

EMAIL SUBMISSION TO: PaymentsInnovationDP@bankofengland.co.uk

To whom it may concern,

**Re: The Bank of England's Discussion Paper on Their Approach to Innovation in
Money and Payments**

About Global Digital Finance (GDF) and Crypto Council for Innovation (CCI)

GDF and CCI are the two leading global members' associations representing firms delivering crypto and digital assets solutions. Our members span the digital asset ecosystem and include the leading global crypto exchanges, stablecoin issuers, digital asset Financial Market Infrastructure providers, innovators, and investors operating in the global financial services sector.

Our members share the goal of encouraging the responsible global regulation of crypto and digital assets to unlock economic potential, improve lives, foster financial inclusion, protect security, and disrupt illicit activity.

We believe that achieving these goals requires informed, evidence-based policy decisions realised through collaborative engagement between regulators and industry. It also requires recognition of the transformative potential of crypto and digital assets, as well as new technologies, in improving and empowering the lives of global consumers.

We support and encourage a comprehensive UK digital asset regulatory approach which is robust, proportionate and pro innovation. Appropriate regulatory guardrails are crucial to ensure the continued growth of the UK ecosystem, to further attract the predominantly global industry, and to realising the goal of making the UK a digital finance hub.

The input to this response has been curated through a series of member discussions, industry engagement, and roundtables, and both GDF and CCI are grateful to their members who have taken part.

As always, we remain at your disposal for any further questions or clarifications you may have, and we would welcome a meeting with you to further discuss these matters in more detail with our members.

Yours faithfully,

Elise Soucie – Executive Director – GDF
Laura Navaratnam - UK Policy Lead, CCI

Response to the Discussion Paper: Introductory Remarks

Overall, GDF and CCI are supportive of the overarching policy aims of the proposals made in the Discussion Paper ('DP'). We are heartened by the Bank's focus on ensuring innovations in the payment landscape and agree that "preparation for potential widespread adoption is important" to ensure that the UK can fully embrace these innovations and the benefits they bring about.

However, we have concerns with some of the proposals outlined in the DP. GDF and CCI support a mixed UK payments ecosystem underpinned by distributed ledger technology. In a mature market like the UK, subject to appropriate regulatory guard rails, there is a role for many different cryptographically-based payment methods, which include privately issued stablecoins and potentially other forms of asset-backed cryptoassets. Stablecoins in particular can bring about many benefits to UK customers, including enhanced inclusion and access, reduced transaction costs and faster settlement speeds. We note that as they exist today, stablecoins have multiple use cases beyond payments, including but not limited to trading, investment, as a store of value, and as collateral to transactions. Similarly, permissionless distributed ledger technology networks could bring significant benefits to payments and settlement including efficiency, inclusiveness, and speed, both in high and low trust environments. As such, we have concerns with the implicit assertion in the DP that financial markets may not take up programmable platforms at scale.

We also disagree that "current stablecoins do not meet the standards the Bank would expect were they to be used for payments more widely". It is notable that several leading stablecoins have been approved under regulatory regimes in other major jurisdictions. We have separately submitted our responses to the Bank's Discussion Paper on the Regulatory Regime for Systemic Payment Systems, which detail our challenges to those proposed standards, and we will expand on these in certain parts of our response to this DP. GDF and CCI are concerned that an overly restrictive regime that is disproportionate to the risks posed, will ultimately be to the detriment of consumers, and the broader UK market.

Further, we urge the Bank to give further consideration to how its proposals on the treatment of stablecoins align with the UK Government's ambition to be an international hub for innovation, the Bank's economic growth objective and proposed innovation objective from HMT, as well as more broadly ensuring UK financial markets remain globally competitive. At present the UK is showing signs of falling behind in terms of innovation. A number of other jurisdictions are pushing ahead with digital payment solutions including regulatory regimes for stablecoins and advancing wholesale CBDC projects. We are concerned that under the Bank's current approach, issuing a stablecoin in the UK will be regarded as undesirable from a regulatory perspective, and will unlikely be commercially viable or will require a level of business model adaptation at odds with other regulatory regimes. As stablecoin usage grows globally, it is critical that the UK create an effective regulatory regime that recognizes the breadth of innovation in stablecoins and its potential to promote market efficiency, competitiveness, financial inclusion, and more. Overall, the proposed regime and

its practical implementation require refinement, greater specificity and greater clarity in order to avoid unintended outcomes for UK markets and consumers. It is important that this clarity comes at pace as the window of opportunity for the UK to capitalise and lead in this sector is closing. A thriving private sector is the driving force of innovation in payments and the current approach risks seeing that innovation take place elsewhere.

Finally, we also note the importance of ensuring that local UK regulatory proposals with respect to stablecoins are aligned with those of other jurisdictions implementing the PFMI in their stablecoin regulatory frameworks. A framework that cannot usefully align and interoperate with those of other major jurisdictions risks isolating the UK as both a destination for issuers and service providers, and depriving UK consumers and businesses of the potential benefits of these new forms of digital money.

Summary of Key Points

GDF and CCI have worked with members to provide constructive feedback on the DP, and also aimed to identify options to overcome key challenges as the Bank works towards progressing innovation and modernising the UK's payments ecosystem. Through this process GDF and CCI members identified key areas that may require further drafting consideration or additional guidance for purposes of clarity, proportionality, and effective scaling of digital payments innovation. The core areas identified are:

- 1. DLT and Programmable Platform Adoption is Highly Likely as well as Relevant for Both Capital Markets & Regulatory Objectives**
- 2. There is Industry Support for Further Innovations in Wholesale Settlement**
- 3. Stablecoin and Tokenised Deposit Regulation Should be Distinct & Proportionate to the Risks Presented by Each Asset**
- 4. Programmable Platforms and DLT can Support the Bank of England in Achieving its Objectives**
- 5. The UK Must Act Decisively to Regain a Competitive Advantage or Risk Falling Further Behind**

1. DLT and Programmable Platform Adoption is Highly Likely as well as Relevant for Both Capital Markets & Regulatory Objectives

GDF and CCI support the view that uptake is highly likely and will continue to progress in the coming years. Indeed, distributed ledger technology (DLT) networks have already achieved significant scale. Total value locked on Ethereum and Solana as of October 2024 is over \$48 billion and \$6 billion, respectively. The permissionless network Ethereum regularly

processes more than 1 million transactions per day. Efforts to enhance the throughput capacity of DLT are succeeding, with many now processing 50x as many transactions per second as they did four years ago. According to its Co-founder and CEO, the high throughput of Solana, for example, now supports a theoretical peak capacity of 65,000 transactions per second, roughly 2.5 times faster than Visa.

We believe that Distributed Ledger Technology (DLT) networks offer significant advantages in both high and low-trust environments, making it highly relevant to regulatory goals. The DP appears to suggest that DLT may be less applicable to wholesale financial markets on the basis that they are more “high trust” as compared to retail. However, there are many areas where DLT adoption and programmable platforms can bring significant benefit to the payments and settlement lifecycle including but not limited to:

- Tokenised commercial bank money for cross-border payments.
- Stablecoins as collateral for lending and hedging.
- Standardisation is already occurring for programmable platforms as evidenced by the ICMA x SIFMA Digital Asset Annex to the Global Master Repurchase Agreement (GMRA).
- Streamlining of due diligence and enhanced compliance processes.
- As a value transfer mechanism on blockchain rails, for example for tokenised funds.
- Transparent and immutable ownership records.
- Stablecoins for payments in retail environments, making consumer and business transactions faster, cheaper, and more accessible, unlocking access to capital.
- The digitisation of capital markets – digital bonds.
- To further the tokenisation agenda – support liquidity of secondary markets.

This likelihood of adoption is evidenced by recent industry work and surveys further discussed throughout our response.

2. There is Industry Support for Further Innovations in Wholesale Settlement

We note the substantial work that the Bank has conducted to upgrade the RTGS system and that this goes some way to addressing these needs. However, we note that there is still much further to go, especially when considering payments that take place outside of the RTGS system, including for those transactions that take place on a cross-border basis. For this, wCBDCs are an attractive option for wholesale payments. The UK should continue to investigate the use of payment corridors using DLT as noted in Project mBridge.

Notwithstanding this, given the length of time that it will take to develop and roll out a wCBDC, we urge the UK to explore other means of settlement that can be used at speed. Whether that is tokenised deposits or wholesale stablecoins, depending on appropriate risk mitigations and regulatory frameworks also evolving at pace to enable this.

3. Stablecoin and Tokenised Deposit Regulation Should be Distinct & Proportionate to the Risks Presented by Each Asset

Different forms of money have the potential to fill a different need in the ecosystem and to provide enhanced consumer and business choices, arising from their different characteristics, the technical functionality that they offer, the nature of their issuers, and their risk profiles.

At a superficial level, tokenised deposits have two distinguishing characteristics when considered against centralised, fiat-referenced stablecoins: the former are issued by banks and tend to be fractionally reserve-backed, and the latter may be issued by either banks or non-banks, and are required to be fully backed by liquid assets.

