

Digital, Financial, and Blockchain Property

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Motivation

- What is the *private* law of blockchain?
- Public law: government-to-individual
 - E.g., are tokens securities?
- Private law: individual-to-individual
 - E.g., who owns these BTC?
 - Important, inescapable, and understudied

Some kinds of property

- Tangible
- Financial
- Digital

How does blockchain property fit in?

Part I:
Tangible Property

Tangible property

- “personal” property (common law) or “moveable” property (civil law)
- Examples: books, cars, furniture, jewelry
- Key attributes:
 - Rivalrous: one use at a time
 - Exclusive: one possessor at a time

Title and possession

- Possession is grounded in physical control
 - On my person, or in a space I control
 - E.g., I possess the clothes I'm wearing
- But possession ≠ title
 - If you grab the watch off my wrist and run, you *possess* the watch but don't have *title* to it
 - The legal system will return possession to me

Valid and invalid transfers of title

- Gifts pass good title on delivery
- Contracts are binding when signed, but may not transfer good title until closing
- Theft gives void title (+ possession)
- Forgery gives void title (+ maybe possession)
- Fraud gives *voidable* title: the power to transfer good title to a good-faith-purchaser for value

Part II:
Financial Property

What really *is* a bank account?

- Legal: a “general deposit” is a transfer of funds to the bank, together with the bank’s promise to repay the funds on demand
 - The bank takes title to the funds
- Operational: the bank keeps written records of each customer’s account balance
 - (Together with a ledger of transactions)

Who controls a bank account?

- In one sense, obviously the bank
 - But the customer has a right to the funds
- Commercial law sets rules for how the bank can authenticate customers using technical security measures: PINs, 2FA, etc.
- So control of the credential is effectively control of the account

Attributes of financial property

- Exclusivity comes from the credential
 - Keep it secret, keep it safe
 - (With enforcement by the institution)
- Rivalrousness is a systems property
 - Conservation rules enforced by institutions
 - Regulators keep an eye on the institutions

Authentication and risk

- Bad decisions are the customer's problem
- Forgery is the bank's problem
- What about stolen credentials?
 - Regulation E (debit cards): customer loss is capped at \$50 if they notify the bank promptly
 - UCC 4A (wire transfers) : if the bank's "security procedure" is "commercially reasonable" and it acts in good faith, the customer bears the loss

Negotiability

- *Miller v. Race* (1758): a thief steals a banknote from the mail, then uses it to pay an innkeeper
- *Held*, the innkeeper doesn't have to return the banknote to the owner, *even though it was stolen*
- This is an exception to the usual rules on good, void, and voidable title
- “it is necessary, for the purposes of commerce, that their currency should be established and secured”

Part III:
Digital Property

Some types of digital (intangible) property

- Domain names
- IP address blocks
- Social-media accounts
- Social-media handles
- In-game assets

Control

- These assets are all controlled by some entity
 - E.g., ICANN and registrars have operational control over domain names
 - E.g., Instagram has operational control over Instagram accounts and handles
- Users have day-to-day control ...
 - ... because they have the account password

Attributes of intangible digital property

- Exclusivity comes from the credentials
- Again, enforced by the institutions
- Rivalrousness is sometimes intrinsic ...
 - E.g., domain names are inherently rival
- ... and sometimes systemic
 - E.g., in-game gold pieces could in theory be minted without limit

Ownership

- Does this mean that ICANN has title to all domain names and Instagram to all accounts?
 - This rule *does not work* for important cases
 - E.g., you phish my Instagram password and take over the account
- Courts tend to say that users have property rights in digital intangibles, as against other users

Part IV:
Blockchain Property

What about blockchains?

- Same: the control principle is unchanged
 - Private key = control (= possession)
 - Remember: possession \neq title
 - “Not your keys, not your coins.”
- Different: no central authority
 - Can't break things
 - Can't fix things

Attributes of blockchain property

- Exclusivity comes from ... yes, the credentials
 - (Collectively enforced by miners' adherence to the blockchain protocols)
- Rivalrousness is an intrinsic property
 - The relevant conservation laws are wired into the relevant blockchain protocols

Crypto = money?

- UCC article 12 (added 2022) addresses the private law of cryptocurrencies, much like article 4A addresses wire transfers, etc.
- Establishes a negotiability rule for blockchain assets: good-faith purchasers take good title
- A merchant who accepts BTC doesn't need to trace their entire history first
- Justified by the use of crypto for payments

Howells v.

Newport City Council

- James Howells had the private key to 8,000 BTC on a hard drive that his partner took to the municipal landfill
- *Held*, the hard drive is abandoned (unowned)
- The BTC are probably still his—they're just extremely hard to recover
- What if he had *given* the hard drive to a friend?

ABC Co. v.

John Does 1–39,069

- New York law requires the finder of “lost property” to deposit it with the police
- If it remains unclaimed, the finder can be declared the owner
- Plaintiff identified inactive digital wallets and deposited with the NYPD three USB drives “the digital addresses of the Found Wallets”

Nice try, but no

- Tired: a court order (title) is worthless without the private keys (possession)
- Wired: the plaintiff delivered a *description* of the wallets to the police, not the actual *wallets*
- Inspired: UCC art. 12 will protect anyone who takes the crypto in good faith for value

Conclusion

The invisible foundation of modern social life

- Private-law legal rules are often intuitive
 - They have to be, or they wouldn't work
 - But it's also easy to forget that they're there, or make incorrect assumptions about them
- Studying them helps you be confident when you're on solid legal ground ...
 - ... and to know when you're not

Questions