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Call for Evidence
The crypto-asset industry

09 September 2022

Executive summary:

In response to this call for evidence on The Crypto-asset industry by the House of Commons' Treasury Committee we provide evidence and policy recommendations in relation to the following questions:

- To what extent are crypto-assets when used as digital currencies (such as Stablecoin) likely to replace traditional currencies?
- 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?
- Is the Government striking the right balance between regulating crypto-assets to provide adequate protection for consumers and businesses and not stifling innovation?
- Could regulation benefit crypto-asset start-ups by improving consumer trust and resilience?
- The environmental and resource intensity of using crypto-asset technology.

We present evidence to support the following policy recommendations:

- To impose tighter regulation for the crypto-assets, including stablecoins, to decrease money laundering, fraud, scams, and to protect consumers [1-5, 11, 12];
- To impose tighter regulation for cryptocurrency exchanges and online trading platforms, on which investments can be compared to gambling, to protect the interests of amateur investors and enable consumer trust [6; 13, 14];
- To acknowledge the similarities and differences between different types of crypto-assets, e.g. cryptocurrencies, DeFi and NFTs assets, and shifts in influential power in digital asset ecosystem [7-10];
- To introduce a carbon-based tax system for the crypto-asset industry in order to create an incentive to use more sustainable and energy-efficient blockchains [16, 17,18];
- To acknowledge the negative environmental impacts of mineable cryptocurrencies and assess the implications of high energy demands of crypto-assets in times of energy crisis [15, 19].

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

1. It is highly unlikely that crypto-assets, such as stablecoins, will be able to replace traditional currencies in the future. The recent collapse of Terra Luna demonstrated that even the largest and the most popular stablecoins, like an algorithmic stablecoin UST, can lose their peg in a matter of days. Liquidity issues and lack of sufficient regulations make crypto-assets an easy target for speculative attacks, which makes the term 'stable' in their name rather misleading.

2. According to research by Jalan et al. (2021), stablecoins volatility and associated risks remain comparable to the Bitcoin. Even asset-backed stablecoins, the value of which is pegged to gold, *i.e.* gold-backed cryptocurrencies, do not show safe-haven properties like their underlying asset – gold.

3. The collapse of Luna has originated a strong financial contagion in cryptocurrency markets which yet again exposed the vulnerability of the cryptocurrencies as a financial asset class. Notably, cryptocurrency market leader Bitcoin - cryptocurrency that according to crypto-maximalists should replace the US dollar in the future, has lost 60% of its value in comparison to its November 2021 value. This provides strong evidence that Bitcoin holders care about the dollar value of their Bitcoin holdings and measure their wealth in fiat currencies, knowing that the poor scalability and high energy consumption of Bitcoin will not allow it to replace traditional currencies.

4. Liquidity issues, lack of consumer protection, and a lack of trust in the crypto-assets due to numerous scandals and scams are just a few reasons why any of the currently available stablecoins will not be able to replace traditional currencies. A notable exception could be the Central Bank Digital Currencies (CBDC) which might offer a more trustworthy crypto-asset to the general public which will decrease policy uncertainty in cryptocurrency markets (e.g. Wang et al., 2022a).

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

5. It is one of the popular myths that blockchain technology and crypto-assets are so complex and innovative, that an entirely different skillset is required to explore their opportunities and risks. The Government should stop believing the myths of 'ground-breaking' features of blockchain technology. It is simply another way to record and store information based on ideas that had already emerged in the 1980s, which became possible to fulfil in the last decade thanks to the increase in computer power.

6. We urge the Government to regulate crypto-assets as any other highly speculative financial asset, while crypto exchanges, online trading platforms, and other crypto-asset businesses should be regulated with similar stringency as a gambling industry, since individual investors are often getting misinformed by crypto-asset businesses, particularly on social media platforms. There is evidence of positive linkages between investors' attention and cryptocurrency price, for example, more investors search for cryptocurrency information (e.g. according to Google Trends), greater trading volumes and returns on cryptocurrency markets can be observed. (Raza *et al.*, 2022).

