

Written evidence submitted by Centre for Commercial Law at the University of Aberdeen

This response is provided by a working group of the Centre for Commercial Law (CCL) at the University of Aberdeen. The working group consists of Dr Burcu Yüksel Ripley, Dr Alisdair MacPherson and Mr Gabriel Uchechi Emeasoba.

The CCL brings together researchers across the broad groups of corporate and commercial law, international trade law, intellectual property and technology law, and dispute resolution. The law relating to cryptoassets is one of the research areas of the CCL. Working groups of the CCL have responded to various calls for evidence and consultations in this area (see <https://www.abdn.ac.uk/law/research/centre-for-commercial-law/public-policy-stakeholder-engagement-1109.php#panel1114>) to help raise awareness of the issues and contribute to the development of solutions. We welcome this call for evidence as well and appreciate the opportunity to provide our comments.

Questions:

- **To what extent are crypto-assets when used as digital currencies (such as Stablecoin) likely to replace traditional currencies?**

We think that this would mostly depend on the purpose(s) of using digital currencies. For the purpose of payments, particularly international payments, we think that digital currencies have significant potential. International payments are traditionally carried out through banking channels by the use of correspondent banks which are located in different jurisdictions and operate in different time zones. This significantly increases cost and time in the execution of international payments. Digital currencies executed via distributed ledger technology-based systems can offer a faster and cheaper option for international payments enabling them to be made directly from payors to payees without intermediation. They could be an attractive alternative to traditional payment services.

This would however depend on their understanding and acceptance by the relevant community and participants as well as the implementation of appropriate regulatory and legal frameworks to facilitate the use of digital currencies in international payments. We refer to the UK Government's work on developing a regulatory approach to cryptoassets and stablecoins (<https://www.gov.uk/government/consultations/uk-regulatory-approach-to-cryptoassets-and-stablecoins-consultation-and-call-for-evidence>). We note that the responses to the UK Government's consultation and call for evidence in the area demonstrate "a broad consensus on the need for international coordination of regulation and close collaboration with other jurisdictions" and "a general agreement that a UK regulatory framework for stablecoins needs to be flexible enough to respond to rapid innovation" (see https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1088774/O-S_Stablecoins_consultation_response.pdf, p.7). We also note the UK Government's intention to legislate to bring certain stablecoins, where used as a means of payment, into the regulatory perimeter.

We, however, do not anticipate that digital currencies are likely to *replace* traditional currencies entirely, at least not in short term. Our anticipation is that they would be most likely to exist together or used to supplement each other. In addition, our points above are subject to the caveat that even though crypto-assets could resolve certain issues, this does not mean that alternative forms of technology would definitely not be able to resolve such issues.

- **What opportunities and risks would the introduction of a Bank of England Digital Currency bring?**

One of the main opportunities would be reducing cost and time in execution of payments and increasing resilience, particularly in international payments.

In terms of risks, this would mainly depend on technicalities of the system that would underpin the digital currency. There may be issues around risks of fraud or cybersecurity and privacy. Although central bank digital currencies (CBDCs) seem to be more stable compared to cryptocurrencies, in comparison to traditional currencies, and depending on the implementation of a given system underpinning them, there can be issues around volatility as this is still rather a novel and untested concept. These issues can be tied broadly into the monitoring of the financial system. There may also be reluctance towards their acceptance within some sections of society which might arise due to the lack of technological understanding and potential reservations against diverting from the traditional model to a novel and untested model.

CBDCs are also attracting attention globally and being explored by over 50 monetary authorities (see Luca D'Urbino, "The Digital Currencies That Matter" The Economist, 8 May 2021, p.11), including, the European Central Bank in the European Union (EU) (https://www.ecb.europa.eu/paym/digital_euro/html/index.en.html), the Federal Reserve System in the United States (<https://www.federalreserve.gov/faqs/what-is-a-central-bank-digital-currency.htm>), the Bank of Canada in Canada (<https://www.bankofcanada.ca/research/digital-currencies-and-fintech/projects/>) and the Swiss National Bank in Switzerland (Swiss central bank readying cross-border digital currency test," Reuters, 2021, <https://www.reuters.com/article/snb-digitalcurrency-idUSL1N2MM1UX>).

- **What impact could the use of crypto-assets have on social inclusion?**

Crypto-assets offer direct access to certain products and services, which can promote inclusion. This could be important particularly for consumers and for SMEs to support finance, lower certain entry barrier to markets and encourage competition.

