

Bank of England discussion paper on new forms of digital money

UK Finance and ALMA Response

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Introduction and summary

UK Finance is the collective voice for the banking and finance industry.

Representing around 300 firms across the industry, we act to enhance competitiveness, support customers and facilitate innovation.

In this response, we have collaborated with the Asset and Liability Management Association (ALMA) to provide a joint response to the Bank of England's discussion paper. ALMA is a leading advocate within asset and liability management and their expertise has been invaluable in helping our mutual members understand the macroeconomic and stability implications of the issuance of new forms of digital money.

The collaboration and dialogue between the Bank of England, ALMA and UK Finance has been particularly valuable to the industry. We are jointly aware that this response is only the beginning of a wider and richer dialogue between industry, the Bank and HMT on the issuance of new forms of digital money and the potential launch of a central bank digital currency (CBDC) for the UK.

Given the depth of member interest in this topic, we have decided to submit this document rather than use the Bank's provided online submission mechanism. The questions responded to are those raised within the Bank's discussion paper and summarised at the close of the executive summary.

Initial comments

- UK Finance and ALMA appreciate the opportunity to comment on the discussion paper on new forms of digital money issued by the Bank of England (the Bank). The Bank's discussion paper¹ is a significant step forward for the industry in the Bank's consideration of the potential implications of stablecoins, as digital money issued by private firms that has the potential to become significantly systemic, and the issuance of a Central Bank Digital Currency (CBDC) for the UK. The recent consultation and call for evidence by HMT on the UK regulatory

¹ <https://www.bankofengland.co.uk/paper/2021/new-forms-of-digital-money>.

approach to cryptoassets and stablecoins² has also provided a helpful mechanism to understand how new forms of digital money will be regulated within the UK.

- Our members are at the forefront of financial innovation. As use cases emerge for new forms of digital money, firms are evaluating where and how these innovations can be used to deliver enhanced services to their customers.
- As the Bank does, we support a regulatory approach to the oversight of UK stablecoins that is proportionate, and risk based. Establishing a 'level playing field' that applies to all stages of the stablecoin ecosystem will promote innovation and safely open up new services for businesses and consumers. The approach should also be internationally harmonised recognising that retail customers are likely to want to use stablecoins for international cross-border payments and that the bright line between retail and wholesale uses of stablecoin is actually likely to be blurred.
- We believe that collaboration between public and private bodies is an essential success factor and will deliver enhanced innovation and competition within the financial ecosystem. All the while maintaining trust, supporting resilience and ensuring inclusion.
- Our members support the Bank's efforts to ensure that new forms of digital money are trusted by those that hold them as methods of payment or stores of value. It is important that consumers, businesses, and non-UK parties have confidence in the integrity and fungibility of a balance denominated in Pounds Sterling (GBP).
- New forms of digital money must co-exist with existing forms of money, digital and physical. Therefore, the principle of same activity, same risk, same regulation or, as the Bank articulate it, 'same risk – same regulatory outcome' should apply to new forms of digital money. The appropriate regulation of forms of digital money outside regulation is a priority.
- The Bank's discussion paper considers factors around two separate concepts; the issuance of private stablecoins and the potential issuance of a Central Bank Digital Currency (CBDC) for the UK. While similar, there are significant differences between these propositions. Where necessary, we note in this response where we believe there will be material differences in the Bank's approach to new forms of digital money depending on what decision is made to issue a UK CBDC.

Potential benefits and considerations related to new forms of digital money

- New forms of digital money offer unique potential to unlock innovation and enable new use cases while meeting the Bank's overarching objectives for inclusion, resilience, competition, combatting climate change and confidence within the UK financial ecosystem.
- Bringing new forms of digital money into the regulatory environment is a significant step. Their use could have widespread impact on the provision of debt and credit as well as the wider UK economy. This could include anti-money-laundering (AML), combating the financing of terrorism (CTF) and other economic crime considerations; consumer protections, liability considerations, tax and monetary stability. They may also reduce the use of existing payment methods and change the balance of payment options, affecting, for instance, the development of the New Payments Architecture (NPA). UK Finance and its members expect that users of new forms of would benefit from existing controls as provided through existing forms of digital and physical money.

² <https://www.gov.uk/government/consultations/uk-regulatory-approach-to-cryptoassets-and-stablecoins-consultation-and-call-for-evidence>.

- Financial institutions are already subject to comprehensive and robust risk management, supervision and examination processes, maintain strong capital buffers, carry deposit insurance, undertake well-developed AML/CTT practices and KYC programs, and have a general familiarity with incorporating new technologies into the financial system. We believe that the benefit of regulated institutions protecting their customers will be important to replicate in any new system for digital money.
- The development of a UK CBDC holds the potential to realise a broad range of new capabilities depending on its design. These could include direct government disbursements to citizens, frictionless consumer payment and money-transfer systems, and a range of new financial instruments and monetary policy levers. Conversely, their introduction also has the potential to introduce significant instability in current financial processes if it has the effect of disintermediating commercial banks as providers of credit and related financial services.
- The consideration by the Bank and HMT to issue a UK CBDC is a question of key strategic importance to the industry. We believe the Bank and HMT should further consider the following areas which apply particularly to the issuance of a CBDC and, more broadly, to new forms of digital money:
 - **Architecture of a CBDC:** The utility of a CBDC is contingent on the choice of an effective technical architecture, the monetary function of the instrument and a regulatory environment that supports its intended use. We support the development of a public/private, two-tiered architecture and note that, while a CBDC has the potential to introduce a number of benefits to the financial ecosystem, it is unlikely that a CBDC will be able to deliver all possible benefits at the same time. The chosen architecture, function of the instrument and regulatory environment will determine the potential impact of a CBDC in the market.
 - **Use cases:** The Bank and HMT's objectives and priorities for a UK CBDC are essential to understand. Our members believe that requirements will be different for retail and wholesale use cases respectively. While the Bank has previously exclusively considered retail use cases, our members consider that there are also material benefits to be gained from the issuance of a wholesale CBDC and a wholesale CBDC may be most suitable for a limited proof of concept to demonstrate the benefits for the UK.
 - **Interest bearing:** Whether a CBDC is interest bearing or not will have profound impacts on both the demand for a CBDC and its impact on the financial ecosystem. This is a significant decision and we note that this decision could impact the use of a CBDC as a tool in enhancing macroeconomic stability and directly impact the demand for this instrument by UK consumers and businesses, as well as the future stability of commercial bank deposits.
 - **Financial inclusion:** If an objective of a retail CBDC is to address issues of financial inclusion, it will be important to design the CBDC to meet this use case. There may be alternative solutions available and there may be hard dependencies on, for example, the introduction of digital ID and internet access (mobile and broadband).
 - **Feature preservation:** Existing forms of physical and digital money provide a wide range of features; from information transparency enabled by Open Banking to AML and sanctions screening to the provision of customer protections for various methods of payment. The transition to a CBDC should not remove features that UK businesses and consumers rely on.
 - **Enablers and dependencies:** Innovations, such as Digital ID, could be required for a CBDC to operate at scale, as a ubiquitous product or to implement limits, controls and

deliver necessary AML/CTF enforcement. CBDC development could also foster innovative practices by the market, such as smart contracts, programmable money, Internet of Things interoperability, and enhanced cross border payments.

- **Network and standards:** Network adoption will be a key enabler of this innovation and we recommend that the development and maintenance of open standards will further unlock innovation and competition by enabling third party developers to build value added services on top of a core CBDC platform.
- **Cost:** The Bank has not yet considered the relative cost of implementing a CBDC. In their ongoing exploration, we believe the Bank and HMT need to consider the cost of implementation along with ways to minimize this cost. The Bank could consider ways to leverage existing resources, develop interoperable infrastructure and facilitate participation by providing hardware or software to the market. Investment in any new infrastructure required to support a CBDC may divert investment from other innovations so a business justification for investment will be essential to encourage adoption.
- **Financial stability:** As the discussion paper notes, the impact of a CBDC issuance on retail banks' balance sheets is significant, both for large financial institutions and for smaller firms that may face deposit flight due to CBDC, regardless of their risk management and soundness. There could be a similar impact on the Bank's balance sheet and its ability to act as a lender of last resort. It is important that these implications are identified, assessed and inherent risks controlled so that regulators, industry and government may understand the implications of any CBDC and minimise any unintended consequences.
- **Impact on Bank of England objectives:** Broadly, our members agree that the core objectives of the Bank can be fulfilled whatever new form of digital money is introduced. Some of our members have raised concerns that the industry's transition to green finance could be impacted by any transition to a CBDC environment. The Bank could conduct a sustainability analysis, that includes the possible participation of technology firms, in its final decision making process and ultimate analysis.

