The Law and Regulation of Digital Assets

THE FIFTH BRUNEL BANKING CONFERENCE

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Supporting papers

- This paper: The Law and Regulation of Digital Assets" (not yet in public domain)
- Related work of mine
  - Milne (2023, online) "Argument by False Analogy: The Mistaken Classification of Bitcoin as Token Money", *Journal of Money, Credit and Banking,* https://onlinelibrary.wiley.com/doi/full/10.1111/jmcb.13061
  - Kavuri and Milne (2020, working paper). Evolution or Revolution? Distributed Ledgers in Financial Services. CAMA WP 4/2020. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3527192
  - McNulty, Miglionico and Milne (2023, third round review) "Data access technologies and the 'new governance techniques of regulation", *Journal of Financial Regulation*
  - He, Llewellyn and Milne (2023, working paper) "Financial Technologies and Financial Regulation"
- Other related work
  - Law Commission of England and Wales (July, 2022) Digital Assets Consultation Paper , https://www.lawcom.gov.uk/project/digital-assets/
  - Allen, Hilary J. (2022, forthcoming) "DeFi: Shadow Banking 2.0?." William & Mary Law Review
  - Allen, Hilary J. (2022) Driverless Finance: Fintech's Impact on Financial Stability. OUP
  - Azar, Pablo D et al. The Financial Stability Implications of Digital Assets (September 2022). FRB of New York Staff Report No. 1034, Available at SSRN: https://ssrn.com/abstract=4234695

A parallel with the early 2000's?

- Industry enamoured with innovations in credit risk management
  - Opportunity for more effective risk transfer
  - Substantial lobbying, inspired Basel II
  - Masked growing risks in the years 2003-2007
- Now industry is enamoured with digital assets
  - Viewed as a "nascent asset class"
  - Opportunity for new trading brokerage income
  - Substantial lobbying for regulatory recognition
  - UK government responding +vely, envisaging crypto as a post-Brexit opportunity

Takeaways

- Resolving widespread conceptual confusions
  - Drawing on the legal discussion of digital assets
  - Digital assets are not new
  - What is new is *permissionless* holding of digital assets
- A central question for regulation
  - Permissioned digital assets, *even if held on shared distributed ledgers,* pose few new regulatory issues
  - So key question is to what extent and in what way to allow regulated institutions to transact in permissionless assets?
  - Questions such as “is this a security” (SEC v. CFTC) are a side issue.
- Promoting crypto as a new asset class can be confused
  - Digital data technologies applied to permissioned (conventional) assets have tremendous potential
  - In my view: limited economic benefits from allowing transactions in permissionless assets.
  - Financial stability concerns arise when mixing permissionless and permissioned

Agenda

- Historical review
- Permissionless/ permissioned
- Policy issues
- Questions and discussion?

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- **Historical review**
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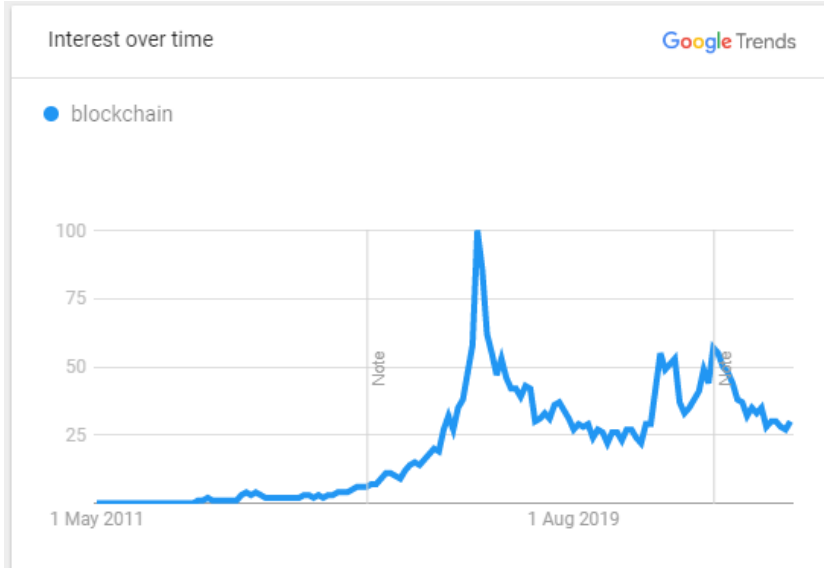
A digital assets timeline

1965-1973:	ARPANET, forerunner of the internet
1977:	Public key encryption, RSA
1982-1983:	TCP/IP and DNS protocols established
1983:	Chaum's digicash
1990:	CERN (Berners-Lee) create HTML and
1991:	launch the WWW
1993:	The cypherpunk manifesto
1995-2006:	Big tech internet (Netscape/IE to Twitter)
2008:	Nakamoto Bitcoin whitepaper
2010:	Founding of Mt Gox
2013:	Creation of Ethereum
2013 onward:	Rising interest in crypto/blockchain
2017:	Stablecoins
2018:	DeFi



