution "fixed by code & by agreement"
 - Requires collective agreement to modify system attributes
- Market Value primarily driven by supply/demand
 - <u>S2F</u>most popular current pricing model, but includes supply/demand assumptions
- Spot Exchanges are generally <u>under-regulated</u>
 - Different assets available on different markets, in different countries
- <u>All of "Crypto" = Approximately \$2.5 trillion-dollar (USD) market</u>

Crypto Asset Wallets

"Wallets": Software that generates credentials used to connect a user to the blockchain system and permit users to control assets

- <u>Public Key</u> used to generate a <u>public key address</u> which is the "location" on the blockchain where assets can be controlled
- <u>Private Key</u>- used to authorize a transaction of an asset
- <u>Hardware wallets-</u> devices that protect the private key
 - Object + private key are needed to transact an asset
 - Paper wallet- piece of paper with private key written on it
- <u>Multi-signature wallet</u>- wallet structure with private key split into sub-keys where m of n subkeys are needed to transact.



- Digital Assets created using applications built on top of existing blockchains
 - Example: ERC 20- "quick and dumb"
- Why?
 - Shorten cost, time, expense, difficulty to generate new assets
 - Limited Flexibility
 - Leverage underlying network infrastructure
- Most ICOs were ERC 20 tokens

<u>NFTs</u>

- Non- Fungible Tokens
 - Fungibility is on a spectrum
 - Tokens that can be traced to original issuer
 - Generally issued on Ethereum, Flow, Wax, or Matic blockchains
 - May be "closed" or "open" network systems
 - Used "as a pointer" to other assets/goods/powers
 - Usually points to an audio-visual asset maintained on another resource
 - "Meaning" of an asset is a function of legal rights
 - NFT + AV asset + IP license + issuer promises



Privacy Coins

- Blockchain native assets or tokens that provide enhanced privacy features
- Various types
 - Conceal connection on publicly viewable blockchain records between sender/recipient
 - Conceal amount transacted on publicly viewable blockchain records
 - Conceal both.
- Service providers (mixers/tumblers) may "mix" transactions on a protocol level to provide similar privacy for users.
- Legal with varying legal approaches by jurisdiction.





Smart Contracts

First Discussed by <u>Nick Szabo</u>, 1997:

"...many kinds of contractual clauses (such as collateral, bonding, delineation of property rights, etc.) can be embedded in the hardware and software we deal with, in such a way as to make breach of contract expensive. ..."

- Examples: Vending Machines, Automobile Starter Inhibitors, Securities Limit Orders
- Useful to combine automatic execution with blockchains that support digital assets
- "Guarantees" performance, *i.e.* intended to be irrevocable

How They Work:

- Smart Contract is code published to a blockchain network wallet address
- Users transact a digital asset to the address
- When the smart contract receives information (via an Oracle), its code will "execute"

which will affect the assets controlled by the smart contract

- Usually results in transaction of an asset to another address

NOT a replacement for legal contracts

May not be modified after deployed

Used to create increasingly complex transactions *i.e.* "DeFi"





Complex, Evolving Regulatory Environment

- If a crypto asset is sold to finance technology development probably a security:

- Section 5 of 33 Act Registration/exemption obligation
- Limitations of liquidity- not a fit for most purposes
- Bitcoin & Ethereum are commodities:
 - Light touch regulation, but CFTC can police spot for fraud.
- If value that substitutes for currency
 - Regulated by FinCEN, State level Money Transmission law
 - Registration/Licensure
 - Compliance with BSA

Exchanges, Stablecoins, NFTs, DeFi are all currently "under-regulated"

Where do insolvency + Crypto assets collide?

- What kind of asset is a "crypto asset"?
- Identifying Evidence of Use of Crypto Assets
- Tracing
- Locating /Recovering Assets
- Valuation
- In re Cred Inc.: Case Study

Locating evidence of use of Crypto Assets

Discovery of purported user should include:

- Internet Browser History
- Internet Browser Extensions- crypto wallets
- Downloads of crypto wallets
- Identify wallets (custodial and non-custodial), asset types used
- Transfers from bank accounts to exchanges, transfers via regulated money transmitters
- Emails- login and transaction confirmations, confirmation of sign ups to use platforms
- 2FA apps
- Mobile device applications