Headline Recommendations

- We commend the Bank for the depth of work that has been undertaken to model the potential impact of new forms of digital money on the market. Our members believe that more work will be required to fully understand this impact and our response below discusses this in more detail. We recommend that the Bank work closely with the industry, both bilaterally and through the CBDC Taskforce's Industry Engagement Forum, to understand how the market can collectively model the impact of new forms of digital money on the financial ecosystem and the UK's economy.
- Members of UK Finance have expressed their support of the Bank's investigation of the issuance of a CBDC and noted their willingness to assist and help advise the Bank with any limited proof of concept or pilot that might be considered as the intentions of the Bank and HMT are clarified through further research.
- Given the international development of CBDCs and other initiatives to support the issuance of new forms of digital money, we support the Bank and HMT in their engagement with other central banks and government bodies investigating the issuance of new forms of digital money in their own jurisdictions. Providing the CBDC Taskforce Engagement Forum with details of this investigation will assist the industry in understanding the Bank's drivers for implementation and enable all parties to support the eventual direction of travel.

If you have any questions relating to this response, please contact Austin Elwood, Payments Policy Manager (austin.elwood@ukfinance.org.uk), Simon Hills, Prudential Policy Director (simonhills@ukfinance.org.uk), and Iain Sheppard, Board Member ALMA (iain.sheppard@santander.co.uk).

Austin Elwood
Payments Policy Manager

The role of money in the economy

1. How might new forms of digital money affect money and credit creation? Are there channels beyond those explored in this paper?

- We agree with the summary provided by the Bank of the methods for credit creation and the impact of new forms of digital money on the UK's financial ecosystem.
- The impact of new forms of digital money on money and credit creation could depend on the prudential and regulatory approach taken, whether multiple regulatory models might exist for different forms of digital money (such as stablecoins and a CBDC) and the relative uptake of a particular digital money instrument. It is presumed that the Bank would adopt a model similar to the Central Bank Liability reserve backing model in the issuance of a CBDC.
- The key features of prudential regulation seek to promote the financial resilience and operational resilience of the banking system and its competent firms.
- We note that even smaller firms, if they run into problems and are critical links in the stable coin chain, could have wider systemic impacts. So, we look forward to working with Bank and its international counterparts to identify protocols by which growing, and potentially systemic players are identified, depending on their nature, scale and interconnectedness with other components of the stablecoin ecosystem. In this context, both financial and operational resilience will be important to consider. We recognise that in a time of rapid growth this may be challenging but we firmly believe that the same activity should be subject to the same regulatory approach, regardless of the type of entity or infrastructure through which it is carried out.
- We agree that the commercial lending market may be able to adapt to the changing levels of retail deposits available to cover lending; we agree with the Bank that this could drive lending from non-bank sources. This transition could introduce unforeseen risks in the availability of lending and potentially increase costs. Structures such as peer-to-peer decentralised lending may develop in this paradigm, particularly if retail deposits are transferred to new forms of digital money, and this could introduce new regulatory challenges.
- We believe that further modelling of the impact of new forms of digital money on money and credit creation will be of benefit to the industry and the Bank. We recommend that the Bank work closely with the industry to collectively model the impact of new forms of digital money on the financial ecosystem and the UK's economy. As part of this, we recommend that alternative models of migration could be assessed and the upper and lower bounds of any assumptions should be assessed.
- Commercial bank money is currently used to provide a large proportion of available market credit. Reducing the ability or effectiveness with which commercial banks can generate this credit will, as the Bank point out, mean that other sources of credit will become more important. It will be important for the Bank to consider the potential harms of this shift. In

particular, there is a risk for regulated retail lending activities such as regulated mortgages and consumer credit, which could shift to unregulated firms or products. There may also be a risk for business lending which, whilst largely unregulated, is typically provided by regulated firms or firms signed up to self-regulatory codes or standards offering customer protection. We recommend that the Bank engage further with the finance industry to model what impact these changes could have for UK consumers and work to control the rate of market change.

- Shifts in the lending market could also have an impact on policy driven objectives of the financial sector, such as the transition to green finance. Technical innovation such as DLT could be leveraged to support that transition. There could be opportunities to further the Bank's green finance strategy by ensuring collateral pledged against liquidity provided furthers this agenda.
- The Bank should also consider the impact that issuance of new forms of digital money from other national jurisdictions could have on the UK economy. Use of extra-national forms of money, digital and physical, money is currently low in the UK – and it is unlikely that this will change for domestic transactions due to the strength of the UK financial ecosystem, the benefits of using a single denominated currency and the highly digitalised forms of money currently available to UK consumers and businesses. However, regulatory controls could be considered to ensure UK consumers and businesses transact in a form of money that is well managed and not subject to unforeseen international financial shocks. Similarly, the accessibility of UK issued new forms of digital money internationally should be considered by the Bank, as well as the use of non-UK issued forms of digital money for international payments.
- Our members agree with the Bank that arbitrage between different forms of digital money (including retail deposits, e-money deposits and balances in new forms of digital money) should be avoided and we welcome the Bank and HMT's future consideration of the principles of same activities, same risk, same regulation.
- Members are keen to understand if and how commercial banks could borrow new forms of digital money from their customers, hold this on balance sheets and lend it out. The allowance for commercial banks to do this could act as a tool that mitigates the risks outlined, whilst giving rise to tiering and leveraging risks that would need to be fully considered. This approach could expose the customer to the credit risk of their bank and will require further investigation.
- Turning to consideration of the macroeconomic implications of changes to credit creation, the Bank's paper discusses the need for commercial banks to be familiar with and ready to use all the central bank's facilities as part of a catch all statement to hedge against potential volatility in the supply of money. This is true at all times whether new forms of digital money are available or not. The forms of these facilities and the need for alternative operations to smooth the supply of money during any transition to new forms of digital money, and at maturity, warrant further consideration.
- Where a stablecoin is backed by central bank reserves, either where the issuer of the coin is the central bank itself or the issuer is a third party; the central bank should consider how to redistribute those resources in a sufficiently timely manner to match the rate of flow of commercial bank deposits into central bank liabilities. The design of these operations needs to be closely balanced with transaction size restrictions so that no significant imbalances can be allowed before commercial bank liquidity resources are drained. Alternatively, if there is a risk of commercial bank resources being drained before the rebalancing with the central

bank, commercial bank boards will require higher liquidity buffers regardless of any new LCR calculation that might be implemented by regulators.