In contrast to deposits, a stablecoin is a type of digital asset designed to minimise price fluctuations relative or in reference to other asset(s). These may, for example, represent a claim on the issuing entity and/or the underlying assets backing the stablecoin. Asset-linked stablecoins are a specific type of stablecoin whose value references an asset and may be backed by a combination of the reference asset itself and other assets selected as part of a portfolio designed to maintain a constant value against the reference asset. Fiat-referenced stablecoins are a further subtype of these, specifically those stablecoins designed to maintain a stable value against a reference fiat currency, and fully backed by a combination of reserves held in that currency along with other assets (typically but not necessarily denominated in the reference currency).

Throughout our response we further discuss use cases for stablecoins and tokenised deposits, as well as the benefits that they may bring to the broader financial services ecosystem. However, we would emphasise that we believe that the future payment system in the UK should support and enable different forms of digital money, and that the regulation should be proportionate and appropriate depending on the risk profile.

4. Programmable Platforms and DLT can Support the Bank of England in Achieving its Objectives

Overall, GDF and CCI support the four outcomes that the Bank is looking to achieve in retail payments, namely singleness of money, innovation, resilience and effective governance. However, we would also note that we believe firmly that new technologies such as DLT can support the Bank of England in achieving these objectives. For example, we believe that DLT offers fundamental advantages in both high and low-trust environments, making it highly relevant to regulatory goals. This is further expanded upon in our response to Q2.

5. The UK Must Act Decisively to Regain a Competitive Advantage or Risk Falling Further Behind

We are concerned that the Bank of England's approach in the DP is backwards looking, as it focuses on the need to evolve existing systems rather than embracing and leveraging new technologies already being adopted across financial services. For example, extending the RTGS system, or by encouraging banks to adopt new technology by using innovative ledgers to record deposits, even if successful, will take a long time to yield benefits and crucially does not capitalise on the benefits of new technology such as permissionless DLT networks



as they are constrained by the need to build upon legacy infrastructure. As with other significant technological turning points, the adoption of DLT is likely to require a true revolution of existing payment systems; indeed, we are already seeing this occur through the increasing use of stablecoins and issuance of tokenised assets such as money market funds and government bonds.

There is an opportunity for the UK to look forward and embrace new technologies. Although the UK has been falling behind other jurisdictions, in large part due to regulatory uncertainty, the UK is well placed to learn from and improve upon the regulatory frameworks adopted by other jurisdictions (i.e., a 'second mover advantage'). This requires regulators to embrace innovative firms and products that don't easily fit into existing regulatory categories. It also highlights the need for a pragmatic approach to adapting and evolving regulation where appropriate to explore the use case and benefits of new technologies - as the Bank of England is already doing with the Digital Securities Sandbox. This also requires the UK to move quickly in establishing overarching regulatory frameworks for new technologies.

Response to Individual Questions

1. Are there areas in which programmable platforms, including those enabled by DLT might bring significant benefits and risks in payments and settlement?

The DP appears to suggest that DLT may be less applicable to wholesale financial markets¹ on the basis that they are more “high trust” as compared to retail. We do not believe this to be the case.

However, there are many areas where DLT adoption and programmable platforms can bring significant benefit to the payments and settlement lifecycle including but not limited to:

- Tokenised commercial bank money for cross-border payments.
- Stablecoins as collateral for lending and hedging.
- Standardisation is already occurring for programmable platforms as evidenced by the ICMA x SIFMA [Digital Asset Annex](#) to the Global Master Repurchase Agreement (GMRA)
- Streamlining of due diligence and enhanced compliance processes.
- As a value transfer mechanism on blockchain rails, for example for tokenised funds.
- Transparent and immutable ownership records.
- Stablecoins for payments in retail environments, making consumer and business transactions faster, cheaper, and more accessible, unlocking access to capital.
- The digitisation of capital markets – digital bonds.
- To further the tokenisation agenda – support liquidity of secondary markets.

These benefits are reflected in the significant prospects for the adoption of DLT for wholesale financial markets – see our response to 2 below. The risks will also depend on the nature of the payment instrument utilised by a programmable platform. For example, stablecoins having 100% HQLA backing should be relatively safe instruments, as well as stablecoins backed in an over-collateralized manner by large market capitalization crypto-assets.

Additionally, we take a different view on the Bank’s statement “The Bank’s current assessment is that the likelihood [that financial markets take up these technologies at scale] remains uncertain”. Stablecoins [already](#) process significantly more in transaction volume than other payments mechanisms including PayPal and Visa (\$8.5 TN in Q2 2024 vs. .42 and 3.96, respectively). While we acknowledge that historically, permissionless networks could have scaling challenges, these challenges are broadly being overcome, with [Ethereum](#) scaling efforts reducing on-chain transaction costs by over 99%, blockchains now processing 50x as many transactions per second as they did just 4 years ago with, and Ethereum [processing](#) \$1.4 TN in value over the last year.

¹ In keeping with our later discussion on wholesale vs non-wholesale settlement and wholesale vs non-wholesale activity in Questions 4 onwards, we clarify what is meant by “wholesale financial markets” in this context. “Wholesale financial markets” refers to non-retail financial markets, i.e., the set of activities that are undertaken with and services provided to non-retail customers, including businesses and other financial institutions (note that this is different to the concept of “wholesale settlement” which we explore later on). The FCA includes the following five sectors in its definition of “wholesale financial markets”: transaction services, lending, equity and debt primary and secondary markets, derivatives, and FX / commodities markets.

2. How likely are programmable platforms, including those enabled by DLT, to be taken up at scale by wholesale financial markets?

We believe that Distributed Ledger Technology (DLT) offers fundamental advantages in both high and low-trust environments, making it highly relevant to regulatory goals. In the developing ecosystem of digital financial markets, it is realistic to anticipate that both public (both permissionless and permissioned) and private networks can coexist. Public distributed ledger technologies offer clear benefits in terms of resilience and distribution capabilities, and in the long run many of our members envisage it becoming the dominant model in the ecosystem. Public permissioned networks, in particular, fulfil a valuable role in taking regulators, central banks and financial market participants on the journey to adoption at scale of public permissionless blockchain in the financial system. Regulators and central banks have traditionally viewed public blockchain as too high-risk for adoption in the development of regulated DLT-based financial services and applications, but there have been numerous developments over recent years that demonstrate the advances made in public - and particularly permissionless - distributed ledger technologies that have helped to break down some of these barriers and, in our view, make the technology worthy of greater consideration.

Permissionless distributed ledger technologies are distinct from other computer networks because they allow any computer anywhere to become part of this larger virtual computer as long as they follow the consensus algorithm. Permissioned systems (where the list of participating computers is fixed at the time of the protocol's deployment, with no dependence on the protocol's execution), can at times pose centralisation risks because they can be controlled by an entity or group of entities if proper risk management and governance models are not in place. Permissionless systems, by contrast, can, if implemented responsibly, offer strong trust guarantees. For example, a user can trust that code running on a blockchain will continue to behave as coded, even if individual computers in the network try to subvert the system. Thus, permissionless systems enable disintermediated, peer-to-peer interactions and digital services that are owned and operated by communities instead of by corporations.

Importantly, many DLT systems are already operating at scale today. Total value locked on Ethereum and Solana as of October 2024 is over \$48 billion and \$6 billion, respectively. The permissionless network Ethereum regularly processes more than 1 million transactions per day. Efforts to enhance the throughput capacity of DLT are succeeding, with blockchains now processing 50x as many transactions per second as they did four years ago and over the past year, Ethereum [processing](#) \$1.4 TN in value over the last year. According to its Co-founder and CEO, the high throughput of the Solana network, for example, now supports a theoretical peak capacity of 65,000 transactions per second, roughly 2.5 times faster than Visa.

The advantages of DLT include:

- Enhanced resilience of distributed ledgers: One of the primary goals of distributed computing, including DLT, is to reduce dependency on a single authority or point of

failure. This technology has the potential to minimise disruptions and outages, while strengthening resilience against hostile attacks—directly supporting the Bank of England's financial stability objectives.

- Improved efficiency in payments, including cross-border transactions**: Utilising a shared ledger for market participants can significantly speed up payment processes, reducing cross-border transaction times from several days to just a few hours or minutes. This is harder to achieve if a centralised entity controls the ledger. Additionally, it lowers pre-funding requirements, freeing up large amounts of liquidity that could be more productively deployed or reserved to mitigate other liquidity risks.
- Increased transparency and better traceability**: DLT can generally offer greater visibility into transactions, which regulatory authorities can leverage to enhance Anti-Money Laundering (AML) and Counter-Terrorism Financing (CTF) efforts. As highlighted in the Bank of England's stablecoin discussion paper, these aspects are crucial for financial stability and consumer protection. For businesses, improved traceability leads to greater operational efficiency and reduces liquidity bottlenecks.
- Programmability for regulatory benefits: DLT's programmability also presents regulatory advantages. For example, 'programmable compliance' can use smart contracts to ensure transactions adhere to relevant regulations, while digital identity solutions can improve Know Your Customer (KYC) processes and security.