Blockchain Explorers

💠 Blockch	a in.com Wallet Exchange Explorer	В	uy Bitcoin Trade
Block Tra	ansactions ()		
Hash	34852159f493f16f9f43a683a099458def6d7c4ddbef2bb48c29457 COINBASE (Newly Generated Coins)	18Zcyxqna6h7Z7bRjhKvGpr8HSfieQWXqj OP_RETURN OP_RETURN	2021-01-26 19:01 6.98087104 BTC () 0.00000000 BTC 0.00000000 BTC
Fee	0.0000000 BTC (0.000 sat/B - 0.000 sat/WU - 289 bytes)		6.98087104 BTC 2 Confirmations
Hash	95e07300949c7f89b058be74e2bf0f5dcc7232a333afaee95a71154 bc1qv769zcm92q3zah2mjxylz2tuhntwsqs3f0j4 1.60951960 BTC ()	3ASPQH586oKVgAuGRH2jetMcsZmbXbcyUu 17SUeoxBkeV7y4MFJwSM9ZS172PEALQr1A 34FUBq94vedNXyj6JgoMAmdgp9zbXn2LMZ 3BLNhMJPWWWigss8PRyNc5qN9yxhHcPegR 13D7hz7gG3XNjFh1NfrGciWapPDkCRNQv3 bc1qdyktmha7ae0ejy3l6faatnskvdz4n7dj9s03	2021-01-26 18:50 0.00020193 BTC (*) 0.00165220 BTC (*) 0.00371889 BTC (*) 0.00956562 BTC (*) 0.03287694 BTC (*) ha 1.55980402 BTC (*)
Fee	0.00170000 BTC (477.528 sat/B - 155.393 sat/WU - 356 bytes)		1.60781960 BTC 2 Confirmations
Hash	7f7f8af10ae8ab8088cd2a4b647d105f90767ea5aa04ffacb4443f9a		2021-01-26 18:58

bc1qr7kd05vsfh4235afstg3z99acm6na7j9f69t... 0.00320000 BTC 🏶

13

Blockchain Explorers

💠 Blockcha	in.com	Wallet	Exchange	Explorer	Buy	Bitcoin Trade
Summary						USD BTC
Hash	95e07300949 bc1qv769zcm	9c7f89b058 92q3zah2m	be74e2bf0f5dco	57232a333afaee95a71 🗎 53f0j4 1.60951960 BTC 🏶	3ASPQH586oKVgAuGRH2jetMcsZmbXbcyUu 17SUeoxBkeV7y4MFJwSM9ZS172PEALQr1A 34FUBq94vedNXyj6JgoMAmdgp9zbXn2LMZ 3BLNhMJPWWWigss8PRyNc5qN9yxhHcPegR 13D7hz7gG3XNjFh1NfrGciWapPDkCRNQv3 bc1qdyktmha7ae0ejy3l6faatnskvdz4n7dj9s03ha	2021-01-26 18:49 0.00020193 BTC (*) 0.00165220 BTC (*) 0.00371889 BTC (*) 0.00956562 BTC (*) 0.03287694 BTC (*) 1.55980402 BTC (*)
Fee	0.00170000 E (477.528 sat/l	TC 3 - 155.393 :	sat/WU - 356 by	tes)		1.60781960 BTC 2 Confirmations
Details 0	Sponsored Content		onsored Content			

Hash	95e07300949c7f89b058be74e2bf0f5dcc7232a333afaee95a71154b7a95eec4
Status	Confirmed
Received Time	2021-01-26 18:49
Size	356 bytes
Weight	1,094



Considerations for Crypto in Bankruptcy

- 1. Must be disclosed even if no specific category on debtor schedules
- 2. Not generally exempt
- 3. Valuation is tricky
 - 1. Liquidity
 - 2. Lack of formally regulated exchanges- questionable data
 - 3. Tax rules?
- 4. Tracing rules- Lowest Intermediate Balance rule?
 - 1. Fungibility
- 5. Is crypto use an "automatic" badge of fraud?
 - 1. No, not by itself
- 6. Can a smart contract or DeFi platform violate an automatic stay order?