- Higher liquidity buffers will require more deposits per unit of real-world lending. This will drive a higher cost of funding and lower return on assets as more assets will be low yielding liquid assets. Despite taking no more credit risk, the increased balance sheet size will drive a higher capital requirement. The hypothetical result might be as follows (indicative costs have been used, but will vary for each individual institution):
 - Assuming 10% more liquidity buffer to hedge the money supply volatility, a 10% higher funding cost at overnight indexed swap (OIS) + 50bps, a 10% higher liquid asset buffer returning OIS + 10bps and 10% more leverage capital at a ratio of 5% and return on equity of 10% to create a starting point increase in the cost of lending of 9bps.
 - This lowest impact cost only holds true if the money supply is provided for the balance sheet gross up, the capital is freely available and if central bank facilities are in place to redistribute the central bank liabilities in a frictionless way, so ultimate costs will be significantly in excess of this.
- Our members have also considered how the central bank might redistribute the money supply and what additional frictions this may create:
 - Assuming the Bank uses Level C, against own loan collateral, 6 month Indexed Long-Term Repo (ILTR) operations to redistribute, 30% over-collateralisation would be required. Assets encumbered for 6 months or less maintain the same required stable funding factor. 6 month liabilities from a central bank receive a 0% available stable funding (ASF) factor.
 - Let us assume the illustrative scenario means that 20% of customer deposits with an available stable funding (ASF) of 95% are replaced at an industry level with ILTR and that the industry starts from a 100% Net Stable Funding Ratio (NSFR). The required stable funding is unchanged but the available stable funding has dropped to 81% or the NSFR has dropped to 81%.
 - The encumbrance ratio of the industry will also have increased by 26%, the increase in encumbrance will lead to fewer assets to support unsecured investors and potentially driving wholesale funding costs higher.
 - The Loan to Deposit ratio of the industry would increase 20%, additionally increasing investor risk requiring a higher still cost of wholesale funding.
 - No central bank secured loan operation of any duration to redistribute reserves would be friction free. While longer term 4 year Term Funding Scheme (TFS) operations might increase the available stable funding from 95% to 100% the required stable funding would deteriorate as the asset would be encumbered for over 1 year increasing the potential mortgage loan required stable funding from 65% to 100% or moving the hypothetical industry NSFR to 91% from 100%.
 - The cost of replacing the lost NSFR in line with the previous assumed costs could be in the region of 8-17bps which would be in addition to the aforementioned 9bps.
- Weekly ILTRs might be an expedient method to replace the money supply directly to banks that need it, but a lower friction operation might also be desired to remove some of the aforementioned restrictions.
- Members considered whether the Asset Purchase Facility (APF) could be a regular long-term feature to buy real world customer lending:

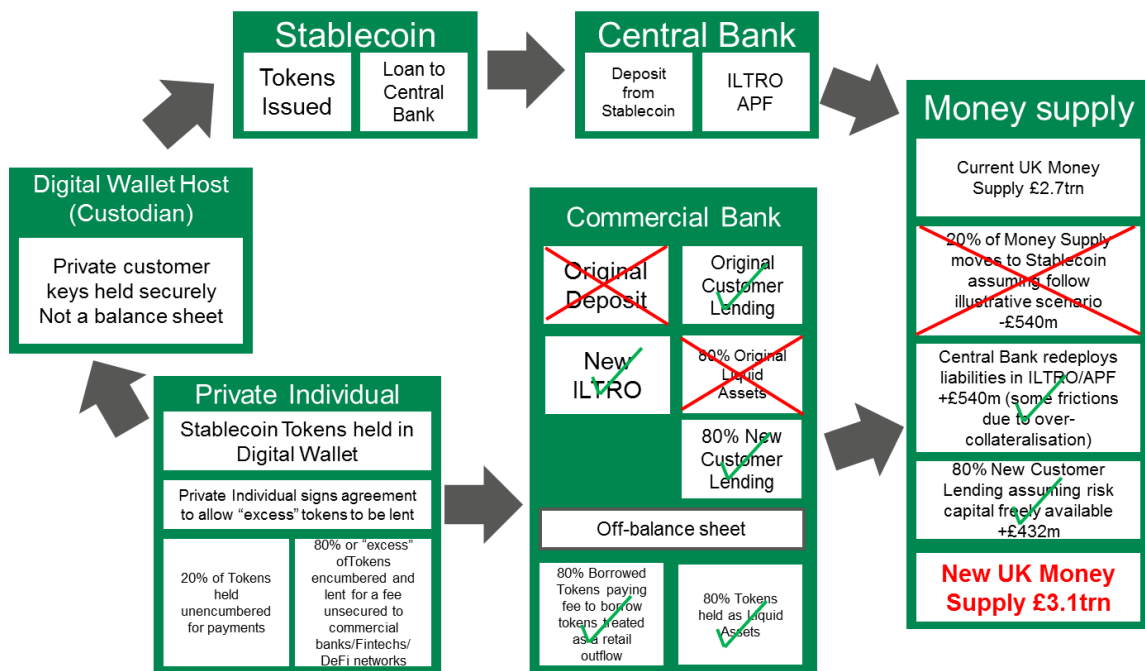
- First let's consider redistributing central bank liabilities in a Gilt APF. This would effectively transfer low outflow retail deposits in to 100% liquid assets, at present the industry might use 75% of those liabilities to finance real world customer lending and the other 25% to fund Gilts or liquid assets.
- The money used to buy the Gilts could be used by the market in different ways. Generally retail investors don't hold Gilts they hold commercial bank deposits, Gilt investors are generally Financial Institutions (FIs) and commercial banks are discouraged from taking such deposits through high stress outflow factors so the alternative is for commercial banks to offer a term security for these FIs to invest in. Thus increasing commercial banks funding costs, increasing wholesale funding concentration and encumbrance depending on the exact structure. Term wholesale funding may be 40bps higher than retail cost of funds driving an increase in industry cost of lending of 8bps plus further frictions from higher wholesale funding concentration and encumbrance probably leads to a similar increase in cost as observed using ILTRO/TFS approaches.
- At present we have focussed only on central bank liability backed stablecoins, however the scenario where stablecoins are backed by high quality liquid assets (HQLA) such as Gilts is effectively now already covered by the scenario where the central bank redeploys its reserves in (HQLA).
- Based on the previously described costs and frictions we observe a potential increased cost of credit of 30bps or more with the advent of central bank backed or HQLA backed stablecoins assuming no other market innovation.

	Higher Stress Outflow	Asset Encumbrance	Increased Wholesale Funding	Total
Incremental Industry Portfolio Cost assuming no innovation	9bps	8-17bps	8bps	~30bps

- The Bank's paper further assumes that commercial banks will wish to maintain lending. However, for reasons already suggested this may be undesirable for commercial bank risk appetite and possibly be less effective re-deployment of the money supply. Instead of commercial banks issuing term wholesale securities on their own balance sheets, a superior method to balance the money supply and improve credit creation may be through more market based lending. Commercial Banks may continue to originate assets and perhaps use short-term central bank operations to fund them temporarily before selling them to a deconsolidated Special Purpose Vehicle (SPV).
- There may be limited investor appetite for such orphan SPVs so it may make sense to support the efficient redistribution of the money supply by creating a national vehicle to purchase and distribute securities such as those found in the US. This, in turn, could be supported by such assets being part of a long-term asset purchasing facility (APF) programme.
- The return of commercial bank capital from lower on-balance-sheet lending could help the market fund the equity tranches of such issuance to allow the central bank APF to invest in the senior tranches, effectively allowing the central bank backed stablecoin to fund real world customer assets at an equal or potentially lower cost point than commercial banks currently

can. Therefore creating the scenario where the money supply is maintained at the same cost, or lower; possibly allowing the money supply to grow rather than shrink.

- Another alternative is that private stablecoin could be backed directly with such assets achieving some of the same benefits but perhaps not at a lower cost point.
- Depending on whether the use-case for digital money is expanded beyond purely retail customers, we might see the application of custody stock lending business models to lending retail customer stablecoin balances. This multiplier of the money supply does not appear to have been considered and might help to offset some of the frictions and costs previously mentioned or even accelerate the money supply and credit creation.
 - Pictured below and as articulated in the BCBS paper on Prudential treatment of cryptoasset exposures we assume that stablecoins backed by HQLA would be treated themselves as HQLA. For example a stablecoin backed by central bank reserves as per section 2.1 'Tokenised Traditional Assets' would be categorised as a Group 1a cryptoasset and in line with that paper as well as having equivalent credit and market risk-weighted assets we assume equivalent treatment under LCR eligibility. Commercial Banks could borrow Group 1a cryptoassets and count them towards their LCR liquid asset portfolios enabling on balance sheet LCR asset holdings to be sold to fund further real world lending.



- Innovations around facilitating more market based funding with a national agency and the re-use of stablecoins could offset the industry costs of higher stress outflows and avoid the other costs of encumbrance and wholesale funding. Potential benefits linked to the re-use of stablecoins could possibly be calculated as the function of the leverage capital release they could facilitate. 80% off-balance sheet re-use of 20% of deposits in stablecoin reducing leverage capital requirements by 16% at potential industry ratio of 5% and capital cost of 10% driving a reduction of 8bps in the cost of credit creation. We would therefore encourage the Bank to explore other forms of market based funding and stablecoin re-use in order to minimise any impact to the cost of credit.