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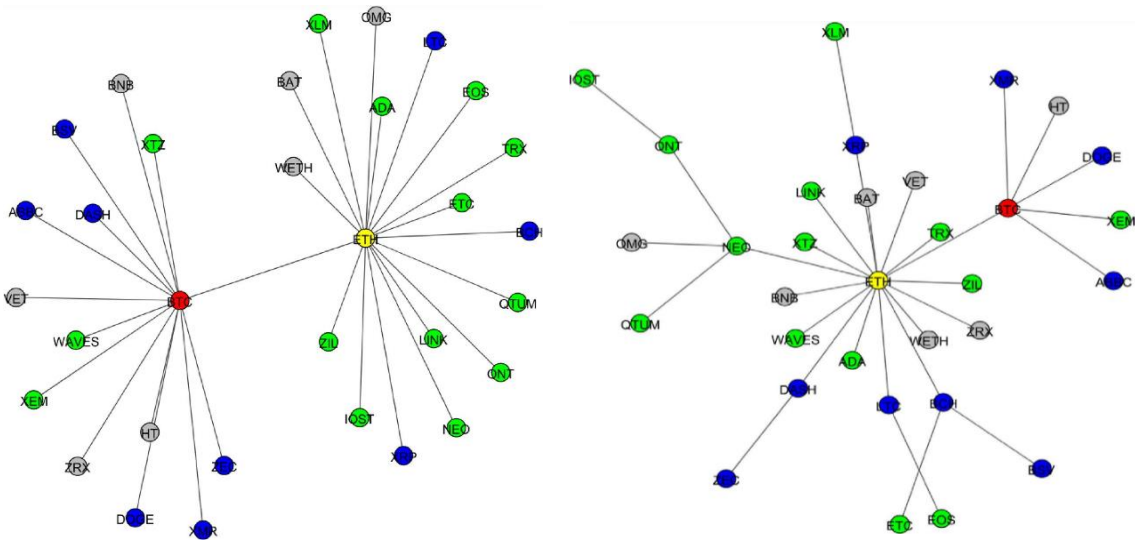
III. What opportunities and risks could the use of crypto-assets—including Non-Fungible Tokens—pose for individuals, the economy, and the workings of both the public and private sectors?

7. The crypto-assets ecosystem has evolved significantly and should not be associated only with its pioneer cryptocurrency Bitcoin, since the vast majority of crypto-assets have an entirely different design to Bitcoin. According to the recent research by Katsiampa *et al.* (2022), DeFi and NFT assets that are built on Ethereum blockchain, have shifted the influential power from Bitcoin to Ethereum after the COVID-19 period, as illustrated in Figure 1 below.



(a) Pre-Covid **(b) During Covid**

Figure 1 Minimum-Spanning tree for log-returns based on Kendall correlation matrix (COVID-19 period). Note: Colours of nodes correspond to particular groups of crypto assets: Bitcoin – red; Ether – yellow; cryptocurrencies – blue; protocols – green; dApps - grey. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article: https://doi.org/10.1016/j.intfin.2022.101578)

8. Thus, in contrast to the traditional understanding of financial contagion as a negative phenomenon that occurs during crises and market crashes, a *positive* contagion effect can also take place. For example, the popularity of DeFi and NFT assets during the COVID-19 crisis, the so-called DeFi boom, has positively influenced their underlying blockchain Ethereum and its main cryptocurrency – Ether (Katsiampa *et al.*, 2022).

9. While cryptocurrencies like Bitcoin are fungible and interchangeable, *e.g.* 1 BTC=1BTC, new NFT assets are non-fungible, unique, and can be used to serve various specialised communities (Yousaf and Yarovaya, 2022a). Community-based assets, such as NFTs, have a great potential to be useful for specific industries, like digital art and gaming. However, as with many other crypto-assets, they are often used purely for financial speculation purposes. NFTs, and other blockchain-based application, should serve the purpose and their design should be meaningful to create value for communities and businesses beyond speculation. However, currently, this is not always the case.

