

Central Bank Digital Currencies: Call for Evidence.

11 October 2021

Executive Summary:

In response to this call for evidence on the Central Bank Digital Currencies (CBDC) by The House of Lords Economic Affairs Committee, chaired by Lord Forsyth of Drumlean, we make the following recommendations:

- *HM Treasury and the Bank of England should develop CBDC, as a reliable, trustworthy and convenient tool for digital payments, which, backed up by HM Government (HMG), have the potential to bring stability and decrease regulatory uncertainty around crypto assets;*
- *HMG must make CBDC available for the UK users as a legitimate instrument for safer access to other digital assets with minimal risks and uncertainty around taxation, ethics, and accountability and other issues;*
- *HMG must take environmental concerns under consideration in the process of developing CBDC, since attention to environmental sustainability of cryptocurrencies has increased significantly over the recent years*
- *HMG must offer more ethical, greener and affordable digital currency for the UK users.*

Response authors:

[Dr Larisa Yarovaya](#), Associate Professor of Finance, Deputy Head of the Centre for Digital Finance, Programme Director of the BSc Finance and Financial Technology at the University of Southampton, UK. Dr Yarovaya has published her research in peer-reviewed academic journals, such as Journal of Corporate Finance; Journal of Financial Stability; Energy Economics; International Review of Financial Analysis, and European Journal of Finance among others. She also co-edited a book “Cryptocurrency and Blockchain Technology” and organises the annual Cryptocurrency Research Conference. Dr Yarovaya is one of the most cited female authors in the Fintech and cryptocurrency research area.

Dr Yarovaya is working on the project entitled “*The effects of CBDC on financial markets: evidence from new CBDC indices*” in collaboration with Professor [Brian M. Lucey](#), Professor [Samuel A. Vigne](#) and Mr [Yizhi Wang](#) from Trinity College Dublin, Ireland, as a part of the larger ongoing project on development of new Cryptocurrency Indices. Read more about this work [here](#).

The response provides evidence and policy recommendations in relation to the following questions:

- What are the main issues driving central banks to explore CBDC? (Question 1 in the terms of reference)
- What effects might a CBDC have on the financial sector? (Question 5 in the terms of reference)
- What effect might a CBDC have on competition and innovation in the payments and fintech sectors? (Question 6 in the terms of reference)

I- What are the main issues driving central banks to explore CBDC?

1. We believe that the first driver is an uncertainty around cryptocurrency prices and high volatility of cryptocurrency markets that attract attention from institutional and individual investors, as well as general public. The second driver is a policy uncertainty around cryptocurrency markets and absence of a coherent global regulatory framework that legitimise cryptocurrency transactions and prevents its usage for unethical and illegal purposes (Lucey *et al.*, 2021a), and minimizes negative impacts of cryptocurrency mining on environment (Lucey *et al.*, 2021b). The third driver is the pace of development of crypto asset network structure (Katsiampa *et al.*, 2021), that rapidly change the role and influential power of the different digital assets and uncovering additional users' needs in digital payment products that have been unknown before. These factors facilitate interest among central governments and promote discussion on how to penetrate the digital asset ecosystem and which tool Central Banks can offer to the cryptocurrency users that will provide the same benefits as offered by existing digital currencies, but lesser susceptibility to price and policy uncertainty than current popular crypto assets exhibit.
2. Increased media attention to cryptocurrencies in general, and specifically to the CBDCs, can also explain why more Central Governments around the world start exploring CBDC, *e.g.* United Kingdom (UK), China, European Union (EU), Russia, the United States (US) among others. The project team analysed the main drivers of attention to the ongoing debates around introduction of CBDC by constructing the Central Bank Digital Currency Attention Index (CBDCAI) and CBDC Uncertainty Index (CBDCUI). These indexes are new-based indexes constructed in the best tradition of Baker *et al.* (2016) and Lucey *et al.* (2021), using 663,881,640 news items from LexisNexis News & Business database. We report that for the period from January 2015 to June 2021 the value of CBDC uncertainty and attention increased significantly for "digital yuan", "digital pound", "digital yen", "digital euro", "digital dollar" and related searchers (see Figure 1).
3. We also report bidirectional linkages between key regulatory debates and announcements and both CBDC attention and uncertainty indexes. We found distinct movements in both CBDCAI and CBDCUI indexes during the main big events and announcements made by central banks around the world, including the calls for evidence launched by the UK Parliament. Figure 2 below illustrates these movements for the period from January 2015 to June 2021.