- From the above discussion, we believe that it is apparent that further consideration of the full scenarios that may arise through the introduction of new forms of digital money will be required that this discussion paper response cannot cover. We recommend that the Bank consider how to continue the development of further models with industry.

Public policy objectives

2. How important is direct access for the general public to central bank money in a digital world?

- We and our members support the Bank's objective of ensuring public confidence in money. It is important that individuals, companies and non-UK parties have confidence in the fundamental integrity and fungibility of a balance denominated in GBP.
- As public reliance on central bank liabilities denominated in GBP declines with reduced use of physical banknotes issued by the Bank and coins by the Royal Mint, our members wish to support the Bank's efforts to ensure that consumers and businesses feel confident when using balances denominated in GBP, whether digital or otherwise and whether provided by the Bank, commercial banks, e-money providers, or any other providers of account-based products in the UK.
- Our members are unsure whether the further decline of cash should be a material driver for a retail CBDC. Consumer concerns about the future of cash tend to be borne out of a desire to retain money in its physical form, which a CBDC by its nature wouldn't offer. The priorities of the Bank and consumers may not always align. It is possible, and worth further analysis, if a token-based CBDC could address some of these same features. Nevertheless, we agree that a CBDC should be accessible.
- Different users of payment services have different levels of concern for the features of the form of money that they use. For most UK consumers when considering the safety of balances held in e-money accounts, retail deposits or through physical notes and coins, there is very little, if any, difference between balances. Particularly given the guarantees, such as through the Financial Services Compensation Scheme for balances up to £85,000, the availability of National Savings & Investments (NSI) products backed by the Treasury and the collateralisation requirements on financial institutions.
- In light of this, and based on the Bank's assessment that the greatest driver of migration is for reasons of increased deposit safety, we question whether the majority of UK consumers would find a new form of digital money attractive. High wealth individuals and large corporates with significant liquidity requirements may be more motivated to move deposits above this £85,000 cap into new forms of digital money. There is a risk that the development of new forms of digital money could result primarily in benefits for specific market segments. There are, however, other use cases, such as large purchases for houses or cars that could be made safer by new forms of digital money.
- The interaction of new forms of digital money with existing consumer protections and deposit guarantees may require further investigation from the Bank and industry, and whether current schemes may be enhanced by the technical changes necessary to introduce new forms of digital money.

- The above assumes, with the Bank, that the interest rate of a new form of digital money plays little into the decisions of deposit holders to migrate from commercial bank or e-money deposits, or from holding bank notes (particularly given the cited analysis by Chiu and Hill (2015)). It is likely to be true in situations where the interest rate is significantly below the interest rate offered by commercial deposit solutions, may be true where the interest rate is broadly equal to commercial deposits but is less likely to be true if new forms of digital money provide interest that cannot be matched by commercial deposits. We have already noted the importance of establishing whether new forms of digital money, and particularly a CBDC, offers interest rates.
- Managing the differences between new forms of digital money, systemic and non-systemic, and the existing deposit mechanisms, the fungibility of balances between one another and the relative stability of balances held in each form of money will be important to prevent unintended consequences. If one form of money, or a provider of money, is perceived to be more stable or reliable than another form of money or provider, the potential for swings in holdings could have a significant impact on the ability for firms to predict and manage, particularly if different regulatory frameworks were used for these different monetary options.
- The provision of a synthetic CBDC, or ‘narrow-bank’ money could also be considered as a mechanism to provide UK businesses and consumers a greater degree of access to central bank deposits. It is understood that the Bank does not regard this as an option for issuance of a CBDC per-se, and that a synthetic CBDC is regarded as inferior in some respects to a fully-fledged CBDC model (on the basis of liquidity considerations, risks introduced by the issuer of this money and the fulfilment of public interest through payment services). However, as the functional requirements of the issuance of a CBDC by the Bank have yet, to the industry’s knowledge, to be defined; it might be seen as presumptive to restrict consideration of the optimal issuance model at this stage. A synthetic CBDC could deliver on the Bank’s policy objectives with appropriate risk controls and may be a stepping-stone to a fully-fledged retail CBDC, provided the previously discussed issues concerning deposit migration would require careful assessment.

3. Do you agree with the Bank’s view on protection and privacy? What would you regard as a minimum set of protections?

- We agree with the Bank’s assessment of data protection and privacy and agree that a key challenge to resolve will be the appropriate regulatory approach to the ‘re-use’ of data collected through the issuance of new forms of digital money for additional purposes, such as monetisation. In our introduction, we considered that a CBDC environment, and by extension any new form of digital money, should preserve as many features of the existing forms of money as possible. In our view, this is the standard of minimum protections, both in terms of data protection and payment protection (e.g., refunds and consumer protections) that should be replicated.
- This means that a new form of digital money should not compromise, nor frustrate the already successful AML/CTF compliance regime. Nor should new payment mechanisms increase the ability of criminals to take advantage of financial services. New forms of digital money will need to meet privacy requirements that exist within the current monetary and societal structure for consent (or other legal basis), governance and processing. A form of digital money that enables anonymity, without some limits, could lead to greater incidence of money laundering and criminal and terrorist financing and could reduce the ability of regulated firms to assess risk, monitor or share risk intelligence related to new forms of digital money.

- It is important, from a reputational perspective, that the financial industry continues to be seen as a trusted partner by its customers in the management and protection of their personal data. Adjusting the use and availability of data too quickly within the financial ecosystem could risk reputational damage to all firms involved and reduce the trust of consumers and businesses in the financial ecosystem.
- Our initial recommendation is that, depending on the level of data privacy adopted to deliver the required features of a new form of digital currency, a business or consumer should be well informed – provided it aligns with existing AML laws – about the use of their data, as per data protection requirements, and have opportunities to use alternative means of payment or other deposit providers that meet their preferred privacy concerns.
- We also agree with the Bank that close dialogue with the Information Commissioner's Office (ICO) will be needed in order to ensure that consumers' personal data are – in practice – protected to the same standard, whichever means of payment is being used. This may be an area for joint regulatory guidance in due course.

4. What steps could be taken, and by whom, to help promote interoperability of new forms of digital money with other payment systems, and thereby foster a competitive environment?

- The Bank's consideration of the interoperability of new forms of digital money with existing payment systems is appreciated, particularly given the changing profile of UK payments as a consequence of the ongoing development of the New Payments Architecture and the renewal of the Bank's Real-Time Gross Settlement (RTGS) platform, as well as the recently completed introduction of strong customer authentication (SCA) for numerous payment types, the market changes within acquiring and changes to SWIFT's messaging infrastructure.
- It is vital that the implementation of any new infrastructure required to operate new forms of digital money is interoperable with existing forms of money and payments, including interbank payments, international payments, card payments, e-money payments and that the wider stakeholders involved in facilitating these payment options, including e-money providers, money service bureaus, acquirers, payment firms accessing infrastructure through payment accounts, indirect access mechanisms and Bacs bureaus, are engaged in the development of new forms of digital money.
- Many questions around interoperability depend upon the underlying technology used for new forms of digital money. This will continue to be a question for industry as new forms of digital money are introduced; the environmental impact of some technologies available should also be considered.
- Further, the implementation of new forms of digital money is a strategic opportunity to enhance the ability of firms to complete international payments. The implementation of CBDCs globally is a further opportunity for technical standardisation and for common regulatory structures to support the exchange of funds. Ensuring that the right legal structures are in place to combat the high costs, low speed, limited access and insufficient transparency currently impacting some cross border payments will be key to ensure the full benefit of new forms of digital money can be felt internationally.
- We recommend that the Bank consult with members of the Bank's Standards Advisory Panel, the UK Finance Payment Standards Strategy Group and Pay.UK's Standards Authority, along with other industry standards setters such as SWIFT and the card schemes, to understand specifically how the industry's coordination of standards initiatives can help ensure technical

alignment of infrastructure development. We also recommend that the Bank engage internationally to understand how technical interoperability can be supported from a global perspective.