Further, there is also evidence that permissionless technologies will be widely adopted given the advantages they can bring when implemented responsibly. In a permissionless system, consensus mechanisms enable parties to ensure a high degree of trust in the system without counterparty risk. This in turn avoids the need for users to have their own database that they periodically reconcile against those of their counterparties. Instead, all transactions are recorded on a single database. Each user stores a copy of the database, so there is no single point of failure as exists with traditional relational databases. Once they are added to the blockchain transactions cannot be undone, making the ledger an immutable record of all previous transactions. These features could bring significant benefits to payments and settlement including efficiency, inclusiveness, and speed.

This year GDF undertook a recent [piece of research](#) which surveyed 100 senior executives across Europe, the UK, the US, the Middle East and APAC from financial institutions managing over \$221 billion in assets. This was an initiative led and commissioned by GDF to assess progress of institutionalisation of digital assets. The findings of this survey are presented in [Appendix A](#).

As programmable platforms, and use of DLT underpins this uptake in digitisation, GDF and CCI support the view that their adoption is highly likely across financial services.

Furthermore, a recent GFMA Paper, '[Impact of Distributed Ledger Technology in Global Capital Markets](#)' also supports this likelihood. The paper was prepared on behalf of GFMA members by Boston Consulting Group, Cravath, Swaine; and Moore LLP; and Clifford Chance to evaluate the opportunities and risks of DLT and DLT-based Securities and

DLT-based Payment Instruments used in conjunction with such securities. While the paper acknowledges that capital market participants' use of programmable platforms and appropriate DLT network archetypes may vary, it clearly articulates that there are benefits to be achieved through DLT implementation across the securities lifecycle. One of the highest impact areas identified in this lifecycle was custody.

GDF also published a report, '[Digital Asset Custody Deciphered](#)'. Given the widespread developments in this area of wholesale financial services, we would also argue that DLT adoption is increasing and the benefits that programmability can deliver are crucial for the overall development and transformation of financial services infrastructure.

Another example of the likelihood of uptake is the UK Finance paper, '[Unlocking the power of Securities Tokenisation](#)'. This paper sets out global digitisation trends noting that, "Across the globe, Singapore, Hong Kong, and European peers such as Switzerland, France, Germany, and Luxembourg have been home to high-profile digital bond issuances, supported by legal and regulatory clarifications that attracted both private and public sector led initiatives."² Digital bond issuance, consistent with our research from earlier this year is a key indicator of DLT uptake across capital markets.

Similarly, the Investment Association also published a paper, '[Further Fund Tokenisation](#),' which was the second Interim Report from the Technology Working Group to the Asset Management Taskforce. This paper also highlighted the use cases and opportunities for capital markets across tokenised money market funds, tokenised securities, and improvements in settlement cycles.

As evidenced by recent industry work and surveys, GDF and CCI support the view that uptake is highly likely and will continue to progress in the coming years.

3. What are respondents' views on the pace of innovation in private money – in particular, commercial bank money – used in retail payments?

Innovations in Private Money

Reflecting on the roots of digital money in the context of cryptocurrencies and their underpinning blockchain technology, "tokenisation" is often the term used to describe both the process of creating digital-native money as well as a descriptor of the end product itself. A clear genealogical line can be drawn from the publication of the Bitcoin whitepaper in 2008, to the introduction of Circle's USDC stablecoin in 2018.

In the intervening years, the need for new forms of digital-native money has only grown stronger. Tokenised deposits are receiving increasing attention from institutions, as a viable

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<https://www.ukfinance.org.uk/system/files/2023-07/Unlocking%20the%20power%20of%20securities%20tokenisation.pdf> (pg. 9)

solution that bridges already regulated deposit-taking activity with the DLT space. Stablecoins, initially introduced as a means of settling cryptocurrency transactions and holding value on-exchange without converting in and out to “traditional fiat” rails, are now widely recognised as a conduit to more efficient, lower-cost, convenient payments with particular benefits for cross-border remittances and transactions. As digital asset markets and the digitalisation of financial markets gain in momentum, the desire for low or no counterparty risk, regulated digital settlement assets has heightened the need for enabling, risk-calibrated regulation.

Innovations in payment infrastructure - digital wallets

There are broadly two common types of digital wallets - those that rely on centralised intermediaries (“centralised wallets”) and “self-hosted wallets,” which do not.

Centralised wallets hold the keys of its customers (e.g., these can be individuals) who are the customers of the exchange connected to such wallet, or other third-party intermediary, giving the custodian a degree of control over the private keys on behalf of the customer. This arrangement requires consumers placing trust in the custodian (i.e., the custodian is entrusted with ensuring the assets held in such wallets on the customer’s behalf are not subject to hacking or other events resulting in theft or loss of such assets) – hence the work already in train by the UK authorities to establish a robust regulatory regime for crypto-asset custody. However, it may be easier for the consumer as the custodian will have key recovery mechanisms in place to safeguard and manage the private keys on behalf of the consumer.

Unlike centralised wallets, self-hosted wallets are tools that enable users to interact with blockchain networks by allowing them to sign and send cryptographic messages to blockchains without depending on centralised intermediaries. They are operated on a user’s own device and do not rely on servers or any third-party hosting. Individuals use self-hosted wallets as a convenient way to interact with blockchain networks, just as web users use web browsers to access the Internet. With a self-hosted wallet, users are able to hold their private keys and digital assets, as well as send and receive digital assets in a peer-to-peer manner.

Self-hosted wallets are thus a key innovation in digital wallets because they enable full user ownership and control of assets, mitigating risks traditionally associated with users having to rely on centralised third-party intermediaries, such as counterparty and misappropriation risks. Rather than relying on a centralised intermediary such as a financial institution to custody assets, self-hosted wallet technology enables users to store and utilise their assets. Self-hosted wallets have the potential to offer enhanced data privacy and security because users are not reliant on third- party hosting, which can otherwise expose them to the risks of hacks, exploits, and data breaches. Because of these advantages, they are being widely adopted by financial institutions including banks.

Because centralised intermediaries do not control self-hosted wallets, they do not pose the same risks to market competitiveness. For example, centralised wallet providers can utilise

their control to raise barriers to alternative wallet solutions, limiting competition. As self-hosted wallets are tools controlled by users, they do not pose this risk. This is not to say that self-hosted wallets are entirely ‘risk free’, if the user loses their keys, they may not be able to access the wallet again, much like a physical safe containing cash. However, a variety of mechanisms exist for self-hosted wallets such as hardware security modules (HSM) and multi-party computation for private key storage and guardianship, mitigating this risk for consumers. Therefore, it is important that regulators consider the specific risks associated with different types of wallets rather than treating them homogeneously.

Even within these two broad categories, there are many types of digital wallets. This may vary from those used broadly for payments such as ApplePay and GooglePay, to a wide range of crypto and digital wallets which are very different in use case, technical composition, and risk profile. As such, and given they perform a different market function, we believe that one-size-fits-all regulation for ‘digital wallets’ as defined could create an unlevel playing field for crypto and digital asset markets. As self-hosted wallets enable users to fully control their assets, they should not be required to comply with requirements that are intended to mitigate the risks associated with reliance on a centralised intermediary. For example, a self-hosted wallet should not be considered a “payment instrument” under regulation 2 of the Payment Services Regulation because they do not involve an agreement between a payment service user and a payment service provider. Indeed, in the case of self-hosted wallets, there is no “payment service provider.” For this reason, we caution against seeking to regulate self-hosted wallets like centralised wallets.

4. What are respondents’ views on the wholesale infrastructure that might support retail payments innovations, including to ensure that singleness of money can be maintained across stablecoins and tokenized deposits?

Different forms of money have the potential to fill a different need in the ecosystem and to provide enhanced consumer and business choices, arising from their different characteristics, the technical functionality that they offer, the nature of their issuers, and their risk profiles.

Today, RTGS systems constitute the primary practical mechanism for preserving the singleness of private money across multiple commercial banks; authorised credit institutions in the UK (i.e., those licensed to engage in fractional reserve banking) must settle between each other in central bank money via the UK’s RTGS system. In the future, as we transition to a world in which privately-issued digital money exists (including tokenised deposits issued by commercial banks, as well as stablecoins), the mechanisms for settlement to take place between these issuing bodies and key market participants will need to adapt as well. To this end, we note the substantial work that the Bank has conducted to upgrade the RTGS system and that this goes some way to addressing these needs. However, we note that there is still much further to go, especially when considering payments that take place outside of the RTGS system, including for those transactions that take place on a cross-border basis. For this, wCBDCs are an attractive option for wholesale payments. The UK should continue to investigate the use of payment corridors using DLT as noted in Project mBridge.

Notwithstanding this, given the length of time that it will take to develop and roll out a wCBDC, we urge the UK to explore other means of settlement that can be used at speed. Whether that is tokenised deposits or wholesale stablecoins, depending on appropriate risk mitigations and regulatory frameworks also evolving at pace to enable this.