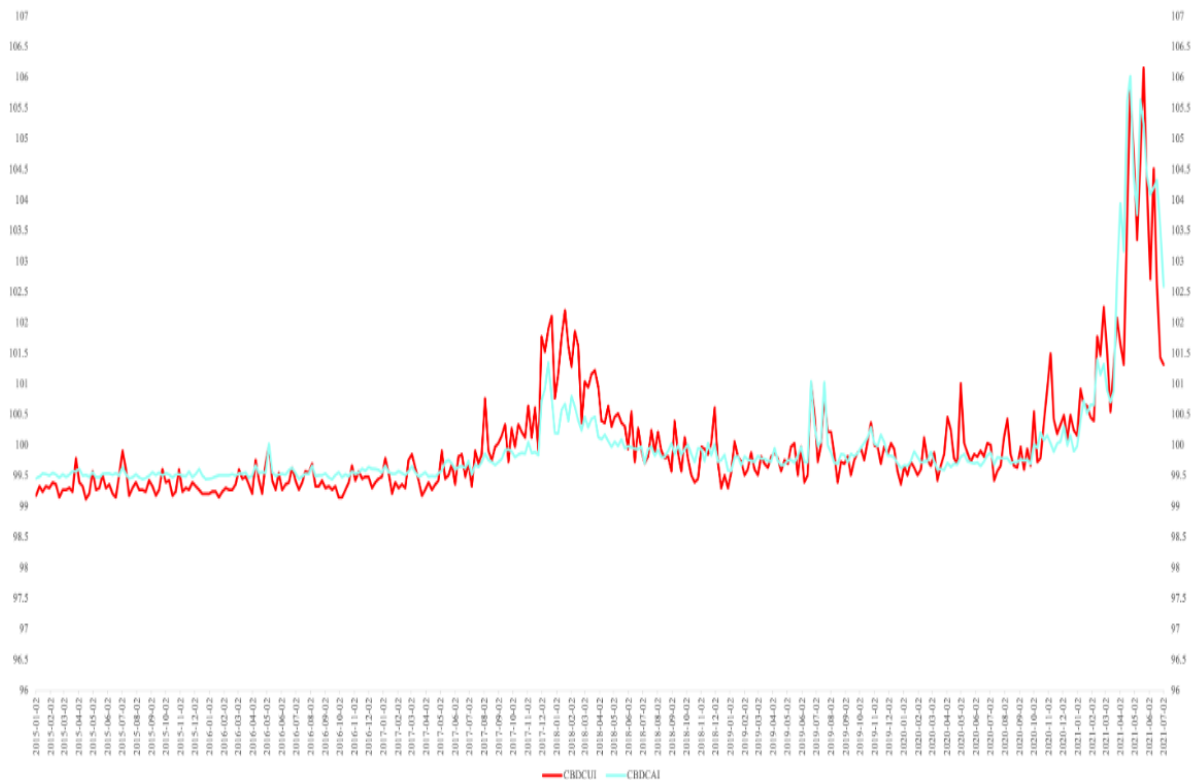


Figure 1 Attention to CBDC and uncertainty around CBDC for the period from January 2015 to June 2021.