- The implementation of new forms of technical interface (such as standardised APIs) could allow third parties to develop services on new forms of digital money. The more open and available the interface to the CBDC is, the more innovation will be enabled and economic value created for the UK.
- We consider that the question must also be framed more widely than just the impact on payment systems. Consumer and business engagement with the financial products they use is supported by numerous systems and operating principles. We discuss some of these below:
 - **Open Banking and Open Finance:** The momentum behind Open Banking and wider Open Finance initiatives is growing. Consideration as to how the benefits of these ecosystems can be replicated for new forms of digital money will help ensure that the full benefits of a data sharing economy can be achieved for the UK.
 - **Cross-border payments:** New forms of digital money have the potential to dramatically improve the ability of firms to support cross-border payments. The proposals considered by recent BIS papers on multi-CBDC arrangements and the future of cross-border payments³ provide an excellent basis by which governments and central banks could coordinate the transmission of funds between jurisdictions. We encourage the Bank to consider how its work on a retail CBDC could support cross border payments.
 - **Wholesale use-cases:** The global development of CBDCs, new forms of digital money and the application of distributed ledger technology to wholesale use cases has highlighted potential benefits of enhancements to financial services firms' access to central bank liquidity outside conventional transaction hours. As the Bank's RTGS renewal programme continues, we expect to continue to work with the Bank to ensure that modern practices and innovations (e.g. supporting out of hours liquidity access) can be built into this system.
 - **Economic crime:** New technologies provide inherent advantages through greater and more transparent data access to enterprises and law enforcement when identifying, and combating financial crime. The use of such technologies in new forms of digital money could help the financial ecosystem combat fraud, tackle money laundering, and otherwise obstruct the use of financial services to commit crime. As a general rule, where new methods or forms of payment are introduced by the industry, there arises a need to ensure they reduce, rather than enable, financial and cyber-crime. We believe that the reduction of economic crime will be particularly important in the issuance of a CBDC by the Bank.
- Beyond technical interoperability, the fungibility of new forms of digital money with existing forms of money is also important. There must be sufficient opportunities for holders of these new forms of money to exchange funds at par; although some firms' business models may necessitate fees for this exchange. In some cases, market driven, fungibility based models of exchange between systems may be preferable to pursuing technical interoperability while limiting the unmonitored exchange of funds between different monetary networks.

³ <https://www.bis.org/publ/bppdf/bispap115.pdf>.

An illustrative scenario

5. Does the illustrative scenario have the right components and responses with which to assess the impact of demand for new forms of digital money on the macroeconomy?

- The Bank's consideration of an illustrative scenario is a helpful and constructive way to understand the impact of new forms of digital money on the economy. While the scenario is useful in understanding some of the potential impacts of new forms of digital money, it is difficult to comment on the model without transparency of some of the assumptions, the variability of the model and how higher, or lower, estimates might impact the outcome. We propose that the Bank provide a clearer understanding of the underlying assumptions.
- The Bank could consider launching potential tests in a sandbox style test environment with industry participation. As a starting point, some additional scenarios and considerations to investigate could include:
 - Stablecoin vs CBDC: Scenarios that weight the transition to Stablecoins vs. CBDCs in an unequal amount – linking in with different designs for CBDCs and Stablecoins.
 - Monetary Economics: Timing the introduction of CBDC / Stablecoins with different amounts of surplus liquidity (i.e. size of BoE balance sheet) and rates of change in that liquidity (i.e. during a period of asset purchase tapering).
 - Macro Economics: Timing the introduction of CBDC / Stablecoins with different times of macroeconomic growth (i.e. impact during times of stress and how this might offset accommodate monetary policy).
 - Non-Bank reaction function: Different scenarios regarding the availability of wholesale funding from private providers to compensate the household deposit migration to new forms of money.
 - Digital Money take-up: Different scenarios representing a scale of household deposit flight to new forms of digital money.
 - Non-retail demand: Scenario considering non-retail interest in a CBDC or private uncapped non-bank stablecoin .
 - Recycling of commercial bank liabilities: We note that the Bank's model in section 3.2 of the cycle of retail deposits under a high-quality liquid asset backing model (or other backing models) is slightly optimistic in the anticipation that non-banks will use the proceeds of sales of backing assets to purchase bank debt. This additional capital could be used to further the activities of that business and would not be left on trust with a bank as a de facto form of investment. It is possible that the availability of this additional capital further reduces the need for non-banks to rely on bank provided credit.
 - Commercial Bank HQLA strategy: The 'first mechanism commercial bank response' – the replenishment of HQLA deficit from buying gilts from non-banks. This would not replenish HQLA – this would transform the components of HQLA from central bank reserves to UK Gilts, but it would not replenish the liquidity position of a commercial bank.

- Commercial Bank HQLA strategy: The Bank's model appears to assume that when banks lose deposits (migrating to new forms of digital money) and hence reserves, they will replenish this liquidity by buying HQLA funded by the issuance of term debt. Our members consider that they are more likely to seek to maintain their existing Liquid Asset Buffer makeup and not increase overall leverage consumption.
- Commercial Bank HQLA strategy: An increased demand from digital money issuers is valid (assuming the majority are HQLA backed stablecoins, not CBDCs). As discussed previously the increased demand for gilts from commercial banks is incorrect. Commercial banks may be sellers of Gilts. This is because capital would be released from the fall in the loan book, assuming this capital is returned to shareholders (or consumed by another business line) then the percentage of capital that the Liquidity Portfolio would consume of total capital would increase. This represents an increase in risk appetite – so assuming commercial banks would want to maintain the Liquidity Portfolio risk appetite - a rescaling to reduce the risk in Liquidity Portfolio would likely take place and this take place in the bond portfolio (as central bank reserves consume the lowest capital and the percentage allocation fell on the original transfer to stablecoins).
- Liquidity position: The assumption that commercial banks would seek to replenish the loss of liquidity depends on the starting position of commercial bank liquidity. During a period of surplus liquidity (e.g. extended period of current BoE Balance Sheet size) it would be unlikely that commercial banks would seek to replenish the loss of liquidity and hence the higher funding costs would not feed through.
- Circular lending impact on liquidity position: An additional factor not cited by the BoE was the impact of the second conclusion 'corporate borrower's transition to the non-bank sector'. A reduction in lending decreases commercial banks loan to deposit ratio and thereby improves its liquidity position. This would be an offsetting variable for the requirement for commercial banks having to raise wholesale funding.
- Rating agency/bank risk premium: The greater reliance on wholesale funding markets may be perceived negatively by rating agencies and market participants. This could add to the risk premium for wholesale funding and therefore increase the cost.
- Bank capital impact: As outlined in the above, a fall in the loan book would release capital for redeployment or distribution.
- Bank profitability: Assuming margin retention, a lower balance sheet size will result in overall lower commercial bank profitability, lower capital outlook and detrimental share price performance and associated impact on investors in commercial bank equities.
- Digital money business models: Providers of new forms of digital money will need to recoup issuance in some way. Some examples of business models could include: 1. Fees/interest charges by providers of new forms of digital money; 2. Provision of other financial services (as already indicated by leading stablecoin institutions).
- New forms of digital money features: It would be interesting to evaluate how different designs of CBDCs include and not include features similar to cash. It's possible that users might relate payments in new forms of digital money to be more similar to private forms of money rather than cash, so the percent of applicable retail deposits today could increase.
- It is not possible to consider the impact of all of the above scenarios in this response. Needless to say, we consider that there may be significant variability in both the

macroeconomic stability implications of the Bank's model as well as the desirability of a new form of digital money to its users.