Recovery of cryptoassets

- Forensic consultants may assist with tracing
 - Probabilistic results- can tell you who has used a public key address, not who authorized a transaction
- Orders may compel turn over assets
 - Easy to obtain from legally addressable intermediaries
 - Harder to get from individuals
 - May be impossible to enforce a turnover order "against smart contracts"
 - May be limited to ex ante and ex post remedies
 - Can Smart Contracts and automatic stay orders coexist?
- Lost private keys may frustrate recovery/collection efforts
 - Consider the role/effectiveness of contempt orders

In re: Cred: facts

- 2 -sided crypto lending/borrowing venture
 - Unsecured loans of crypto assets, in exchange for promised returns (4-10%)
 - Sometimes payable in USD, sometimes in kind
 - Company used loaned cryptoassets to attempt to obtain higher yields
- Unclear regulatory environment for this type of venture
- Apparent strategic miscues:

Leadership/Asset Management team

Risky loans

Cred Business Model:

Cred's Risky Crypto Borrowing and Lending Model



Image © Guidehouse.com

In re: Cred: Novel Issues

- Did borrowers/lenders have security interests in cryptoassets borrowed and loaned?
- How do you create and perfect a security interest in a crypto asset? No specific existing provision for cryptoassets in UCC Likely fit best under Article 8 as "general intangibles"
- Requires a legally effective Security Agreement
 - How to describe the collateral?
- Perfection options
 - Perfection by Filing
 - Perfection by transferring the asset to a Securities intermediary
 - Requires agreement among parties stipulating to consider the asset as a financial asset, asset control agreement
- "Possession" of an intangible, natively digital asset?

<u>A New Hope: Draft UCC Article 12-</u> <u>Controllable Electronic Record Definition</u>

SECTION 12-102. DEFINITIONS.

(a) In this article:

(1) "Authenticate" means:

(A) to sign; or

(B) to execute or otherwise adopt a symbol, or encrypt or similarly process a record in whole or in part, with the present intent of the authenticating person to identify the person and adopt or accept a record with present intent to adopt or accept a record, to attach to or logically associate with the record an electronic sound, symbol, or process.

(2) "Controllable electronic record" means an electronic record that can be subjected to control (Section 12-105). The term does not include [electronic chattel paper, electronic documents, electronic money,⁵ investment property, transferable records under UETA and E-SIGN, etc.].

(b) The definitions of "account," "account debtor," and "payment intangible" in Article 9 apply to this article.

<u>A New Hope: Draft UCC Article 12-</u> <u>Controllable Electronic Record Definition</u>

Reporter's Notes

1. "Authenticate." This definition is copied from UCC § 9-102.

2. "*Controllable electronic record.*" Under the definition, a "controllable electronic record" would be an "electronic record," *i.e.*, information that is stored in an electronic or other medium and is retrievable in perceivable form. To be within the scope of the Controllable Electronic Records article, the record must be susceptible of control under Section 12-105.

The provisions of Article 12 are likely to be unsuitable for certain types of electronic records, and the definition will need to be limited accordingly. Further consideration by the Committee will be necessary to identify them. The bracketed language suggests some types of electronic records that might ultimately be excluded.

A New Hope: Draft UCC Article 12- Control Definition

SECTION 12-105. CONTROL OF CONTROLLABLE ELECTRONIC RECORD.

(a) A person has "control" of a controllable electronic record if:

(1) the following conditions are met:

(A) the controllable electronic record or the system in which it is recorded gives the person:

(i) the power to derive substantially all the benefit from the lable electronic record;

(ii) subject to subsection (b), the exclusive power to prevent others eriving substantially all the benefit from the controllable electronic record; and

(iii) subject to subsection (b), the exclusive power to transfer of the controllable electronic record to another person or cause another person to obtain of a controllable electronic record that derives from the controllable electronic record;

(B) the controllable electronic record, a record attached to or logically ted with the controllable electronic record, or the system in which the controllable

electronic record is recorded, if any, enables the person to readily identify itself as having the powers specified in subparagraph (A)[; or

(2) another person obtains control of the controllable electronic record on behalf of the person or, having previously obtained control of the controllable electronic record, acknowledges that it has control on behalf of the person].

(b) A power specified in subparagraphs (a)(1)(A)(ii) or (a)(1)(A)(iii) can be "exclusive," even if:

(1) the controllable electronic record or the system in which it is recorded, if any, limits the use to which the controllable electronic record may be put or has protocols that are programmed to result in a transfer of control; and

(2) the person has agreed to share the power with another person.

(c) For the purposes of subparagraph (a)(1)(B), a person may be identified in any way, including by name, identifying number, cryptographic key, office, or account number.

Reporter's Notes

1. *Why "control" matters.* Control would serve three major functions in this article. An electronic record would be a "controllable electronic record" and would be subject to the provisions of this article only if it is susceptible to control under this section. *See* Sections 12-102 and 12-103. A person having control of a controllable electronic record would be eligible to become a qualified purchaser and so take free of third-party claims to the controllable electronic record under Section 12-104. And a person having control would have the power to transfer rights to a qualified purchaser, even if the person having control has no rights itself. *See* Section 12-104.