It is worth clarifying that when we refer to “wholesale settlement”, we define “wholesale” in its strict and technical sense - as the settlement that occurs between participants (“wholesale participants”) in the RTGS system, using central bank money. We note that the term “wholesale settlement” is also frequently used in reference to settlement of transactions in wholesale financial, or non-retail, markets, such as exchanges or between OTC counterparties to a transaction via a broker; this is not however “wholesale settlement” in the strict sense. In short, not all settlement in wholesale financial markets involves wholesale settlement in central bank money, and the majority of settlement activity in wholesale financial markets takes place today in commercial bank money - between the accounts of market participants that are held with their commercial banks - and could potentially in future be fulfilled with any well-regulated privately issued form of digital money, including regulated stablecoins, *as long as the ultimate wholesale settlement between wholesale settlement participants takes place in central bank money.*

Over the past year, discussions at the BIS Innovation Summit as well as presentations by central banks including the Swiss National Bank (SNB) have indicated three mechanisms by which digital settlement, at a wholesale level, and in central bank money or an equivalent recognised form, can take place in the future: firstly, through the creation of national wholesale CBDCs (wCBDC); secondly, through the extension of existing RTGS systems to include “synchronisation” capabilities with DLT-based infrastructures; and thirdly, through the introduction of privately-issued stablecoins, suitable for wholesale settlement (with, for example, legal and regulatory provisions and operational arrangements in place to guarantee bankruptcy-remoteness and other protections for wholesale settlement participants), that are fully backed by reserves held at a central bank (these can also be considered as a variant of synthetic CBDC or sCBDC). Switzerland, as a jurisdiction, has explored all three of these options and considers maintaining an ecosystem in which they are all able to coexist for a time at least. The Bank’s stated preference, as part of the RTGS Renewal programme, has been the introduction of RTGS / DLT synchronisation functionality. Private sector solutions such as Finality International are predicated on a variant of option 3. Expanding on this, one can see Finality as a privately issued token on a third-party ledger that is fully backed by central bank money - with the caveat that this is only available to banks today. Yet participants in such future wholesale settlement systems could be limited, as they remain in many jurisdictions today, to commercial banks, or expanded to include a designated range of non-bank financial institutions (as has occurred in the UK), which could in turn include non-wholesale stablecoin issuers.

From a technical perspective, the use of alternative digital settlement mechanisms using central bank money (including options 1, 2 and 3 above) can be implemented in a range of

different ways, and these have been explored across a number of BIS (e.g., Project Agora³) and other domestic projects globally. The UK's Regulated Liability Network, which has recently completed its pilot phase, presents a mechanism for using central bank money to underpin settlement between commercial banks (although it should be noted that the original RLN concept encompassed the settlement of *any* regulated liabilities, including regulated stablecoins). For example, as a GDF member commented in a recent article, “In a healthy and vibrant digital asset ecosystem, it will be natural for different forms of tokenised money to exist alongside one another, providing consumer choice and financial system resilience. They will each have a role to play, just as e-money exists alongside commercial bank money and central bank money today. In a tokenised form, we can use smart contract logic to guarantee the singleness or uniformity of money, so that the consumer can have trust in whichever type of money they are using.”

As stated in the overarching comments, a thriving private sector is important to the growth of payments in the UK and to that end it is important that the UK does not just promote one solution. Instead, we consider it important that the UK establishes a clear set of standards that allows the private sector to develop solutions whilst at the same time promoting interoperability. Interoperability and collaboration are vital for any solution to be able to scale. This collaboration needs to continue through to policymakers and regulators to ensure that the UK is developing effective legal and regulatory clarity. In addition to setting clear standards, private sector innovation can also be facilitated through collaborative engagement with the Bank. An example of such private-public sector collaboration is the DLT-based Sterling Finality Payment System (developed by Finality International, as mentioned previously above), which in December 2023 successfully enabled live transactions in digital representations of central bank funds held in an “omnibus account” at the Bank, based on a structure and appropriate limits as approved by the Bank.

5. What are the risks and benefits from the use of:

- a) *tokenised deposits; and*
- b) *stablecoins for wholesale transactions?*

Tokenised commercial bank money / tokenised deposits

Tokenised commercial bank money could introduce many benefits to the wider financial system. The tokens typically represent deposit claims against the issuing commercial bank, such that the token has the same value and backing as “traditional” bank deposits.

However, it is important to clarify and align with UK authorities in defining tokenised deposits and their use cases. In a recent letter the PRA defined a tokenised deposit as, “deposit claims represented on programmable ledgers that enable novel techniques such as atomic settlement and smart contracts.” We welcomed this acknowledgement of the evolving definition but, it is important to note that a tokenised deposit remains a deposit, in a legal sense. A tokenised deposit, therefore, is still a deposit as defined above, but in tokenised form.

³ https://www.bis.org/innovation_hub/projects/agora_faq.pdf

Deposits are also not bearer instruments, so they would also not be a bearer instrument in tokenised form. This is a crucial difference from stablecoins, which as defined by the BIS would be appropriately backed bearer instruments. Furthermore, unlike fully deposit-backed stablecoins, deposits can facilitate credit creation and support economic growth. Nevertheless, the recent collapses of Silicon Valley Bank in the U.S. and Credit Suisse in Europe have underscored the inherent risks of commercial bank money within a fractional reserve banking system.

Despite the novel technology, in legal and economic terms, an on-chain tokenised bank deposit would be identical to a traditional offchain deposit.”⁴ These deposits, in combination with other assets on a programmable platform, could serve to improve settlement times (or enable atomic settlement), reduce counterparty and settlement risk, and also accelerate and support settlement finality. Risks for implementation of tokenised deposits, adding on any additional operational resilience considerations and technology change management, should be largely similar to that which is implemented by traditional financial institutions for risk management including:

- **General risk management practices:** such as concentration limits and diversification of funding and lending, credit loss allowances, estimates of market risks, and management of operational risks;
- **Meeting Appropriate Consumer / Retail Supervisory Requirements;**
- **Stress testing** to calibrate capital buffer requirements for severely adverse scenarios;
- **Enhanced liquidity and overall risk management precautions;**
- **Resolution and recovery planning** to overcome financial distress and remain capitalised in case of an adverse event (including orderly liquidation if needed);⁵

We envisage that some form of tokenised commercial bank money may in future be used for the settlement of financial markets transactions between counterparties that are not themselves direct participants in RTGS or a future equivalent digital wholesale settlement infrastructure. Given that tokenised deposits do not yet exist in bearer form, however (and the lack of interoperability), the immediate use of tokenised deposits for settlement will be limited to participants on single-bank networks.

The pace of change in tokenised deposits is held back, however, by regulatory uncertainty. For example, the boundaries of what is permitted are unclear. The Bank has referred to “transferable” tokenised deposits (aka bearer deposits, transferable between users who are not account holders at the issuing bank) in its Discussion Papers, the PRA’s Dear CEO letter on innovation in digital money (Nov 2023) and various speeches but has not provided any indication of how they would be viewed by regulators. However, we do not have clarity on the regulatory approach to this type of deposit instrument. The DP refers to “transferable deposit claims, where payments between individuals can lead to the recipient of the payment

⁴ <https://www.jpmorgan.com/onyx/documents/deposit-tokens.pdf> (pg. 2)

⁵ <https://www.jpmorgan.com/onyx/documents/deposit-tokens.pdf> (pg. 21)

becoming a customer of the issuing bank, i.e., the claims are self-settling upon transfer”. The paper goes on to state that “Where tokenisation does not change the underlying economics and fundamental nature of a depositor’s claim, the PRA’s prudential regulatory framework will treat a ‘tokenised’ deposit similarly to a ‘traditional’ deposit”. It does not, however, address the question of whether the transferable (bearer) version would represent a change to the underlying economics or fundamental nature of the claim, nor does it state what the regulatory impacts would be if there was such a change.

Stablecoins for Retail Transactions

At a superficial level, tokenised deposits have two distinguishing characteristics when considered against centralised, fiat-referenced stablecoins: the former are issued by banks and are fractionally reserve-backed, and the latter may be issued by either banks or non-banks and are required to be fully backed by liquid assets.

In contrast to deposits, a stablecoin is a type of digital asset designed to minimise price fluctuations relative or in reference to other asset(s). These may, for example, represent a claim on the issuing entity and/or the underlying assets backing the stablecoin. Asset-linked stablecoin are a specific type of stablecoin whose value references an asset and may be backed by a combination of the reference asset itself and other assets selected as part of a portfolio designed to maintain a constant value against the reference asset. Fiat-referenced stablecoins are a further subtype of these, specifically those stablecoins designed to maintain a stable value against a reference fiat currency, and fully backed by a combination of reserves held in that currency along with other assets (typically but not necessarily denominated in the reference currency).