Cypherpunks

- Eric Hughes, John Gilmore and Timothy C May in 1993;
- John Gilmore in 2018

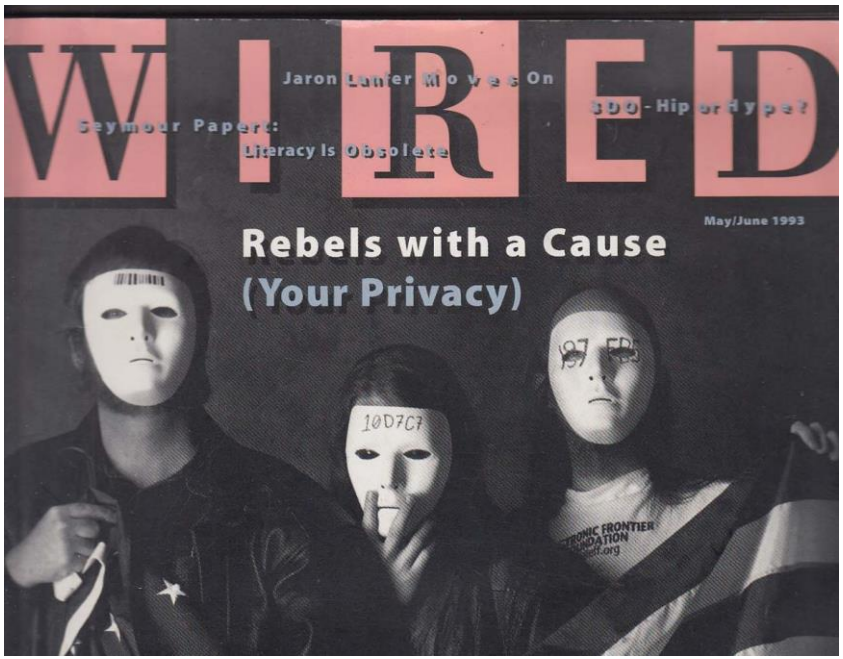


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Table 1: the main developments in digital assets (excluding NFT, ICOs).

	Development	*Examples*	*Economic value*	*Social and behavioural drivers*	*Technological design*
DeFi (decentralised finance) and crypto	Cryptocurrencies	Bitcoin	Use in private transactions; avoiding currency controls	Cypherpunk, trading culture.	Permissionless DL
	Stablecoins	Tether, USDC, DAI, PAX &tc.	Crypto trading; DeFi	Cypherpunk, trading culture	
	Programmable blockchain/ DeFi	Ethereum	Decentralised finance without intermediaries	Trading culture, techno-enthusiasm	
New forms of regulated digital money	Wholesale DL money/ CBDC	Fnality, JP Morgan coin	Improved liquidity management	user needs, techno-enthusiasm	Permissioned DL/ centralised databases
	e-money	Paypal, MPesa, Alipay, etc.	Better payment services	user needs	
	Guaranteed retail DL money	Diem, USDC?	Better payment services	user needs, techno-enthusiasm	
	Retail CBDC	e-CNY, Bahamian Sand Dollar, Digital $, £ etc.	Financial inclusion; better payments services	Policy goals, techno-enthusiasm	
Operations in financial markets and services	Programmable DL	Quorum, Hyperledger	in services; supporting automation.	user needs, techno-enthusiasm	Permissioned DL/ centralised databases; also permissionless DL?
	DL securities; Fractionalised security holdings	W Bank, Thailand, SIX digital exchange	Facilitating direct retail bond and equity investment	user needs, techno-enthusiasm	
	Automated operations	ISDA common domain model	Lowering operational costs and risks	user needs	

A key distinction: permissionless v. permissioned record keeping systems

- As Table 1 indicates there is a clear divide
  - Permissionless crypto
  - Permissioned mainstream
- Law Commission digital object
  "… (2) it exists independently of persons and exists independently of the legal system; …"

i.e. open source digital data records, with a decentralised consensus mechanism.

Proposition 1

A permissioned distributed ledger has an institutional arrangement for governance and control that can be subjected to all the same legal obligations and regulatory oversight and compliance that is applied to a central operator of a conventional centralised database recording ownership of financial and non-financial assets.

The energy intensive process of proof of work, used to ensure consensus across the different instances of the ledger in many permissionless blockchains, is not required in a permissioned distributed ledger.

A permissioned distributed ledger (unlike a permissionless ledger) can support a variety of tailored participation rights with different levels of permission, both on reading data and to execute changes in the records held in the ledger.