However, there could be some restrictions on inclusion in the use of crypto-assets as well. First, there is a need to have access to technology and equipment to be able to access and use crypto-assets, which might bring constraints depending on geographical location and/or the income or resources one might have. Therefore, those in lower socio-economic groups can be negatively affected. Second, certain groups within society (such as the elderly) can find it more difficult to understand and use crypto-assets and may feel negatively affected. We note that similar concerns and difficulties were reported in the context of the UK Government's work on access to cash (<https://www.gov.uk/government/consultations/access-to-cash-consultation>) in particular during the COVID-19 pandemic. Education campaigns would be helpful to address some of these concerns and difficulties.

- **Are the Government and regulators suitably equipped to grasp the opportunities presented by crypto-assets, whilst at the same time mitigating against the risks?**

Based on calls for evidence, consultation papers and reports and the establishment of the UK Cryptoassets Taskforce (bringing together HM Treasury, the Financial Conduct Authority and the Bank of England) as part of the UK Government's FinTech Sector Strategy, we think that the UK Government is relatively proactive in this area and there is a reasonable level of awareness as to what is required and at what level in relation to crypto-assets matters. We also think that a coordinated approach among government bodies (in particular, among HM Treasury, the Financial Conduct Authority, and the Bank of England) is important in order to develop consistent and effective regulatory responses to issues raised by crypto-assets.

- **What opportunities and risks could the use of crypto-assets—including Non-Fungible Tokens—pose for individuals, the economy, and the workings of both the public and private sectors?**

We refer to the UK Cryptoassets Taskforce Final Report 2018 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/cryptoassets_taskforce_final_report_final_web.pdf), which gives important insights on benefits and risks of crypto-assets (for an analysis of the report, see also B Yüksel, 'Is the UK heading towards regulation of cryptoassets? Findings from the UK Cryptoassets Taskforce Final Report', Aberdeen Law School Blog, 2018, <https://www.abdn.ac.uk/law/blog/is-the-uk-heading-towards-regulation-of-cryptoassets-findings-from-the-uk-cryptoassets-taskforce-final-report/>).

The use of crypto-assets can offer a wide range of opportunities, including easing and widening access to financial services, through new types of investment as well as capital raising methods; reducing transaction costs and time in international/cross-border transactions; enhancing users' control over assets, and increasing resilience by eliminating single points of failure in systems due to distributed ledger technology underpinning crypto-assets.

On the other hand, there are potential risks around volatility, lack of user awareness and understanding of suitable options available to them, fraud, cybersecurity and privacy. Linked with the lack of awareness and understanding, consumer protection appears to be an important issue to address in the use of crypto-assets, which we will elaborate on below. There are also concerns around lack of transparency and accountability as well as money laundering and tax evasion given that pseudonymity makes it difficult to track down identities in particular in permissionless crypto-assets systems. There are also issues of scalability, high energy consumption, and environment and sustainability concerns in particular in permissionless crypto-assets systems, which we will elaborate on below.

Regarding legal frameworks, we note the Law Commission of England and Wales (LCEW)'s law reform project on Digital Assets (<https://www.lawcom.gov.uk/project/digital-assets/>) as a welcome development. We are hopeful that this will lead to greater clarity and certainty in this area of law, including by way of legislative intervention.

- **How can distributed ledger technology be applied in the financial services sector?**

Distributed ledger technology enables transactions to be made outside of the traditional central systems in a peer-to-peer manner, without the involvement of the usual central trusted third parties or authorities, and secure digital records can be held independently of those

central trusted third parties or authorities. Therefore, it has the potential to be used in almost any financial transactions which are traditionally executed and recorded by third party financial institutions including banks. This includes payment services as well as trade finance and supply chain finance (see e.g. Emmanuelle Ganne, “Can Blockchain Revolutionize International Trade?”, WTO, https://www.wto.org/english/res_e/booksp_e/blockchainrev18_e.pdf, p.19-28 and p.46-56).

In addition, and from a different perspective, we note that assets supported by distributed ledger technology can also be utilised in the financial services context through e.g. digital assets being used as collateral in secured transactions. The existence of a new category of assets can thereby help to support certain financial transactions and the raising of finance more broadly, albeit that the volatility of these assets and other weaknesses do need to be taken into account and do create some risks for market participants.

- **What work has the Government (and its associated bodies) done to understand, prepare for and, where relevant, encourage changes that may be brought about by increased adoption of crypto-assets?**

On the regulatory side, as we have noted above, the UK Government has launched various consultations and calls for evidence considering different aspects of crypto-assets and established the Cryptoassets Taskforce as part of the UK government’s FinTech Sector Strategy. Concerning anti-money laundering, there has been regulation put in place but there is scope for improvement, which we will elaborate on below.