Stablecoins can offer faster, cheaper, more convenient payments in retail transactions, for consumers and businesses. In a mature market like the UK, subject to appropriate regulatory guard rails, there is a role for many different cryptographically-based payment methods, which include privately issued stablecoins and potentially other forms of asset-backed crypto-assets. Stablecoins in particular can bring about many benefits to UK customers, including enhanced inclusion and access, reduced transaction costs and faster settlement speeds. We note that as they exist today, stablecoins have multiple use cases beyond payments, including but not limited to trading, investment, as a store of value, and as collateral to transactions. Similarly, permissionless distributed ledger technology networks could bring significant benefits to payments and settlement including efficiency, inclusiveness, and speed, both in high and low trust environments.

GDF and CCI have concerns with some of the proposals outlined in the DP. We do not agree with the statement in the DP that "current stablecoins do not meet the standards the Bank would expect were they to be used for payments more widely". We encourage the Bank to proactively support these innovations to maximise their benefits while appropriately managing risks. We have separately submitted our responses to the Bank’s Discussion Paper on the Regulatory Regime for Systemic Payment Systems, which detail our challenges to those proposed standards, and we will expand on these in certain parts of our response to this

DP. GDF and CCI do not see how a policy approach which is overly restrictive and most importantly, disproportionate to the risks posed, can be beneficial to consumers, or indeed to the overarching objective of market stability. For completeness, we have included a summary of our main concerns in [Appendix B](#)

Stablecoins for Wholesale Markets Transactions

For stablecoin issuers, the potential to issue a regulated, fully-backed stablecoin that is available at scale to the market - capable of being used for inter-entity settlements in a way that tokenised deposits, in their currently-envisaged non-bearer form would not be capable of, and in the absence of a wholesale CBDC - would give rise to a high degree of demand across wholesale financial markets.

Building on our response to Question 4, in which we clarified the distinction between wholesale and non-wholesale settlement, a regulated stablecoin, as a form of privately-issued money, could be used for *any* transaction settlement outside of wholesale settlement in a central bank-operated settlement system using a recognised form of central bank money. This could encompass not only crypto market settlement as it does at present, but also settlement of regulated digital asset transactions between any entities - either regulated or unregulated - that are not participants in the central bank settlement system. Furthermore, given that such settlement is currently permitted to take place in private money (in the form of commercial bank money), it should not be anticipated that future requirements will be introduced for the same settlement activity to be undertaken in central bank money (or a digital equivalent wCBDC or sCBDC-based system) in the future. This has knock-on impacts for the regulation of non-sCBDC stablecoins in the future, including but not limited to stablecoins used for retail payments at either systemic or non-systemic scale as well as stablecoins used for collateral management or any other purpose.

In the context of large-scale payment transactions, there is a clear opportunity for innovation in the financial sector that arises from the use of stablecoins for payment settlement, and as noted by the Bank of England, such innovations can offer many benefits including reduced costs and greater efficiency. It is therefore vital to have in place regulatory frameworks that are fit for purpose and take a proportionate approach to addressing risks that arise from the use of stablecoins in the payment system, in order for such innovations to be introduced and their benefits realised safely and effectively, and in recognition of potential financial stability and resilience risks that might be introduced by virtue of their novel formats and applications.

The Bank has stated its view that there are significant financial stability risks arising from the use of stablecoins for wholesale transactions, due to the potential for such stablecoins, in times of financial market stress, to become a flight option for market participants, leading to sudden bank disintermediation. Consequently, the Bank proposes to impose holding limits on stablecoins to constrain their use in wholesale markets at significant scale.

It is our view that such risks, in the context of likely activity, are overstated, and the proposals in their current form would disproportionately affect innovative firms which are at the

forefront of adopting new technologies and exploring the potential opportunities created for the UK economy through new forms of regulated digital money.

Stablecoins are intended to be used primarily as a payment instrument or a settlement asset (for example, for settling the cash leg of a digital asset transaction) and their function is therefore primarily as a means of exchange as opposed to a store of value. Consistent with this, most stablecoins today do not pay interest to users, and a common feature of regulatory proposals globally is their prohibition on the issuance of interest-bearing stablecoins. It is anticipated, therefore, that market participants will generally source stablecoins as and when they need them to transact, or they may hold balances which are sufficient for the transactions they expect to make. Consequently, despite the potential for substantial individual stablecoin payments, the overall system-wide balances are projected to remain relatively low when compared to traditional bank deposits.

In response to the Bank's concerns about potential flight to stablecoins during banking crises, we highlight the existence of alternative options that already offer protection for customer funds through investments in highly liquid assets. These options, such as money market funds, e-money, and 'narrow banks' (which hold customer funds in central bank reserves), could similarly provide a safe haven during market stress. Notably, the Bank has not proposed similar constraints on these alternatives, as it has for stablecoins.

If perceived risks in the banking sector are driving market participants to withdraw funds, the appropriate regulatory response should be to address these underlying risks, rather than restricting access to perceived safer alternatives. This is particularly important when such restrictions hinder the adoption of innovative technologies with significant potential benefits.

Therefore, it is encouraging that the Bank is further exploring stablecoin use for wholesale transactions. However, the current proposal, mandating full backing of systemic stablecoins with central bank deposits, while likely enhancing their perceived safety, has faced industry criticism for being overly stringent compared to international standards and other major jurisdictions' approaches. The Bank has an opportunity to reconsider this requirement to foster innovation.

Algorithmic stablecoins

We also note that other types of stablecoins beyond those currently contemplated by the Bank, such as algorithmic stablecoins, have a number of highly beneficial characteristics.

While we appreciate that the Bank views crypto asset-backed stablecoins as distinct from algorithmic stablecoins, for the purpose of future regulatory consideration we include the following information about the benefits and risks of what are broadly considered algorithmic stablecoins by the industry. Algorithmic stablecoins have a number of highly beneficial characteristics. For example, because algorithmic stablecoins rely on assets that exist natively on a blockchain, they are generally free from off-chain counterparty risks that can arise from custodial assets with third parties, like banks. Without third parties, algorithmic stablecoins can achieve true decentralisation and provide users with alternative payment instruments. It is important to note that many of these benefits derive from the extent to which algorithmic stablecoins are decentralised in practice. To determine how decentralised an algorithmic

stablecoin is, GDF and CCI advise regulators to evaluate whether it meets certain decentralisation thresholds such as that collateralization ratios cannot be changed in the absence of a decentralised governance process.

Any risks that may be posed in algorithmic stablecoins are distinct from those of other types of stablecoins and we hope that, in future rulemaking, stakeholders will calibrate rules accordingly. For example, the primary risk of algorithmic stablecoins is when such protocols do not have sufficient collateral to cover all outstanding stablecoins. However, over-collateralized stablecoins also exist and alleviate these issues. By ensuring that the protocol (i) always retains collateral in excess of outstanding stablecoins and (ii) that such collateral is exogenous, over-collateralized algorithmic stablecoins actually achieve a degree of safety commensurate with fiat-backed products.

Exogenous collateral consists of collateral external to the issuing system whose value is not dependent on the success or failure of the stablecoin protocol. As we have seen in real-world cases, over-collateralized stablecoins backed by exogenous assets have demonstrated a high-degree of resilience to market shocks, and have exhibited relatively low risk. Algorithmic stablecoins that require overcollateralization using high quality collateral like bitcoin and ether remained stable and functioned uninterrupted throughout the recent downturn. Examples include DAI, RAI, and LUSD. While CCI recognizes that algorithmic stablecoins are not under consideration for this proposal, we appreciate this opportunity to provide a summary of just how different this category of stablecoins is, and why it will ultimately require unique treatment. We would encourage the Bank to consider studying these differences in stablecoin design in determining how each should be treated and welcome further opportunities to provide input.

6. Are there innovations that could support central bank money being equipped with the requisite functionality to ensure safe settlement in light of technological advances in financial markets?

A major innovation that could have transformative effects on the privacy, security and scalability of CBDCs is zero knowledge proof ('ZKP') technology. ZKPs represent the next generation of privacy-preserving technologies, ensuring maximum privacy and control for users, ultimately leading to seamless and widespread adoption.

ZKP technology is a cryptographic method that allows one party (the prover) to prove to another party (the verifier) that a statement is true without revealing any specific information about the statement itself. It is particularly powerful in the context of digital identity, as it allows an individual to prove who they are, without needing to reveal personal information such as age or home address to a third party. When deploying a retail CBDC, using ZKPs means a user would only need to provide a resulting proof aggregating all new deposit transactions to meet issuance requirements. The Bank, as the verifier, would then check the proof to verify that the underlying issuance requirements defined by the program being

proved hold true. Such a solution would ensure user privacy while enabling the highest degree of regulatory oversight for KYC and AML.

We also continue to support developments such as the Digital Securities Sandbox, as well as broader DVP innovations and exploration of the full settlement functionality.

