



Digital Financial Assets

Select 2020

John Salmon

Centralised v Decentralised



Centralised company

Distributed ledger

Instead of your bank having control over your account ledger, control of the ledger is decentralized and dispersed among multiple computers on the network.

Each computer holds a copy of the distributed ledger.





Current payment systems require third-party intermediaries that often charge high processing fees... ...but peer to peer payment using a distributed ledger could allow for direct payment between individuals.

Centralised v Decentralised



Centralised company







4

Clear governance

Single trusted party

Easy to identify responsibility

Regulatory certainty (Possibly regulated depending on sector)

How blockchain works



Centralised v Decentralised



Unclear governance

2000

Q

Trustless

Difficult to identify responsibility



Legal uncertainty



What are regulators worried about?



Crypto Assets



Investor Protection



Token Categorisation





Decentralisation



Tokens - Categorisation

Payment Token	Asset Token	Consumer Token
Akin to a traditional currency	Represent an underlying financial asset	Gives the user ownership or coupon rights to a specific set of goods and/or services
Used as a medium of exchange for any goods	Analogous to traditional securities such as bonds, equities or derivatives	
E-money?	Regulated	Not regulated, but depends

Perimeter issues



Regulatory Reform

Asset tokens



Payment Tokens

EU approach



- is electronically stored;
- has monetary value;
- represents a claim on the issuer;
- is issued on receipt of funds;
- is issued for the purpose of making payment transactions;
- is accepted by persons other than the issuer.

UK Approach - FCA Framework

Regulated Tokens

Un-regulated Tokens

Security Tokens

• i.e. tokens satisfying definition of Specified Investments under RAO (excl. e-money)

E-Money Tokens

•i.e. tokens meeting definition of e-money under the EMRs

Utility Tokens

• i.e. tokens redeemable for access to a specific product or service (akin to vouchers)

Exchange Tokens / Crypto-Currencies

• i.e. designed primarily as a medium of exchange (e.g. Bitcoin)

Starting Point for analysis

What are its key characteristics?

How does it work?

Decentralised Finance

User Interface





Application Layer





Blockchain Infrastructure

Decentralisation – Exchanges



Decentralisation – Non Custodial Wallets





Custodial Wallets

Non- Custodial Wallets

Currency Leakage



Consumer Protection



Monetary Control



Stablecoins – Consumer Protection

- Legal certainty
- Sound governance
- AML / CTF
- Safety, efficiency and integrity of payment system
- Cyber security and operational resilience
- Market integrity
- Data privacy

Stablecoins – Monetary Control

- Monetary policy
- Financial stability
- International monetary system
- Fair competition





Custodial Wallet Providers

Virtual Currency Exchanges



5AMLD

Implements the FATF Guidelines on money laundering – 5AMLD implements measures to bring transparency to crypto-asset transactions.

- Crypto-asset transactions can be anonymous
 - Concerns that this will be used to conceal financial transactions
- 5AMLD brings virtual currency exchanges and custodian wallet providers within the scope of the money laundering directive
- Providers will have the responsibility to monitor transactions and verify customer IDs

5AMLD – Virtual Currency Exchanges

Activities pertaining to a virtual currency exchange are:

- Exchanging, or arranging or making arrangements with a view to the exchange of, cryptoassets for money or money for cryptoassets,
- Exchanging, or arranging or making arrangements with a view to the exchange of, one cryptoasset for another, or
- Operating a machine which utilises automated processes to exchange cryptoassets for money or money for cryptoassets

AML – Custodial Wallet Provider

Activities pertaining to a Custodian Wallet Provider are:

- Providing services to safeguard, or to safeguard and administer:
 - cryptoassets on behalf of its customers, or
 - private cryptographic keys on behalf of its customers in order to hold, store and transfer cryptoassets, when providing such services.

Privacy



Is there personal data?



Who is the controller?



Has there been a transfer?



Immutable data



Key legal challenges Privacy and data protection



Key legal challenges Privacy and data protection



Cybersecurity



Brute force attacks



Double Spending



DDoS Attacks



Quantum Computing



Brute force attacks



Attacker uses 51% of networks mining power to publish block before honest nodes

Attacker begins to add blocks to a private copy of the blockchain Attacker spends 100 bitcoin on public chain, but does not record this on private chain Honest nodes follow longest chain – attacker retains spent bitcoin

Double spending

The same currency unit is assigned to multiple users Multiple users therefore use the same coin simultaneously





Quantum computing

- Blockchain is cryptographically secure and has yet to be hacked
- Quantum computing threatens to do this through the vast number of calculations it can process
- Future blockchains may have to incorporate quantum cryptography



5 Key Takeaways



Identify the true function of the token to determine its classification



FATF Guidelines are coming into force bringing in scope exchanges and wallet providers



Jurisdictions have not yet landed on how to regulate decentralised applications



Holding personal data on the blockchain will result in the application of the GDPR



Cybersecurity challenges on the blockchain



Contact



John Salmon Partner, London john.salmon@hoganlovells.com +44 20 7296 5071



www.hoganlovells.com

"Hogan Lovells" or the "firm" is an international legal practice that includes Hogan Lovells International LLP, Hogan Lovells US LLP and their affiliated businesses.

The word "partner" is used to describe a partner or member of Hogan Lovells International LLP, Hogan Lovells US LLP or any of their affiliated ertities or any employee or consultant with equivalent standing. Certain individuals, who are designated as partners, but who are not members of Hogan Lovells International LLP, do not hdd qualifications equivalent to members.

For more information about Hogan Lovells, the partners and their qualifications, see www.hoganlovells.com.

Where case studies are included, results achieved do not guarantee similar outcomes for other clients. Attorney advertising. Images of people may feature current or former lawyers and employees at Hogan Lovells or models not connected with the firm.

© Hogan Lovells 2020. All rights reserved