On the legal side and more broadly, the UK Government has asked the LCEW to make recommendations for law reform to ensure that English law is capable of accommodating digital assets, including crypto-assets. This is a work in-progress under two related law projects on digital assets, which we have noted above, and conflict of laws and emerging technology (<https://www.lawcom.gov.uk/project/conflict-of-laws-and-emerging-technology/>). This work builds on the Legal Statement on the Status of Cryptoassets and Smart Contracts (https://35z8e83m1ih83drye280o9d1-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/6.6056_JO_Cryptocurrencies_Statement_FINAL_WEB_111119-1.pdf) by the UK Jurisdiction Taskforce of the LawTech Delivery Panel which was established by the UK Government, the Judiciary and the Law Society of England and Wales with an overarching objective of the promotion of the use of technology in the UK’s legal sector. Similar law reform prospects are being called for and are under consideration in Scotland (see B Yüksel Ripley and A MacPherson, ‘Digital Assets Law Reform in England and Wales and Prospects for Scotland’, Aberdeen Law School Blog, 2022, <https://www.abdn.ac.uk/law/blog/digital-assets-law-reform-in-england-and-wales-and-prospects-for-scotland/>). These law reform projects would help ensure the legal recognition and protection of the rights of crypto-asset users and increase the potential of crypto-assets.

- **How might the Government’s processes – for instance the tax system - adapt should crypto-assets be adopted more widely?**

In terms of tax, while existing rules and concepts could be utilised to some extent, bespoke rules can be created, where necessary, to recognise the specific characteristics of different types of crypto-assets.

- **How effective have the regulatory measures introduced by the Government - for instance around advertising and money laundering - been in increasing consumer protection around crypto-assets?**

Concerning anti-money laundering, the Cryptoassets Taskforce Final Report 2018 noted that the UK Government will develop and provide one of the most comprehensive regulatory responses globally to the use of cryptoassets for illicit activity. As part of that commitment, the Money Laundering and Terrorist Financing (Amendment) Regulations 2019 implemented the 5th Anti-Money Laundering Directive of the EU and amended several of the UK's anti-money laundering and counter terrorist-financing legislation. All these changes are positive. It, however, seems that further regulation and reform regarding anti-money laundering, promotions and other related matters, and specifically targeting the crypto-assets sector, could be useful in preventing financial crime and misconduct relating to the use of crypto-assets. In addition, robust and effective enforcement of applicable rules is necessary. At present, it is unclear to what extent those who breach the rules in this area are being pursued.

Concerning consumer protection, we think that there is much to be done. We note that an FCA commissioned qualitative consumer research study, referred to in the UK Cryptoassets Taskforce Final Report 2018, suggested that some consumers invest in cryptoassets to be wealthy quickly or under the influence of social media while some believe that they are investing in tangible assets because they misunderstand the terminology and images used to describe cryptoassets (such as 'mining' and 'coins') to suggest a physicality which is striking but absent. Similar consumer behaviours on crypto-assets and risks they can be exposed to are also highlighted in a BBC Panorama documentary entitled Who Wants to Be a Bitcoin Millionaire? (<https://www.bbc.co.uk/programmes/b09s3wbt>). Without appropriate regulations, legal frameworks and measures improving consumers' awareness, there is a risk of causing significant detriment to consumers and the possibility of creating bubbles. This is particularly the case with non-state backed cryptocurrencies, such as Bitcoin, or in general crypto-products offered by permissionless systems where there is no obvious system owner or operator and transactions are facilitated among pseudonymous participants.

- **Is the Government striking the right balance between regulating crypto-assets to provide adequate protection for consumers and businesses and not stifling innovation?**

Based on the UK Government's work and initiatives in this area which we have noted above, we think that the UK Government is broadly proactive and seeking to strike an appropriate balance between supporting innovation and economic growth while also protecting consumers and businesses. However, more can be done on the regulation and consumer protection side, and also in relation to enforcement, as we have noted above.

- **Could regulation benefit crypto-asset start-ups by improving consumer trust and resilience?**

We think that there might be different views on the issue of regulation, depending on the perspective(s) taken. The very idea behind crypto-assets was that there is no need for regulation because crypto-asset systems are self-regulating through using code. However, what we have witnessed since the introduction of the first crypto-asset in 2009 (i.e. Bitcoin), proves otherwise, in that there is indeed a need for regulation particularly from the perspective of users/consumers. While the costs for start-up businesses will increase if there

is a need for greater regulatory compliance, we think that regulation could benefit crypto-asset start-ups overall by improving consumer trust in the use of crypto-assets. Such regulation will also enable legitimate and rule-compliant businesses to obtain a deserved advantage over their potential competitors, whereas with less or no regulation this is not the case and there is more of an even playing field, which may ultimately be costly to various parties.