However, we would also note that the most important innovation would be in progressing the regulatory framework and in the UK's approach to innovation itself. We are concerned that the Bank of England's approach in the DP is backwards looking, as it focuses on evolving existing systems rather than the evolution already taking place across financial services. For example, by recommending extending the RTGS system, or by encouraging banks to adopt new technology by using innovative ledgers to record deposits. However, these solutions, even if they are successful, will take a long time to yield benefits and may not fully capitalise on the benefits of new technology as they are constrained by the need to build upon legacy infrastructure. As with other significant technological turning points, the adoption of DLT is likely to require a true evolution of existing payment systems; indeed, we are already seeing this occur through the increasing use of stablecoins and issuance of tokenised assets such as money market funds and government bonds.

There is an opportunity for the UK to look forward, be more competitive, and embrace new technologies. Although the UK has been falling behind other jurisdictions, in large part due to regulatory uncertainty, the UK is well placed to learn from and improve upon the regulatory frameworks adopted by other jurisdictions (i.e., a 'second mover advantage'). This requires an openness to innovative firms and products that don't easily fit into existing regulatory categories. It also highlights the need for a pragmatic approach to adapting and evolving regulation where appropriate to explore the use case and benefits of new technologies - as the Bank of England is already doing with the Digital Securities Sandbox. This also requires the UK to move quickly in establishing overarching regulatory frameworks for new technologies.

7. What are respondents' views on potential functionalities of a wCBDC and how might these inform wCBDC design?

GDF and CCI members are supportive in principle of the development of a wholesale CBDC. As set out in our introductory remarks and further discussed throughout the response, we note the substantial work that the Bank has conducted to upgrade the RTGS system. However we also believe that there is still much further to go in innovating for wholesale settlement and it is crucial that the Bank embraces open-source innovation to ensure it remains competitive. For those transactions that take place on a cross-border basis GDF and CCI members feel that wCBDCs are an attractive option for wholesale payments.

A wholesale CBDC could (depending on its design) deliver the following benefits for the UK, both domestically and on a cross-border basis:

- Increasing monetary policy transmission speed for financial stability management through development of smart contracts and tokenising public money for use on either its own network or within shared networks.
- Maintaining or increasing monetary sovereignty by introduction of UK developed and operated wholesale infrastructure.
- Further automation and ability for supervisory oversight to be compatible with new digital financial markets.
- The ability to support DvP with either native public or private digital assets to support reduction in settlement times within trading financial markets.
- Supporting use of public money within transactions across borders either by current financial service providers or opening access to non-bank financial services for managing tiering within current UK financial markets.
- Maintain or increasing monetary sovereignty for use of GBP across borders.

However, as noted before, given the time that it will take to develop and roll out a wCBDC, we urge the UK to explore in parallel other means of settlement in wholesale financial markets that can accelerate adoption of digital assets and digital finance, such as tokenised deposits or stablecoins appropriate for settlement purposes. This is particularly a necessity in terms of supporting some of the UK's proposed regulatory initiatives and programmes for innovation, such as the Bank's Digital Securities Sandbox, for which an appropriate digital settlement asset remains absent, thus challenging the potential utility and benefit that the Sandbox can demonstrate.

8. Will the proposed programme of experiments help to assess these potential functionalities for central bank money?

Yes, overall GDF and CCI are supportive of the proposed programme of experiments. However, we would encourage the Bank to also consider their broader utility and how they might be included within existing programmes and other ongoing projects.

For example, and following on from our comments on Q7 above, many industry participants have noted the importance of having a central bank payment leg as part of the Digital Securities Sandbox (DSS). Perhaps some of the experiments could take place as part of the DSS process in order to both support industry and also to streamline resourcing across the Bank. As noted in GDF's response to the DSS Consultation, the PFMI's require settlement in central bank money, where available, which precludes on-chain settlement of the payment leg until at least the introduction of CBDCs and, even then, it is not clear that CBDCs will necessarily be "on-chain" to facilitate atomic settlement.⁶ Bringing the experiments with the DSS could accelerate this process. In the meantime, the BOE should consider whether, in the absence of on-chain central bank money, other regulated forms of money should be permitted within the DSS as this would be consistent with the PFMI's.

⁶ <https://www.gdf.io/wp-content/uploads/2020/12/GDF-DSS-Response-29.05.24.pdf>

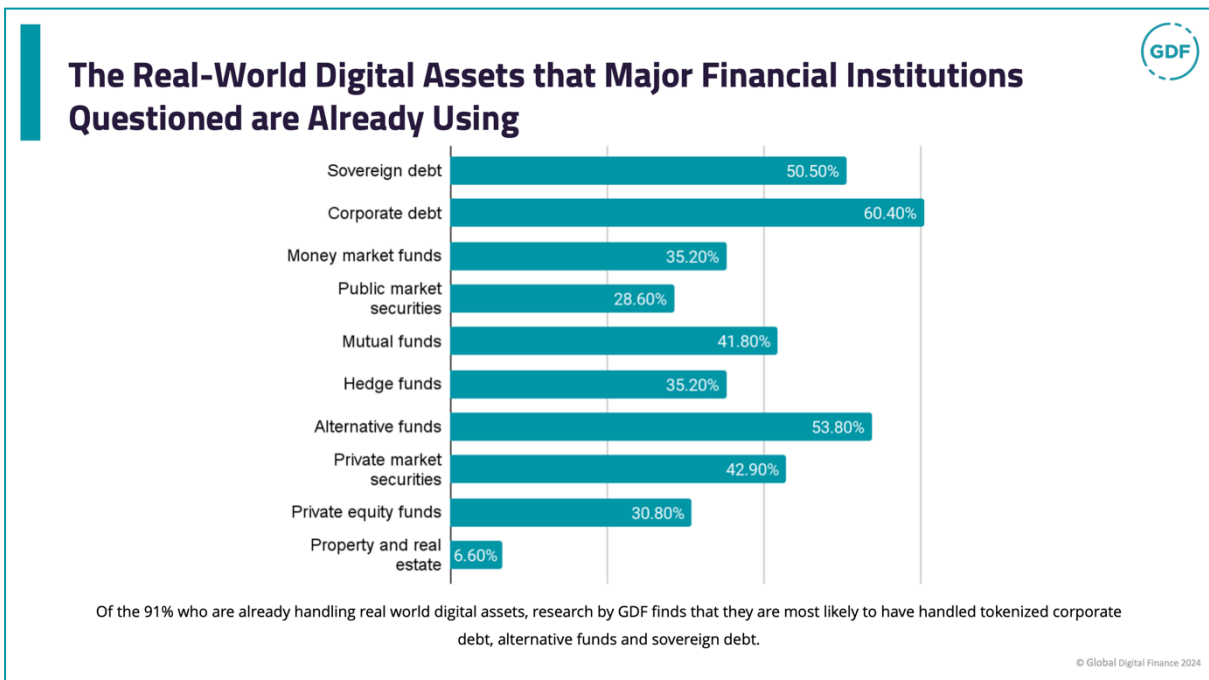
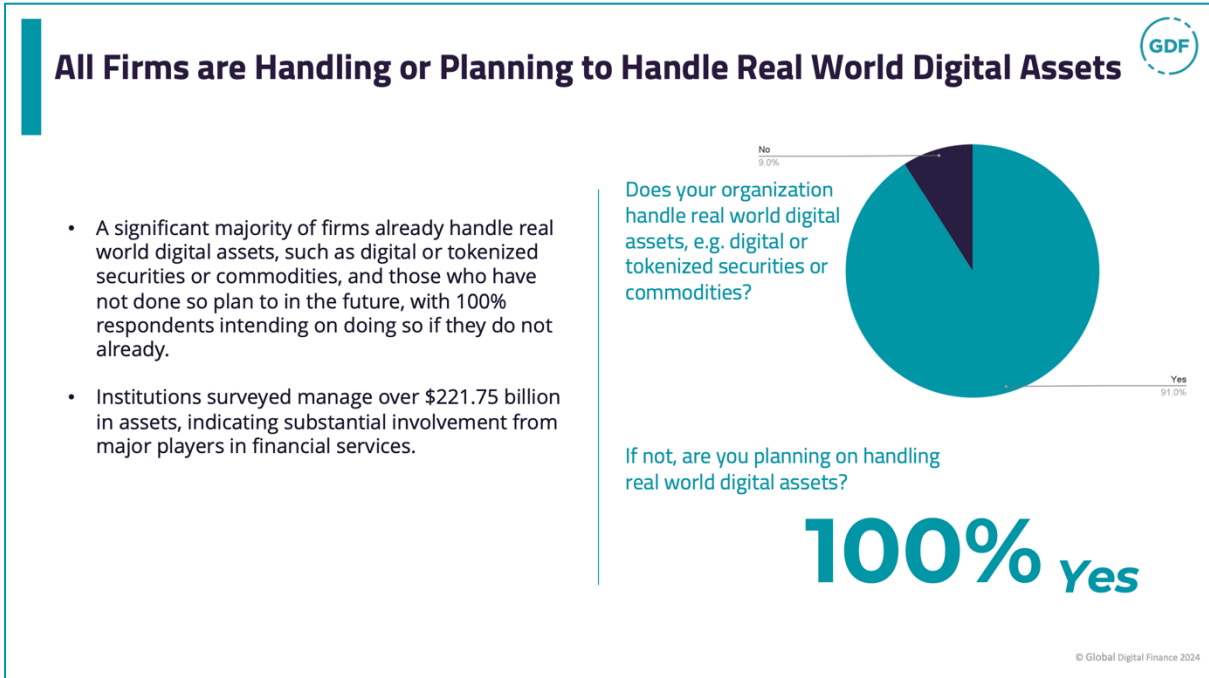
We would also note that as the Bank is looking across both the RTGS system and wCBDCs it may be beneficial during the experiments to also consider the interoperability that may need to occur across both systems rather than only running parallel experiments. Further detail and clarity from the Bank on this point would be most welcomed.