10. According to the recent research by Yousaf and Yarovaya (2022b) NFTs and DeFi assets are still relatively decoupled from 'conventional' cryptocurrencies and other assets such

as oil, gold, and equities, and can offer some diversification benefits for informed investors. The issue is whether investors who buy NFTs and DeFi are fully aware of the concept of diversification, or they allocate all their savings into a handful of crypto-assets and 'meme' stocks following the hype on social media (Long *et al.*, 2022). Based on this evidence, we can conclude that NFTs and DeFi assets do not have any excess risk and are comparable with any other speculative asset. Therefore, as with any crypto-asset, measures of consumer protections and national-wide financial literacy programmes can help to make individual investors more informed about the actual risks of investing in crypto-assets.

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

11. Crypto-asset regulation is vital to protect the interest of consumers, especially individual investors, from accepting unjustifiable risks of investments in crypto-assets. Currently, the regulation efforts are insufficient. Innovation has to be sustainable, ethical, and should transform our world for the better. Unfortunately, the most prominent use cases of crypto-asset is financial speculation, therefore better regulation of crypto-assets could help to restore the balance between 'innovations' and 'consumer protection' that is currently skewed towards 'innovation'. Which makes crypto-assets prone to market manipulation, fraud, scams, and other dishonest practices. While decentralisation is an extremely appealing concept, it does not mean that decentralised assets and businesses should be exempt from government regulation.

12. Innovation is a continuous process happening in every industry and sector of the economy. Fintech and DeFi innovations are happening in the Finance industry, therefore crypto-assets have to be regulated as all other financial assets, while crypto-assets start-ups should have strict requirements for their transparency and disclosure, as any other business. The anonymity of crypto-asset could be an attractive feature for an individual user, but it should not be exploited by businesses for money laundering and scam schemes.

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

13. The role of trust in cryptocurrency adoption has been analysed by Jalan *et al.* (2022). Their results indicate a positive and statistically significant effect of trust on interest in and adoption of cryptocurrencies, confirming the importance of trust in the growth of financial markets. Better regulation can improve consumer trust in cryptocurrency, which will help cryptocurrency markets to mature and become more stable in the future.

14. There are no rational reasons why crypto-asset start-ups should be immune from regulation for the incorporation of blockchain technology in their business models. The main goals of their business are profit generation, hence differences from any other business are minor.

VI. The environmental and resource intensity of using crypto-asset technology.

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15. Not all crypto-assets and blockchains are equally energy consuming as Bitcoin (Corbet and Yarovaya, 2020). The UK Government should consider better regulation of the environmental impacts of this industry and create incentives for businesses and consumers to employ only energy-efficient products and blockchain.

16. According to the Index of Cryptocurrency Environmental Attention (ICEA) constructed using >778.2 million news items from the LexisNexis News & Business database by Wang *et al.* (2022b), attention to environmental footprints of the crypto-asset industry is growing, as illustrated by Figure 2.