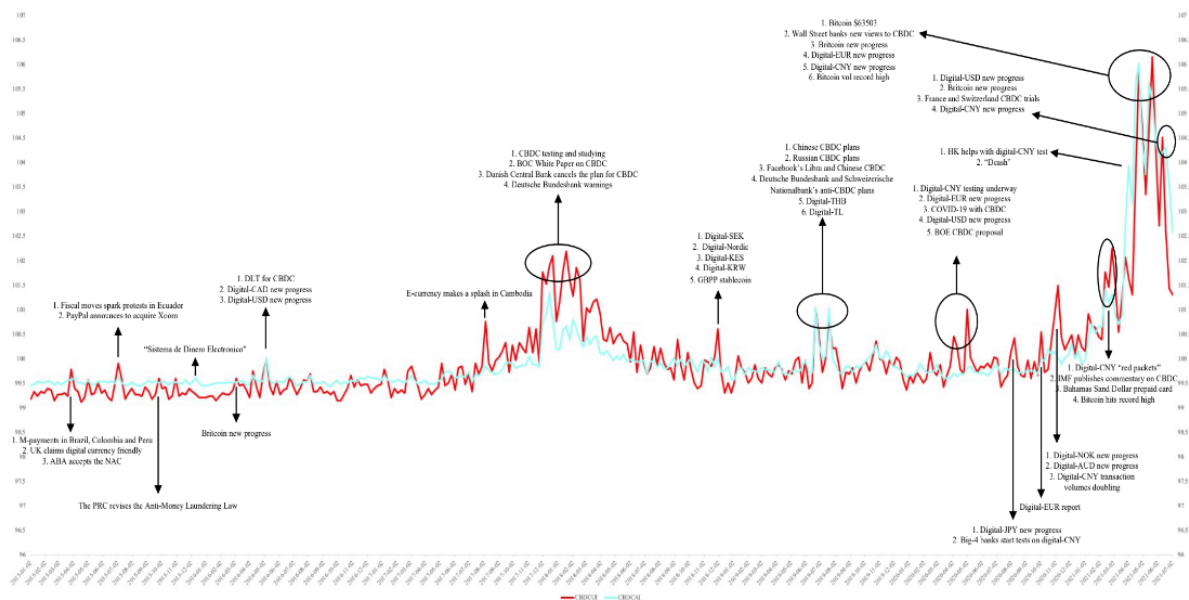


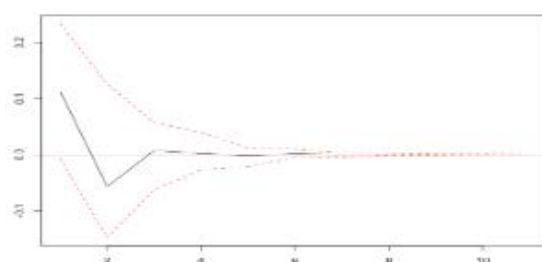
Figure 2 CBDCUI and CBDCAI movements around Big events

II- What effects might a CBDC have on the financial sector?

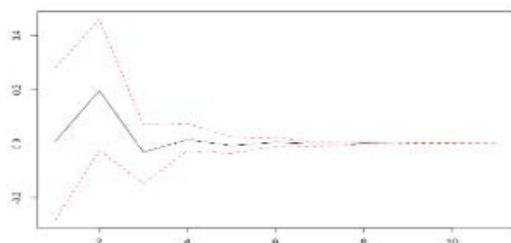
4. We believe that introduction of CBDC will affect prices of cryptocurrency markets, and these effects will spillover to other financial asset classes. While in 2018, the scientific research suggested that cryptocurrencies are relatively isolated from other asset classes (Corbet *et al.*, 2018), more recent evidence show that cryptocurrency market volatility can affect markets that have no direct linkages with crypto or only superficial association with crypto markets (Akyildirim *et al.*, 2020). Therefore, we believe that introduction of new CBDC will have immediate and long-term effects on both digital and traditional assets prices.

5. The uncertainty around introduction of CBDC has in itself an impact on cryptocurrency in other more traditional markets. Figure 3 presents the Impulse Response Function results and shows the impact of CBDCUI shocks on MSCI World Banks, FTSE all World Index, Bitcoin, gold, and EUR/USD, GBP/USD, JPY/USD, RUB/USD, CNY/USD exchange rates.