Digital objects and smart contracts

- Implications of Law Commission analysis.
  - Digital objects are permissionless records of ownership
  - Permissioned records of ownership are not digital objects
- Why does the Law Commission not also say:

"… Smart contracts are pre-coded agreements to transfer of digital objects that exist independently of persons and exist independently of the legal system; …" ?

- Avoids a category error, confusing:
  - Precoded contracts for exchange of digital objects; with
  - Automated execution of contracts for other forms of property

Tokenisation ambiguities

- See Milne (JMCB, 2023)
- False analogy
  - No such thing as a digital object/ token transferred directly P2P
  - Digital assets are <u>always</u> account based
- A consistent definition of a tokenised asset
  - Recorded on permissionless record system
  - Directly held (not the liability of e.g. a custodian bank or commercial bank).

A wider issue …. data access

- The substantial opportunities of data access technologies
  - See McNulty, Miglionico and Milne (2023) on use in regulation
  - Highlights the BoE/ FCA “transforming regulatory reporting initiative”
- One form of data access is shared data
  - Blockchain offers “pure” permissionless data sharing, but with very narrow application
  - Alternative is permissioned ‘distributed ledger technologies’
    - Note the plural – many, many variations
    - Facing severe problems going beyond “proof of concept”
    - Unsurprising in light of Kavuri and Milne (2020).
- Data access need not mean data sharing, does not need DL
  - Cryptography supports many forms of permissioned data access
  - Key issues include co-ordinated adoption and governance
  - Hence a central role for public authorities

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Policy context

- Law
  - Unidroit, UCC (defines control of a digital asset),
  - Law Commission of England and Wales
    https://www.lawcom.gov.uk/project/digital-assets/

  Para 5.10 *"In summary, we provisionally propose that a thing should be recognised as falling within our third category of personal property [that of data object] if:*

  (1) it is composed of data represented in an electronic medium, including in the form of computer code, electronic, digital or analogue signals;

  (2) it exists independently of persons and exists independently of the legal system; and

  (3) it is rivalrous."

- *Regulation*
  - Substantial current work documented in paper
  - Includes recent HMT consultation on cryptoa assets
  - Focus has been on AML/ CFT and conduct regulation, but concern also about monetary and financial stability

Regulatory responses

- EU MiCA regulation – so far, so good
  - Regulating the providers of crypto (permissionless) asset services
  - No real alternative. Principal challenge is regulatory competition
    - Major jurisdiction need to align to prevent cross-border arbitrage
    - Limited opportunity for “flexible” regime
- More separation of permissionless and permissioned
  - We could prohibit regulated entities from issuing permissionless liabilities (e.g. ICOs, stablecoins)
  - We could limit permissionless assets to “sophisticated investors” , prohibit all promotion to retail customers

An open question

- Open question: to what extent and in what way do regulators allow regulated financial institutions to transact in permissionless assets?
  - Again, I would argue keep separate from permissioned assets
- But, “Cypherpunks” claim a natural right …
  - To privacy including permissionless financial transactions
  - OK, but balance this against other rights
    - Customer protection
    - Prevention of crime and terrorism

  suggests to me that this right should be quite limited.

Why are we concerned about stablecoins?

- Digital C2B and B2B, also C2G and B2G payments require permissioning
  - So permissionless fiat monetary assets (stablecoins) cannot be widely used in payments
- USDC coin could obtain the equivalent of e-money regulation, and switch to the

Crypto/ digital as a “nascent asset class”

- Technologies for holding/ transferring assets
  - Permissionless v. permissioned
- Claims on underlying cash flows
  - Directly held or a legal claim
- Two potential (very different) candidates as new asset class
  1. Permissionless private assets offering no underlying cash flows e.g. Bitcoin, DeFi
  2. Permissionless trading of conventional financial assets

  As stated, I argue forstrictly limiting 2.

Tokenisation? The two forms of tokenised asset

1. Permissionless, no legally secured underlying value
   - Cryptocurrencies.
   - Stablecoins, are really just managed cryptocurrencies, because *no guarantee of value*

   Economic parallel. When a country moves from a floating to a fixed exchange rate, we do not say this is the creation of a new currency
2. A security or other permissioned asset placed on a permissionless record system for exchange
   - With guarantee of value
   - Early example: Chaum Digicash

- Open question – role of “tokenisation” in settlement

Regulation of DeFi

- The recently closed HMT consultation, pushes this back for later discussion
- The permissionless/ permissioned distinction suggests this is unnecessary
- Apply the Law Commission definition of ‘data object’ which includes DeFi
- Use MiCA approach to all financial ‘data objects’
- Potentially supplemented with further obligations for creators of DeFI “smart contracts”

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Thank you !