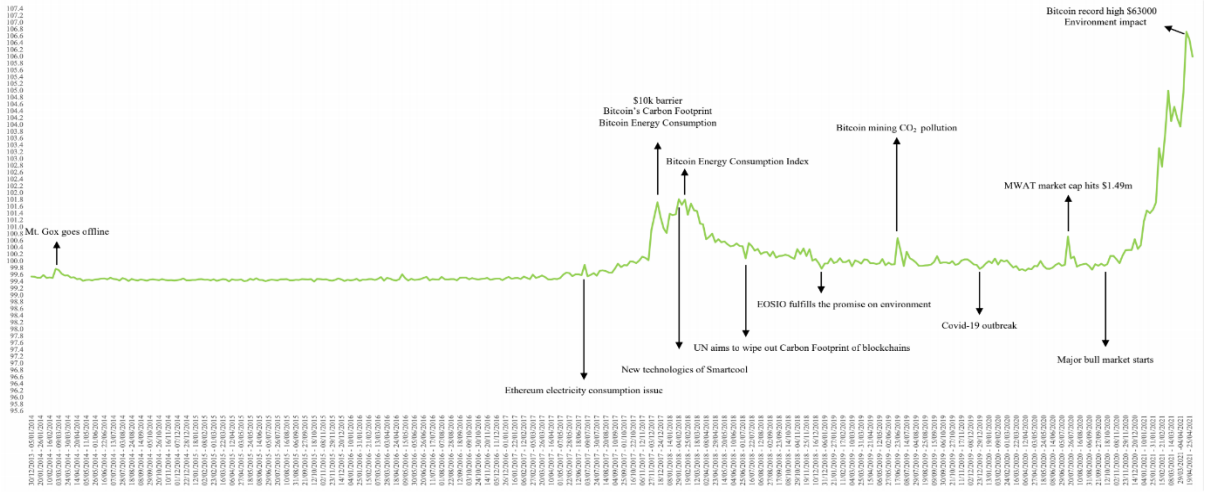

Figure 2 (a) Annotated ICEA Index. Higher resolution images and data are available from: https://sites.google.com/view/cryptocurrency-indices/home?authuser=0

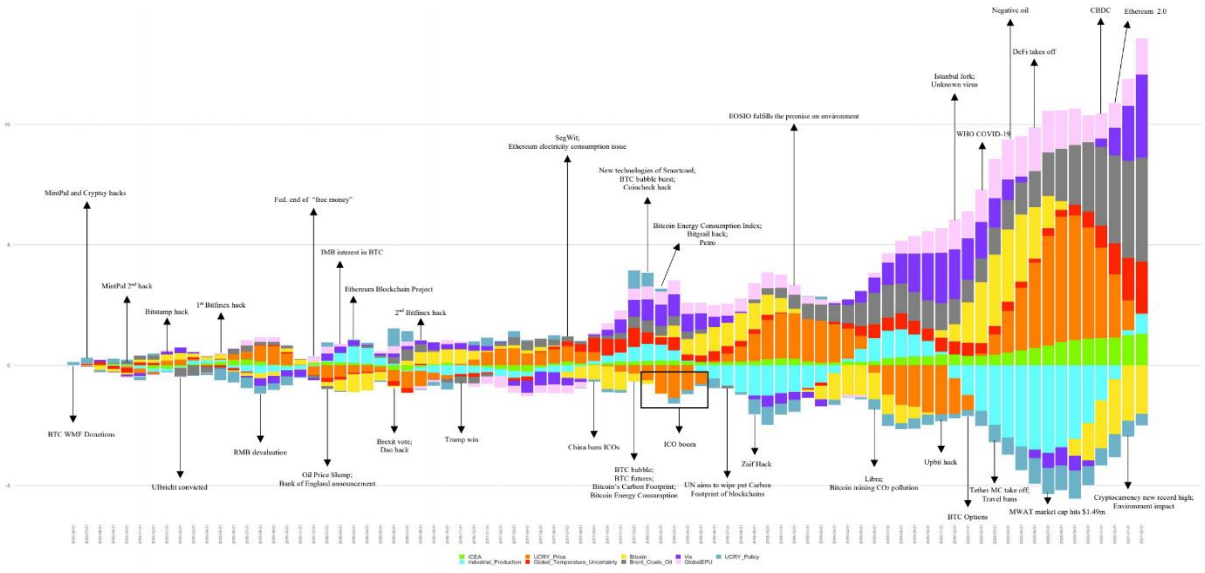

Figure 2 (b)
ICEA index historical decomposition with major events. Higher resolution images and data are available from: https://sites.google.com/view/cryptocurrency-indices/home?authuser=0

17. Thus, the issues of high-energy consumption and CO2 pollution regarding cryptocurrency have become some of the main areas of criticism, raising questions about the sustainability of cryptocurrencies, and the UK Government can no longer ignore these impacts.

18. One of the solutions could be via the introduction of a carbon emission tax in the crypto-asset industry, so the amount of taxes will be directly linked to the carbon footprint of their products. With an emphasis on Chinese, Russian and Japanese electricity markets, Corbet *et al.* (2021) show that continued cryptocurrency energy usage demonstrates influence on the pricing of large electricity and utility markets. While significant and positive relationships between Bitcoin returns and both Chinese and Russian electricity company price volatility are confirmed, there is a lack of positive linkages between Bitcoin and green exchange traded funds (ETFs) and carbon credits.

19. To date we do not have any evidence suggesting that cryptocurrency market growth has some positive impacts on renewable energy markets, that can somewhat compensate for its current carbon footprint (Corbet *et al.*, 2021). Therefore, we call for better regulation of the environmental impacts of this industry.

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