RTGS synchronisation, in combination with transaction orchestration solutions, could play a vital role in the short to medium term, in progressing the adoption of currency and asset digitalisation and in bridging traditional and digital systems and infrastructures. In the longer term, however, these are likely to be tactical solutions, and from a strategic perspective, the only way to truly realise the potential benefits of tokenisation and programmability of money and assets is through a digital-native, on-ledger settlement mechanism in the form of wholesale CBDC.

9. What are respondents' views on the outcomes that the Bank seeks in retail payments and how can they be reflected in practical questions currently facing policymakers and industry?

Overall, GDF and CCI support the four outcomes that the Bank is looking to achieve in retail payments, namely singleness of money, innovation, resilience and effective governance.

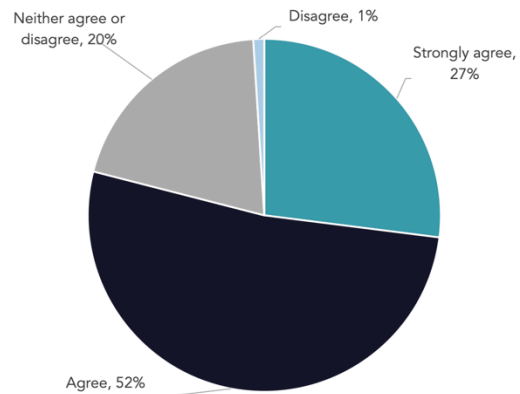
Appendix A - GDF Study on Real-World Asset Tokenisation



Significant Majority of Firms are Undergoing Internal Reorganizations to Align with Digital Assets Strategy

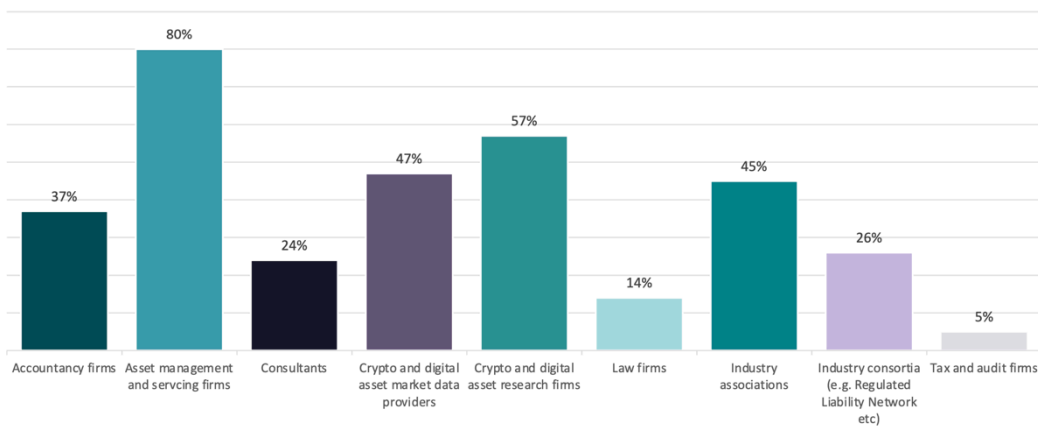


- Internal reorganization is being carried out in parallel with increased investment in training for staff and in monitoring developments in the digital assets sector.
- The high level of engagement and investment from major financial institutions signals a maturing market, fostering stability and legitimacy in digital assets.
- This is corroborated by recent growth and institutional participation in the market. According to a [2023 report by Fidelity](#), 74% of institutions now have digital asset exposure, up from 58% in 2022. This is poised to grow YoY.



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Financial Institutions Engage Industry to Support their Digital Assets Strategies



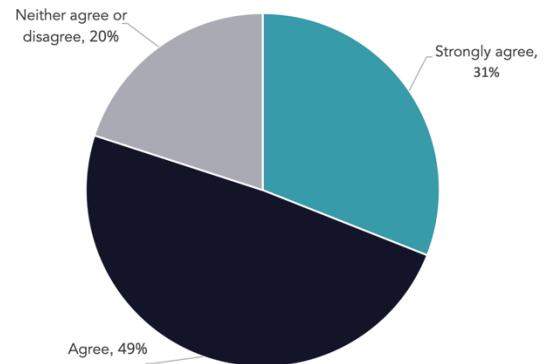
Firms are relying on industry support services for information on developments in the digital assets space to support staff training, with 80% looking to asset management and servicing firms as their main source ahead of 57% relying on crypto and digital asset research firms.

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Around 80% Agree their Firm is Investing Appropriately in Digital Assets

- There is strong market confidence that financial services firms are allocating enough staff and investment to monitor developments in the digital assets space, with 31% strongly agreeing with this view.
- 83% of firms go beyond monitoring and are actively investing in training to build expertise in digital assets.
- These investments position institutions' strategy in digital assets for the long-term. Building this internal expertise is crucial for staying competitive as financial services become digitized.
- The emphasis on training and building dedicated business units demonstrates a commitment to developing expertise and robust infrastructure, and being prepared to navigate the complexities of digital assets ensuring compliance with evolving regulations.



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Financial Institutions Driving Growth in the Digital Assets Sector




- Financial institutions are strategically positioning themselves to capitalize on the growth of digital assets and foster long-term scalability of the industry.
- The increased participation of financial institutions fosters collaboration between TradFi and tech native players in the ecosystem, driving market dynamics positively.
- Their substantial resources help create a more stable and efficient market environment, which is beneficial for all stakeholders and the long-term scalability of the digital assets market.
- Their strategic investments, focus on training, and collaboration with industry partners underscore a broader recognition: digital assets are not just a speculative investment but a foundational element of the future of financial services.



Engagement with the digital assets sector among financial firms is intensifying with financial services firms increasingly building business units focused on the sector.

That is highlighted by the increased investment in staff and training as firms look to build experience and expertise in the sector and our study shows they are looking to asset management and servicing firms as their main source of support.

Lawrence Wintermeyer, Executive Co-Chair, Global Digital Finance 

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Appendix B - BoE Stablecoins DP, Summary of Key Points

CCI's Full Response can be found here:

<https://crypto4innovation.org/comment-letter-bank-of-england-stablecoin-discussion-paper/>

GDF's Full Response can be found here:

<https://www.gdf.io/wp-content/uploads/2024/02/GDF-Response-BoE-Stablecoin-DP-06.02.24.pdf>

Backing and capital requirements

In order for the stablecoin market to grow and prosper in the UK, investor confidence is crucial, and this can only be delivered by ensuring an appropriate mix of backing assets which can sufficiently maintain the stability of the token in issuance. Further, maintaining reserve assets such that tokenholders can always redeem, irrespective of the circumstances, is also an important facet. As such we agree with the underlying policy rationale behind these proposals.

However, when considering the Bank's proposals for backing and reserve assets together, we are concerned that the requirements are overly restrictive and not proportionate to the risks.

If the Bank wishes to maintain backing assets 100% in central bank deposits, then we do not see the need for the proposed level of capital buffers. For example, we do not see the policy rationale for maintaining six (6) months of operating expenses or wind down costs given the additional shortfall reserves held in trust. Systemic stablecoin issuers would not be exposed to the same risks as banks, for example through fractional banking. With backing assets held fully with the central bank, the risks of a run on a stablecoin issuer are significantly less than with commercial banks; yet the policy proposals presented appear to judge there to be enhanced, not even an equal, degree of risk. In our view there is no need for the same level of capital buffers as with banks; this approach would be aligned with the principle of same risk, same regulatory outcome.

Furthermore, mandating 100% backing by reserves held at the central bank with transaction fees only would severely limit the business models that currently exist in today's market. This may also have the unintended consequence of increasing some of the cliff edge risks that may occur if issuers transitioned from systemic to non-systemic.

Conversely, if the Bank wishes to maintain the proposed capital buffers, we believe it would be proportionate to permit a mix of central bank deposits and high quality liquid assets. For example, the FCA's stablecoin proposals contemplate Government term market bonds, Certificates of Deposits (CDs), Commercial Papers (CPs), High Rating Corporate bonds and Repurchase Agreements (Repo's) which we think should also be reviewed by the Bank for systemic stablecoin issuers.