However, a balance needs to be ensured in the level of regulation to support legitimate innovation while maintaining the UK crypto-asset market as a safe and transparent place offering appropriate protection to businesses and consumers. Given that crypto-asset systems have global structures and accessibility, imposing restrictive measures through regulation might lead to a shift of business in crypto-assets market from the UK to other jurisdictions with a lower degree of regulation.

- **How are Governments and regulators in other countries approaching crypto-assets, and what lessons can the UK learn from overseas?**

The approaches differ from jurisdiction to jurisdiction (for a comparative study on the regulation of Bitcoin, see Law Library of Congress, U.S. Global Legal Research Directorate, “Regulation of Bitcoin in selected jurisdictions” 2014, www.loc.gov/item/2014427360).

We refer to the CCL’s response to the call for evidence of the LCEW on Digital Assets (July 2021) on other jurisdictions’ approaches (see https://www.abdn.ac.uk/law/documents/CCL%20Response%20to%20Call%20for%20Evidence%20on%20Digital%20Assets_24.7.21.pdf) and note, in particular, the following examples:

- United States: The work of the Joint Committee of the Uniform Commercial Code and Emerging Technologies (formed by the American Law Institute and the Uniform Law Commission), which reviewed the Uniform Commercial Code (UCC) with a view to recommending amendments or revisions to accommodate emerged and emerging technological developments, was recently concluded. The amendments to the UCC were approved in July 2022 and promulgated for consideration by the US states with a view to adopting them (see <https://www.uniformlaws.org/committees/community-home?CommunityKey=cb5f9e0b-7185-4a33-9e4c-1f79ba560c71>). Transactions covered by the amendments involve those concerning digital assets, such as virtual (non-fiat) currencies, non-fungible tokens and digital assets with embedded payment rights.
- Switzerland: The Swiss Act to Adopt Federal Law to Developments of Distributed Ledger Technology, entered into force in two phases, and provided significant amendments to different statutes across different fields. Some of the main aspects of the Act include regulating the transfer of rights on the blockchain by means of digital registers, introducing a new category of ledger-based securities to the Code of Obligations, and providing special provisions for the segregation of cryptoassets held in custody by a third party in bankruptcy proceedings (see <https://www.admin.ch/gov/en/start/documentation/media-releases/media-releases-federal-council.msg-id-84035.html>).

- European Union (EU): A legal and regulatory framework for blockchain is a part of the EU's blockchain strategy, including current proposals for digital Euro and for a Regulation on Markets in Crypto-assets (MiCA) governing the issuance, trading and storing of cryptoassets falling into its scope (see <https://digital-strategy.ec.europa.eu/en/policies/blockchain-strategy#:~:text=The%20European%20Blockchain%20Partnership%20is,come%20in%20production%20in%202021>).
- **The environmental and resource intensity of using crypto-asset technology.**

There are serious issues around the high energy consumption of crypto-assets systems which raise environment concerns and sustainability questions. This is particularly the case with permissionless systems, like Bitcoin. For example, it is stated that Bitcoin's blockchain consumed approximately as much electricity as Ireland in 2018 (see A de Vries, "Bitcoin's growing energy problem" *Joule*, 2 (2018), pp. 801-805, <https://reader.elsevier.com/reader/sd/pii/S2542435118301776?token=8A69BC3E6C75C885BFF07C42B48257A29D1A35BBF5A1CDA92AF25142E8BE6AB21DC7B77208EC599974BAE2588A01F90A&originRegion=eu-west-1&originCreation=20220910204410>). The Cambridge Center for Alternative Finance estimates Bitcoin's current energy consumption to be around 110 Terawatt Hours per year (<https://ccaf.io/cbeci/index>).

The energy consumption issue is closely linked to the level of consensus algorithms that a system needs or requires. Permissionless systems are with a public ledger and open to anyone. This means that there is a need for a stronger consensus algorithm which is more energy intensive. Permissioned systems, on the other hand, are with a private ledger and open to a limited pre-defined number of participants with permission. The consensus algorithms are lighter in permissioned systems and therefore less energy intensive.

We think that this is a significant issue to be monitored from environmental perspectives and sustainability, particularly in permissionless systems. It may be that environmental concerns are considered to ultimately outweigh the advantages that certain forms of crypto-asset technology can provide.

September 2022