- Other considerations for further modelling include the availability of wholesale funding in sufficient size from private providers to compensate from the deposit migration, and any shortfall that may have to be funded by the Bank, with the implications this may have for bank's risk taking and risk management, the procyclicality of any deposit migration in times of stress, absent any limits, and how new forms of digital money, including CBDC, are held and recorded. Consideration should be given to the possibility of fractional reserve of CBDC or the recording in banks' balance sheets of CBDC as well as what impact issuance could have on the savings rates, as banks potentially compete for more deposits, offset perhaps by some of the monetary policy implications discussed in question six below.
- We consider that the relative attraction of new private forms of digital money will be different to the attraction of holding a CBDC. This will depend on the regulatory framework and the guarantees provided by any such new form of digital money of the ongoing liquidity of the currency and of value in the case of digital money provider insolvency.
- The impact of deposit migration is not insignificant, comparable to the £300bn of quantitative easing (QE) in normal times. Given QE measures of up to £875bn in times of stress might be utilised, further consideration should be given to procyclicality particularly in times of stress and how to do this the right way.
- While there are varying degrees of disintermediation based on the model of new forms of digital money deployed, there may also be an opportunity for intermediaries to generate new business offerings, including infrastructure, front-end resources, payment systems, etc., based on the regulatory environment and the technical architecture selected.
- In relation to the perceived demand for new forms of digital money:
 - The increasing availability of payments data through Open Banking makes it difficult at this time to determine the additional incentive for firms to acquire customer data from new forms of digital money. We estimate the investment by the industry in Open Banking technology to be in the region of £1.5 billion to date.
 - The Bank's paper also suggests that migration to new forms of digital money could introduce competitive pressures in the provision of retail digital payment methods to UK consumers and businesses, noting that some proponents of stablecoins suggest they could charge as little as 10% of current average charges. The costs of payments to merchants, the opacity of payment charges to UK retail customers (in the large majority of cases, the payee), the free-in-credit banking model, competition requirements around the negotiation of commercial contracts for the provision of payment services and the varying feature set of different payment options (e.g. differing level of consumer protections, technical support for refunds, ease of payment initiation online and at point-of-sale) all contribute to a complex set of demands on payment services and the companies that operate to support them. The full impact of this figure may need to be considered in more detail by the Bank.
 - Increased competition and innovation will undoubtedly deliver greater pressure on payment service firms to deliver efficiencies to their customers, and new technologies could reduce the infrastructure cost to make payments. However, industry experience of the increasing retail use of Faster Payments to make retail payments and the subsequent calls for both the facility to process refunds and enable levels of consumer protections (including protection from authorised push payment (APP) scams) indicate

that there are inherent complexities in the provision of retail payments that may need to be factored into any cost estimates of future stablecoin implementations.

- The Bank estimates that factors such as whether a balance in a new form of digital money will have limited impact on the migration of current commercial money deposits to these monetary structures, the decisions about whether these forms of money are interest bearing (and whether this interest is passed on to the end user) may also factor into the business models of firms offering these types of money.

Implications for macroeconomic stability

6. Can respondents identify any other significant risks to economic stability from new forms of digital money even when stablecoins are adequately regulated?

- Financial institutions have significantly reduced their levels of dependence on wholesale market funding since the global financial crisis – both short-term and long-term. If new forms of digital money were to ultimately result in banks having to increase this reliance that would be a step backwards for financial stability and would likely increase the risk of credit ratings downgrades for banks (either via downward pressure during business-as-usual environments, or through greater likelihood of downgrade during stress):
 - Rating agencies consider the level of reliance upon wholesale funding when rating banks, and any increase in Loan-to-Deposit Ratio (LDR) or proportion of wholesale funding would result in downward pressure to credit ratings.
 - Increased wholesale issuance requirements are also likely to lead to an increase in the use of secured funding, whether that be market-based funding or recirculated by the central bank. This would therefore be expected to result in a structural increase in asset encumbrance and likely to place further downward pressure on credit ratings due to additional subordination of unsecured creditors. There is also potential that the PRA or Bank might require additional MREL (minimum requirements for own funds and eligible liabilities) and capital to compensate for greater levels of structural subordination.
- An increased reliance on wholesale funding is also likely to make institutions more susceptible to a liquidity stress, particularly where markets become impaired, or event closed. This has been evident where issuers across Europe have had to continue issuing MREL eligible debt, being dependent on senior unsecured markets to meet their targets, during periods of stress and at highly elevated rates. Wholesale markets are often the first to react to idiosyncratic and systemic stress and therefore an increase in reliance on such funding will increase overall risks to financial stability.
- New forms of digital money are also likely to reduce the overall stickiness/stability of commercial bank deposits during stress. With an alternative source of assets – effectively either central bank or HQLA backed, and with no FSCS limit – that will be seen by consumers as virtually risk free, deposits are far more likely to be moved away from individual commercial banks that are under stress or across all institutions where systemic stress is evident. Not only will this increase risks to financial stability – as the overall stability of deposit funding will be reduced – but there is potential for increased liquidity and term funding requirements arising from the liquidity coverage ratio (LCR) and NSFR; this would be separate to any additional liquidity that banks held themselves to compensate for reduced funding stability. This has the potential to further increase the cost of credit, as well as

potentially increasing the chances of a shock to the supply of credit during stress. All of which contribute to reducing the time that regulators and the Bank have to respond in times of market stress.

- We have already noted the significance of remuneration in relation to new forms of digital money. Whether new forms of digital money are remunerated also has the potential to introduce additional systemic risks into the financial system, although it is assumed that (due to operational costs and the need to ensure appropriate capital and liquidity, they will not be remunerated):
 - If CBDC and stablecoin assets are not remunerated it might restrict or impede the implementation of monetary policy, although this might support the stability of commercial bank deposits (as the interest penalty of transferring out of commercial bank deposits increases).
 - There is the potential for large shifts between new forms of digital money and commercial bank deposits as interest rates move, with the potential to increase volatility during stress events, as well as increasing procyclical effects to lending. For example, if the Bank increases base rates to reduce the demand for credit, where new forms of digital money are not remunerated there is likely to be a transfer of liquidity away from these assets and into commercial bank deposits. That would potentially reduce commercial bank funding costs as well as increasing their liquidity at precisely the time the Bank is looking to reduce overall demand for lending. Similarly, where the Bank reduces interest rates to spur demand for credit, new forms of digital money would become relatively more attractive and might result in an increase in commercial bank funding costs and a reduction in liquidity available to them.
 - The level of remuneration also has the potential to influence any initial transfer from commercial bank deposits into new forms of digital money, in addition to the post-implementation transfers discussed above.
 - Remunerated new forms of digital money would allow swift and low-friction implementation of monetary policy and would support the Bank in implementing negative rates. The banking industry has worked to ensure it is able to support interest rates below zero to a wide range of customers in the future and it would be counterproductive to this effort to have a new deposit-like asset class through which negative interest rates could not be implemented.
 - Consideration will also need to be given to how structural interest rate hedging might have to change to account for the reduced stability and potential increased sensitivity to interest rates for deposits that remain in commercial bank form, and the impacts this might have on derivative markets.
- We think the monetary policy effects of digital currencies could be further explored in the Bank of England's analysis. Certain types of model (CBDC, stablecoin backed by reserves) appear to have a quantitative tightening (QT) like effect in terms of their impact to banks, by reducing their retail deposits and reserves. But offsetting this, we note most models assume the Bank would reinvest CBDC proceeds into gilts. This would mean a proportion of the QE effect would be made permanent, and its size no longer controlled by the Bank but instead influenced by the popularity of digital currencies. Based on the numbers used by the Bank in its illustrative scenario, this effect could be quite large, particularly when coupled with assumptions on how much banknote debt could remain outstanding (instead of being converted to new forms of digital money) and the Bank's long-term projection of commercial

bank demand for reserves⁴. The implications of this for monetary policy, and rates, could be more fully explored by the Bank in its paper.