We note the requirement for certain aspects of the systemic stablecoin payment chain to be subject to subsidiarisation requirements. We also note that the Bank goes on to say that backing assets and issuer's capital would need to be held in the UK. We would welcome

further clarity on the interplay between subsidiarisation and what appears to be ring fenced capital. For example, could the UK subsidiary rely on a guarantee from the parent company based elsewhere, particularly if subsidiarisation was only happening for the purposes of systemic stablecoin issuance (rather than the firm having pre-existing operations in the UK).

We also welcome additional clarity on the interplay between systemic stablecoin issuers/custodians and systemic payment system operators. For example, how would the capital requirements apply if a non-systemic stablecoin were operating on a systemic payment system? Or does the Bank envisage that any stablecoin operating on such a system would itself have to be deemed systemic?

Interest on deposits

We note the requirement that stablecoins must be backed with non-interest bearing central bank deposits, and that neither issuers nor customers can receive interest. This is a considerable shift from current market practices and will require issuers to fundamentally rethink their commercial models. Our working assumption is therefore that the Bank expects systemic stablecoin issuers to charge transaction fees in the absence of interest payments. Such an approach would not be beneficial to customers, at a time where UK citizens need fast, affordable payment options more than ever. It is important for the UK to further promote innovation and competition by ensuring that consumers have access to various payment options, and that requires creating a level playing field for stablecoin issuers. We also note that one of the stated policy rationales behind this requirement is to disincentivize the use of stablecoins for investment. While we agree this may make holding stablecoins for long periods less likely, it would also disincentivize the use of stablecoins for payments generally, as the price of paying by this mechanism when compared to others would be increased. We encourage the Bank to contemplate alternative, less punitive measures which could similarly guard against the use of systemic stablecoins broadly as investments, without having a restrictive effect on customers, innovation and market competition. We would welcome the opportunity to be a further resource on this.

Holding limits

We note the proposal to introduce holding limits, at least during a transitional period. We understand the policy rationale behind this approach and appreciate that these proposals are focussed on systemic stablecoins used within retail payments contexts, rather than for use in wholesale scenarios.

However, we are concerned that the limits being proposed - i.e., mirroring the Digital Pound, are too low. Our members believe that there needs to be a distinction made in limits for consumers and the limits needed for businesses. It is crucial that the final framework does not exclude businesses. Additionally, if transactions are coming in and out it is difficult to have a limit for one day. The amounts could change widely through the day but then still be under the limit at the end of the day so it may not achieve its intended aim. It may also be difficult from an operational perspective for the BoE to supervise these limits for both businesses and

consumers. Finally, it is important for the final framework on limits to consider the interaction between the FCA regime and the BoE regime with regards to limits.

Further, while we appreciate that these proposals are still at an early stage, clarity on exactly how a limit will operate is crucial to ensure trust in the framework. We list various examples for the Bank's consideration:

- How would holding limits be enforced - if the limit has been reached for a particular account, will payments simply not be transacted, similar to a lack of funds, or will the payment be made/received but a fine imposed, akin to a paid overdraft?
- Who would be responsible for enforcing limits?
- Would limits apply on an individual basis or on a per wallet basis? And how would these requirements interplay with individuals holding multiple wallets, potentially with different providers, for different purposes and containing different kinds of stablecoins and other regulated/unregulated cryptoassets?
- Would limits be realtime, or an average across a day/month for example?

Locational requirements

The Bank proposes that issuers of systemic payment stablecoins should be set up in the UK as subsidiaries in order to carry out business and issuance activities into the UK and with UK-based consumers, both directly and through intermediaries. Given that, up until this point under the FCA regime, no such requirement exists, this would be a big organisational pivot at a relatively cliff edge point.

As more regulatory bodies around the world seek to create new frameworks for stablecoins, and potentially barriers in relation to foreign-issued stablecoins, this would result in a huge number of locally-issued stablecoins and frictions in the ability to interoperate between these. Having to reconcile legal claims and backing across stablecoins issued across multiple jurisdictions would add huge complexity and risk into operating a stablecoin business model. Such fragmentation risks undermining the main benefits of stablecoins in terms of their borderless nature, fungibility and liquidity.

There are other potential risks to this approach, in particular that it may call into question the legal and economic fungibility of stablecoins. If backing assets are kept in segregated local pools, a shortfall in one of these pools could result in uncertainty as to whom the legal claim is on, resulting in local divergence in the value of stablecoins, and threatening the singleness of money.

We encourage the Bank of England to work with other leading regulators to establish a framework for the international operation of stablecoins, drawing on relevant international standards. We believe this presents an opportunity for the Bank of England and the FCA to set an industry leading standard as to the expectations of stablecoin issuers looking to passport across borders and define best practice. By ensuring international openness in this

regard, the Bank of England and FCA will be well placed to advance UK competitiveness as a global frontrunner in stablecoin usage and payments innovation.

Requirements for Wallet Providers

The Bank distinguishes between two types of wallets that coinholders can use to access their stablecoins - 'custodial' and 'non-custodial' or 'unhosted' wallets. The Bank further notes that it is exploring the risks associated with 'non-custodial wallets'.

However, we note that the Bank has already identified 'unhosted' wallets as potential money laundering and terrorist financing tools that, in the view of the Bank, may hinder the ability of a stablecoin payment chain to deliver against the FPC's expectations. As the Bank continues to investigate unhosted wallets - which we would encourage to be termed 'self-hosted' to more accurately reflect their material reality - we believe that the understanding of such wallets as currently stated is incorrect.

Self-hosted wallets should be understood as technologically neutral - they are software or hardware solutions that enable users to safely, easily, and securely store the cryptographic keys required to unlock access to their digital assets. The choice to self-host is often not based on privacy or anonymity but is in order to reduce the counterparty risk of centralised intermediaries, where users may lose access to their assets through no personal fault (for example, in the event of a financial crisis), and to provide direct control over the assets themselves. Indeed, it is the pseudoanonymity - not anonymity - of verifiable, public ledgers which enables agencies to trace transactions on public blockchains and identify illicit actors, whilst the implementation of global standards will lead to increased compliance with Anti-Money Laundering requirements. We note that HMT clarified in its [response](#) last October, that the provision of self-hosted wallet technology would not, in itself, be captured by the new regulated activity of custody.

Furthermore, as the Bank rightly points out, the UK travel rule and the related guidance from the JMLSG sets out the appropriate ways in which any residual risk from self-hosted wallets can be appropriately managed through a risk-based approach. Self-custody will form an important part of any future use case for payment stablecoins, allowing users to easily access and use their keys to enable payments, and we encourage the Bank to work closely with the industry to understand the full picture of self-hosted wallets.

Definition of systemic

We are supportive of the proposed aims of designating certain stablecoins which may have a large impact on financial stability, markets, and retail and wholesale consumers as systemic. However, we believe further clarity is needed and are concerned by the lack of clarity regarding what would be considered systemic as well as how this would be applied in practice. While we recognise that designation as systemic is a matter for HM Treasury under Part 5 of the Banking Act, we believe this does not preclude the Bank providing additional guidance. While some stablecoins could be systemic at launch, others could become systemic

over time, meaning a clear regulatory threshold is needed as firms transition from FCA regulation, and the differing requirements of that regime, into the Bank's systemic regime, which will likely require business model adjustments.

We would encourage additional detail be provided in future phases of the regulatory framework on the scope of the regime, on how systemic importance will be assessed, who would be captured by the regime, how it would be applied, and at what stage of a company's growth compliance with different aspects of the Bank's regime would be required. We also believe there is a danger of cliff edge risks when transitioning from non-systemic to systemic that should be carefully considered.

In the absence of an objective, transparent threshold, private stablecoin issuers generally will be contemplating their presence in the UK market, for fear of triggering the systemic requirements.

Clear delineation of the scope of the regime for business models (e.g., capturing the action of systemic payments or the systemic coins themselves)

We would note that as they exist today, stablecoins have multiple use cases beyond payments, including but not limited to trading, investment, as a store of value, and as collateral to transactions. As such, we would encourage the Bank to make clear delineations on what the framework will capture. If a stablecoin is issued, it could feasibly be used for payment purposes whether or not they are intended for that purpose by their issuers. There may also be stablecoins that emerge as systemic, in some form, but are not used widely for payments. We would encourage stablecoins that are not used for systemic retail payments such as these to be excluded from the proposals. We would welcome clarification that should such a stablecoin emerge that is widely used for purposes other than payments, the Bank would not seek to regulate it (or, for example, its issuer), given the framework under the Banking Act 2009 is intended for payments firms.

Additional guidance on cliff edge risks when transitioning from non-systemic to systemic stablecoins.

We are concerned that under the current proposals there would be potentially large cliff edge risks for stablecoins when transitioning that could require an overhaul of their business model and backing assets, or a withdrawal from the UK market. Stringent requirements, that differ too widely from the non-systemic regime may also be the unintended consequence of encouraging stablecoin issuers to seek out other jurisdictions instead where more flexible business models are permitted. We would encourage the Bank to work closely with firms throughout the process and make requirements clear in advance to support an orderly transition process.