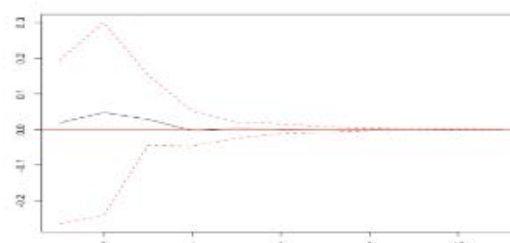
CBDCUI to FTSE ALL World Index



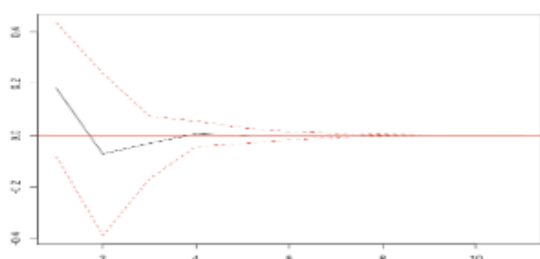
CBDCUI to MSCI World Banks



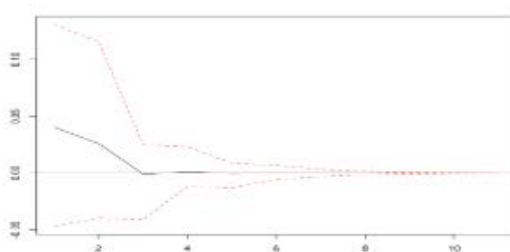
CBDCUI to EUR/USD



CBDCUI to JPY/USD



CBDCUI to GBP/USD



CBDCUI to RUB/USD

CBDCUI to CNY/USD

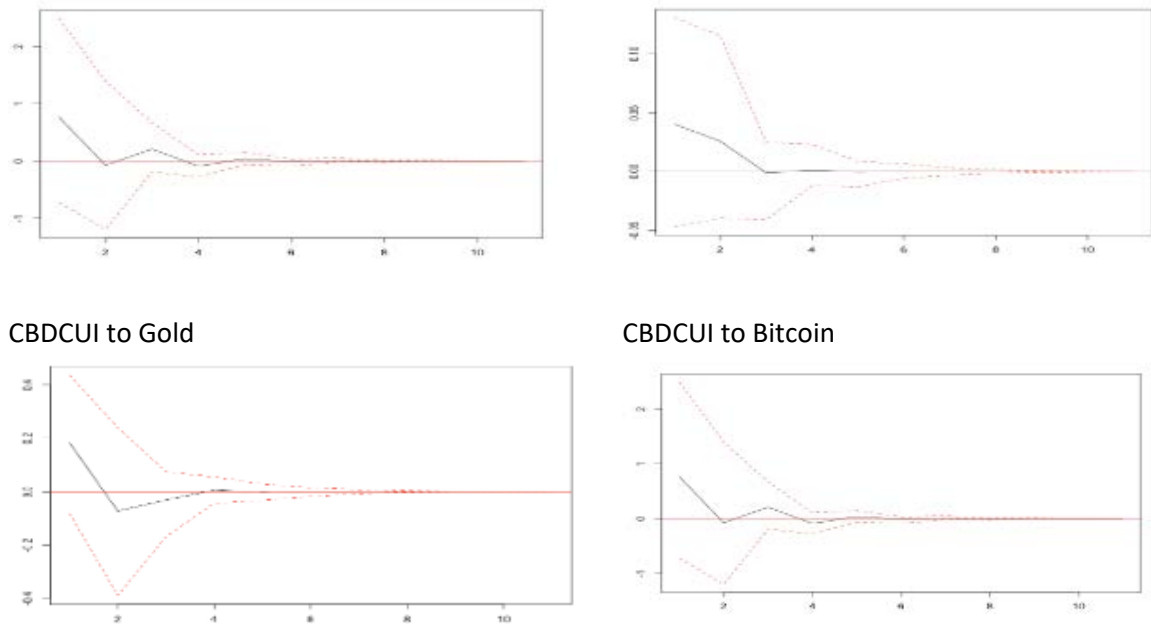


Figure 3 CBDC Uncertainty Index shock to other markets

III- What effect might a CBDC have on competition and innovation in the payments and fintech sectors?

6. We expect to see significant local and international impacts of CBDC on competition in payments and fintech sector. While early evidence suggest that Bitcoin is by far the most influential cryptocurrency (Corbet *et al.*, 2019), the most recent evidence report that crypto assets that can be categorized as dApps and Protocols have become more attractive for investors than “pure” cryptocurrencies (Katsiampa *et al.*, 2021). This displays a shift in consumer and investor preferences from pioneer cryptocurrency towards more innovative, scalable, and versatile digital payment instruments and assets. Thus, we believe that CBDC may become a competitive product for investors and cryptocurrency users, and can bridge the gap between cryptocurrency markets and traditional markets for wider range of customers and users.

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