- In terms of macroeconomic effect, we also believe the Bank should look carefully at the sustainability of stablecoin business models, particularly in a low-rate environment. If it is further assumed such providers may be regulated as banks and therefore subject to risk-based capital ratios and leverage ratios, it would be important to assess whether the return on equities (ROEs) are viable and sustainable over the long term and in all market environments. Without this business model sustainability, there is of course a potential threat to financial stability from stablecoins abruptly entering or leaving the market or shifting the risk profile of their asset mix to chase returns or de-risk to manage capital requirements. As these capital requirements could easily scale up as a function of volume of coin issued, the Bank would need to understand how such providers could plan and manage capital requirements in a market where access is – by design – relatively easy and beyond the immediate control of the stablecoin provider.
- There is likely to be a significantly different impact from the implementation of new forms of digital money across the industry, with some individual institutions relatively more impacted. The current discussion paper focuses on retail customers using new digital assets. If other types of customers are not able to use new forms of digital money, those institutions that are predominantly retail customer funded will be relatively more impacted compared to those that have a corporate or financial institution deposit franchise. As a result, those institutions which today appear to be relatively more stable – by virtue of limited usage of wholesale funding and predominantly retail deposit funded – may in fact become the weaker institutions in the future, depending upon the scale of transfer from commercial bank deposits to new forms of digital money.
- Many institutions may not necessarily be able to replace lost retail deposit funding with wholesale deposits, and not simply due to a lack of an established franchise. Building societies are prohibited by law from having a level of share account funding below 50% of total funding liabilities. The PRA's 'Supervising building societies' treasury and lending activities' supervisory statement (SS20/15)⁵ further sets out the regulatory expectation that limits on individual types of wholesale funding, including that received from central banks (which is considered wholesale). Dependent upon current loan-to-deposit ratios (LDRs), there may therefore be some institutions which are not able to fully replace lost retail deposit balances with wholesale funding and will instead have to reduce lending.
- Looking wider, we could see the Bank's zero lower bound rate being binding for a larger proportion of the time if new forms of digital money reduce credit supply, which could hinder macroeconomic stability and inhibit economic growth potential. The 'safety' element of new forms of digital money, combined with the ease of moving between commercial bank deposits and new forms of digital money, could increase instability by making commercial bank's deposit growth more cyclical, and in turn increasing the cyclical nature of the money supply.
- We consider below that the regulatory environment adopted by the Bank for new forms of digital money could have a material impact on the Bank's balance sheet and the financial system overall. Under these circumstances, the growth in the Bank's balance sheet may

⁴ <https://www.bankofengland.co.uk/-/media/boe/files/speech/2019/waiting-for-the-exit-qt-and-the-boes-long-term-balance-sheet-speech-by-andrew-hauser.pdf?la=en&hash=22344ED1DF657C8A4205BD4972576073113D25D0>

⁵ <https://www.bankofengland.co.uk/prudential-regulation/publication/2015/supervising-building-societies-treasury-and-lending-activities-ss>

impact its ability to act as a lender of last resort or the Bank may be forced to provide wholesale credit to other banks and the economy, challenging the too big to fail concept. We noted previously the possibility of introducing 'narrow bank money' or a synthetic CBDC; their implementation could reduce this risk.

- In instance of an issuance of a CBDC, if the Bank redeploys liquidity that is converted from commercial bank deposits into CBDC, as we would encourage it to do so, it will need to consider how best to do that without creating adverse impacts to existing wholesale funding markets on a permanent basis:
 - There are risks that a permanent form of extensive, term central bank funding – provided at the same cost to each institution – results in a convergence of wholesale funding costs, much as the cost of Eurozone government debt converged pre-financial crisis, with an implicit subsidy from some institutions to others; effectively a 'race to the bottom'.
 - The BOE should also consider whether collateral eligibility criteria apply, on the assumption that any redeployment of liquidity is on a secured basis, as well as how it might reflect ESG criteria in such funding.
- Additionally, on the issuance of a CBDC by the Bank:
 - We consider that the technical implementation of any CBDC environment may introduce additional systemic risk, including systemic cyber risk, arising from the Bank's role. The architecture of a CBDC should consider the permissions for transfers enabled by the underlying CBDC infrastructure, any automation that could be introduced and the ability of account holders to trade CBDC balances between other CBDCs, international accounts or, through other clearing and settlement mechanisms, to conventional forms of money.
 - Automation of transfers and the development of programmable features of money could deliver great benefits to the financial ecosystem; however its introduction is not without risk to both the cyber and financial resilience of the ecosystem.
 - The handling of any liability considerations of scenarios such as mis-applied credits, unauthorised transactions, CBDC provider insolvency (and any processes to reimburse parties), investigation and remedial actions from fraud or economic crime activities and the possibility of a 'bad actor' gaining access to critical infrastructure systems could all introduce risk to participants within this ecosystem. It is obviously within the interest of all parties to minimise the Bank's exposure, and reputation, to the implications of any of these outcomes. We consider that the management of these risks could necessitate the creation of an operational department for the Bank comparable to CHAPS (and likely larger given the need to manage a greater number of participants). In summary, access and the regulatory and liability framework applicable to these new payment rails and CBDC distributors and service providers would need to be carefully considered
 - These changes could put the Bank closer to the centre of the financial lives of UK consumers and businesses, making it more accountable to, and instrumental in, ensuring that these transactions can be undertaken with appropriate controls that are adaptable to the changing economic environment. This would result in the role of the Bank moving away from maintaining macroeconomic stability, with changes to its resources, risk profile, objectives, policy considerations and focus.
 - The Bank and HMT will also need to determine the trade-off between private sector and public sector responsibilities, including the roles of intermediaries throughout a

CBDC's lifecycle and potential impact on cost of funding for commercial banks. This should consider the core competencies of commercial bank in managing customer's use of financial services (e.g. KYC/AML, credit risk management etc.) and the competencies of the Bank and HMT (e.g. monetary policy, M0 money supply, systemic monitoring, stability actions etc.)

- Should the Bank and HMT decide that the issuance of a CBDC is beneficial for the UK the industry could be supportive of this changing risk profile for the Bank, provided all the challenges and risks mentioned above, are appropriately addressed.

7. Do respondents see any other impediments to, or benefits from, a shift to market-based financing in the event of a tightening in bank credit conditions?

- If commercial banks look to the wholesale markets, particularly if the Bank does not redeploy liquidity converted into CBDC, to replenish their funding and liquidity as deposits move to new forms of digital money; there is still likely to be a tightening in credit conditions. This is on the expectation that overall funding costs increase as well as not all the liquidity being recirculated back to banks at term (hence potentially attracting greater liquidity requirements). As a result, individuals and corporate entities are likely to seek market-based forms of funding at the same time as banks are, likely pushing funding costs up further for all.
- Market-based funding does not have the same 'money multiplier' effect as commercial bank lending and therefore any significant shift to market-based funding has the potential to further reduce banks abilities to lend.

8. Do respondents have any other concerns over the ability of banks and markets to adjust to the introduction of new forms of digital money in addition to those identified?

- The volumes and types of deposit that might migrate from commercial bank deposits to new forms of digital money are highly uncertain at present, which is the primary concern regarding banks and markets' abilities to adjust. As noted previously, we would encourage the Bank to model, along with the industry, a range of different scenarios to consider the different impacts that might result from each.
- It is also not clear at this stage the extent to which commercial bank deposits that do not initially migrate might become less sticky in a liquidity stress, and there is a risk that both banks and regulators estimate this incorrectly and require a sharp change (either way) to future liquidity requirements.
- Potential shifts in preference for certain types of balance holding due to changing interest rates or economic stress, could introduce further uncertainty in firms handling market shocks and precipitate cyclical instability.
- Commercial structures of issuers of new forms of digital money and their economic sustainability may threaten the ability for financial institutions to adjust to their introduction.
- On the potential implementation of a CBDC, we recognize that various architectures supporting a CBDC will drive the potential impact on commercial banks and the role intermediaries can play. For instance, a direct CBDC model would potentially generate the most disintermediation when compared to indirect or hybrid models. While there are varying degrees of disintermediation, there may also be an opportunity to generate new business

offerings, including infrastructure, front-end resources and payment systems, based on the architecture selected.

The regulatory environment

9. Do respondents think there are any other features of the banking regime that need to be reflected in the regulatory model for stablecoins?

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- The key features of prudential regulation seek to promote the financial resilience and operational resilience of the banking system and its competent firms.
- Financial resilience is achieved by requiring firms such as banks that take deposits to meet internationally established minimum capital and liquidity requirements and have recovery and resolution plans in place, supported by bail-in-able debt where relevant.
- Operational resilience is achieved by requiring firms to identify and mitigate the risks of operational disruption to ensure the continuation of customer services including, importantly, payments as well as business continuity.
- This is supported by strong governance expectations and individual senior level accountability as well as a well-funded deposit guarantee scheme(s) (DGS). We believe that the majority of these features should be present in the stablecoin regulatory approach too, although we recognise that a DGS may not be required where the underlying reserves of the stablecoin are transparently reported and audited to ensure that for every one unit of that stablecoin created there is a corresponding one fiat unit. Also important will be harmonised KYC, fraud prevention and consumer protection standards, that should be the same, regardless of the payment mechanism or where it is used.
- As we have already noted; even smaller firms, if they run into problems and are critical links in the stable coin chain, could have wider systemic impacts. So, we look forward to working with Bank and its international counterparts to identify protocols by which growing, and potentially systemic players are identified, depending on their nature, scale and interconnectedness with other components of the stablecoin ecosystem. We recognise that in a time of rapid growth this may be challenging but we firmly believe that the same activity – stablecoin issuance – should be subject to the same regulatory approach, regardless of the type of entity or infrastructure through which it is carried out. Retail stablecoins are likely to be used to fulfil cross border payment needs. It is possible that the boundaries between their retail and wholesale use may be blurred.
- It will be important that regulators and subsequent supervisory engagement recognises the international nature and blurred characteristics of retail stablecoins and work cooperatively to identify and mitigate the risks that a stable coin issuer, or group of stable coin issuers, may pose to their wider objectives of financial and operational resilience of the financial system. UK Finance has long been a strong supporter of the supervisory college system and recommends that analogous mechanisms are developed to ensure regulatory requirements are complied with.
- Key to a cooperative international regulatory approach will be for the home state regulator, in the jurisdiction in which the stablecoin issuer is registered and licenced to be able and willing to share information with host state regulators. The distributed ledger technology on which private stablecoins are based should make the ability to collect and monitor data on these instruments allowing what has been called ‘embedded supervision’ a concept we support.

10. Do respondents agree with the Bank's assessment of the four possible regulatory models for stablecoins? Are there other models the Bank should consider?

- We agree that, aside from a complete lack of regulation, which we would definitely not support, the four models for the regulation of stablecoins identified by the Bank are comprehensive and could meet the FPC's stablecoin expectations.
- Our members note that the regulatory approach chosen will influence the development of new forms of digital money. It will be key to apply the same activity, same risk, same regulation principle across all of these models, ensure that the policy objective of the Bank and HMT is clearly defined and that a regulatory model that supports this outcome is chosen. The regulatory model should address any market risks created and that the business models of providers of new forms of digital money are evaluated to protect against abrupt market withdrawal and ensure consumer protection.
- There are concerns that the current *banking regime* model would not be flexible enough to promote new private stablecoin offerings. It could also be viewed as too significant a barrier to entry by those firms wishing to offer private stablecoin solutions, protecting existing incumbents and focus regulatory attention on risks that are not central to those that stablecoins may generate. Barriers could include the difficulty in getting full bank charters, and potential complexities or new regulation needed to allow stablecoin issuers to participate in the credit markets.
- If this model is pursued, the principle of same risk, same rules, same regulatory outcome should apply. Financial institutions are subject to some of the most prudent capital and regulatory structures, with compliance and risk frameworks that are some of the most demanding across industries. Under this model, stablecoin issuers would also need to maintain similar capital levels to ensure regulatory arbitrage is avoided.
- Similarly some members noted concerns that a *central bank liability* (CBL) model may not provide sufficient flexibility to support private stablecoin innovation. The potential issuance of 'synthetic CBDCs' has already been discussed and it will be important to consider how the presentation of a convincing business case to potential users to hold synthetic CBDCs.
- Both the banking regime and CBL model are similar to the already existing forms of conventional commercial money creation, so an asset backed model would be more attractive and support greater innovation by stablecoin issuers.
- A *deposit backed* model, essentially an enhanced e-money regime, would be highly dependent on the resilience of the custodian bank, introducing a problematic single point of failure risk that would not be a feature of a HQLA regulatory model for stablecoins.
- There are potential impacts on commercial banks if banks were to hold the assets backing stablecoins in a deposit backed model. Specifically, reserve levels, ability to lend out assets backing stablecoins, interest on those funds, etc. In addition, it will be important for the Bank to also think about the appropriate LCR and NSF framework for the deposit banks and the criteria and requirements to take into consideration to design an appropriate liquidity stress framework.
- Given the early and exploratory stage of the BoE's efforts, it is too early to definitively opine on a preferred regulatory framework of the four outlined in the BoE's paper. More work will be required to evaluate the potential benefits and considerations of all the proposed frameworks before committing to one.

- While a HQLA model may be preferred at this stage by some of our members, we note that the increase in demand for such assets could have destabilising impacts on the market. Our members would likely suffer a greater Net Interest Margin penalty as demand for HQLAs increased and banks issued more expensive funding to replace lost retail deposits. This model's impact would depend on the degree of migration from retail deposits to private stablecoins, which we note the Bank's illustrative scenario estimates to be 20%. Changing demand for HQLAs could also impact the monetary policy transmission mechanism and potentially reduce the stability of financial institutions and providers of new forms of digital money in incidents of high market stress. If both non-banks and banks are seeking to purchase the same HQLAs (and there is already a higher demand for these) there is a risk that non-banks purchasing ability might be crowded out by existing financial institutions.
- The HQLA model, and the other models to a more limited extent, will also need to consider interest rate risk. The Bank's paper assumes that a stablecoin backed by HQLA would be low risk in terms of liquidity and market risks. However, HQLA is a broad category. LCR regulations would permit an (optimized) SC provider to hold 30% in L1 HQLA (reserves, 0% risk weighted sovereigns, hence not necessarily gilts but could be bunds, OATs, etc); 30% covered bonds; 25% L2A, i.e. corporate bonds; and 15% L2B, i.e. equities. This is not strictly speaking a stable portfolio and includes high levels of both liquidity and market risk. We can see a case for an alternative regulatory model that further restricts the range of assets that stablecoin providers can invest in (e.g. gilts) potentially also with an allocation to segregate cash with commercial banks to meet immediate liquidity needs. We are of the view that this HQLA model therefore would need to be tweaked to achieve stability. In cases where the stablecoin might be backed by a blend of segregated cash and segregated securities, some asset allocation limits and capital buffers will need to be imposed to minimize market risk and to cover any potential market losses.
- Members have also noted the potential need for a resolution regime and a prudential regime that includes consideration of Pillar 1 requirements and stressed events. Buffers should include losses from credit, market, and operational risks of the payment system. Operational risks should include external or internal fraud, business disruptions, and system and control failures.

11. Given the large uncertainty around a new steady state and risks identified during any transition to new forms of digital money, are there any other reasons for imposing limits? How should such potential limits be structured?

- The Bank's Discussion Paper is an important and welcome component in fostering this debate about different regulatory design choices.
- We recognise that, as private stablecoins are developed, regulators and others may wish to put the brake on the build-up of balances. But we would encourage the Bank and others to avoid constraining stablecoin issuance unduly. Far better would be a fully developed, well thought through and internationally cohesive regulatory approach, prior to the launch of private stablecoins. All potential participants would thus have a clear understanding of what is expected of them.
- We would resist imposition of long-term limits. But if temporary limits are deemed necessary as the market for new forms of digital money accelerates towards maturity, rate of growth, rather than absolute size, limits should be deployed. This would suggest transaction size rather than absolute wallet size limits should be used to manage transition risks.

- These temporary limits could operate similarly to the concept of ‘speed bumps’ used to slow down high frequency algorithmic trading in commercial banks.
- Some members have posed risks of not introducing a regime for the issuance of new forms of digital money if non-regulated crypto-currencies grow in popularity as a means of payment and store of value in the digital economy. It is important that any transition is managed in relation to the potential growth in use of unregulated forms of money.