



# Bank of England and HM Treasury CP 797

The digital pound: a new form of  
money for households and  
businesses?

Pay.UK Response

Version 1.0 | 17 July 2023

Classification: Public

## Pay.UK responds to consultation on the introduction of a digital pound

The Bank of England and HM Treasury recently published a consultation paper assessing the case for a retail central bank digital currency (CBDC), or digital pound. The Bank of England and HM Treasury conclude that it is likely a digital pound will be needed in the future, driven, in particular, by the transition to a digital economy and the declining use of cash.

HM Treasury and the Bank of England have invited responses to the consultation paper from all interested members of the public, experts and organisations, including Pay.UK.

As the recognised operator and standards body for the UK's retail interbank payment systems, we are aware that the way we use money is shifting, and recognise the potential effects of these changes on monetary and financial stability. Following consultation, if HM Treasury and the Bank of England decide that a digital pound is needed to maintain monetary stability, we will support this decision and commit to play our part in securing the interoperation of a digital pound and commercial bank money.

Our main points are summarised below:

- We consider that our New Payments Architecture (NPA) is the natural point of contact between the digital pound and commercial bank digital money. The NPA is positioned to enable the necessary high degree of interoperation of these two forms of currency.
- More work is needed on the end user perspective and the incentive structure that may drive widespread adoption of a digital pound. This work should be considered a priority by the Bank of England and HM Treasury, as it is relevant when selecting the digital pound model and high-level architecture, during the design phase.
- Funding, liability, and consumer protection models are all important aspects of operating a retail payment system. The Bank of England should begin detailed thinking on the approach to these now, as they can take some time to put into operation and are important to the functionality and resilience of any payment system.
- The Payment Systems Regulator (PSR) has a strategic vision for how our payment infrastructure can be used to enable innovation – in particular, to help grow the use of interbank account-to-account (A2A) payments in retail transactions. The Bank of England's consultation paper envisages a role for the digital pound in a similar context. We encourage the Bank of England and PSR to be mindful of the overall demands placed on our systems, and to work together to make sure that change initiatives are strategically aligned and proportionate.

We have answered the consultation paper questions (below) with a focus on two specific topics within our expertise: how design choices can best make use of, and support, interoperation with existing banking and payments infrastructure; and the various dimensions of operating a retail payment system, in practice.

We hope to contribute our knowledge and perspective to each of the above (and other) topics during the design phase. Many of the more technical aspects of the interoperation of the commercial bank and digital pound retail payments ecosystems may more usefully be explored through detailed discussions between us and the Bank of England. We look forward to continuing our contribution to this ongoing engagement.

## Consultation Paper Questions

### **1. Do you have comments on how trends in payments may evolve and the opportunities and risks that they may entail?**

No response.

### **2. Do you have comments on our proposition for the roles and responsibilities of private sector digital wallets as set out in the platform model? Do you agree that private sector digital wallet providers should not hold end users' funds directly on their balance sheets?**

The choice set out in the consultation paper for digital pound funds not to leave the Bank of England's (Bank) balance sheet, such that all holders have a direct claim on the Bank in the same way that they do for physical cash, appears prudent given the monetary stability concerns the digital pound will target. This method seems likely to yield the most confidence that digital pounds are always safe and secure. For instance, it would remove financial risk that would arise from the holding of liabilities on the balance sheets of Payment Interface Providers (PIP). Such ironclad security appears well matched to the digital pound's intended role in backstopping the broader money supply. However, the Bank and HM Treasury should aim to make as much use of existing banking and payments infrastructure as possible, while still achieving their overarching goals. Keeping the digital pound on the balance sheet of the Bank may constrain the use of existing infrastructure in ways that are otherwise undesirable, as set out in our answer below, and to Question 10.

Pass-through wallet providers will presumably not be able to use digital pounds which appear in wallets as a source of funding, given the pounds will not be on their balance sheets. Thought will need to be given to the economic model for PIPs, and how they can generate sufficient revenue from the provision of wallets. In the event of a failure or disruption of a PIP (or External Service Interface Provider (ESIP)), end users will presumably need to engage in some (indirect) manner with the Bank's central ledger to recover their digital pounds. This process may be easier under the current proposals than if PIPs held digital pounds as assets. However, a digital pound recovery mechanism will still need to be effective to avoid scenarios in which the record of the movement of the claim on the asset is known to the Bank, but inaccessible to the end users affected by PIP failure.

The optimal outcome would enable smooth interoperation of the digital pound with commercial bank money, with each providing an attractive offering to consumers, and both commercial banks and new providers offering wallets. There could be a beneficial side-effect for consumers if banks improve the terms of current accounts to encourage the holding of pounds in commercial bank money rather than in digital pound wallets so as to make use of the commercial bank money as a source of funding, and the currency and wallet design needs to be attractive for providers and consumers alike. The Bank should remain cognisant of these issues as it continues through the digital pound design phase.

**3. Do you agree that the Bank should not have access to users' personal data, but instead see anonymised transaction data and aggregated system-wide data for the running of the core ledger? What views do you have on a privacy-enhancing digital pound?**

We support the Bank's intention to design the privacy and data aspects of a digital pound to be roughly similar to those of commercial bank money used in card and interbank payments. The choices made over the level of privacy of a new format of sterling have potentially profound implications for the privacy and other rights of individuals in their relations with the state.

Stakeholders will no doubt respond to the consultation paper with powerful arguments for greater privacy by design as compared with commercial bank money, and conversely for new or different ways of making use of payments data (by PIPs, the Bank, government for tax or crime-enforcement purposes, or individual end users, for instance to track their own habits). These decisions are of sufficient importance to public policy matters outside the realms of financial and monetary stability as to place them beyond the remit of regulatory process and more suited to legislation by Parliament.

Our New Payments Architecture (NPA) should be the point of contact between commercial bank money and the digital pound, supporting seamless integration of the two ecosystems to the greatest extent possible. To realise these benefits, the Bank will need to ensure that payments which flow over our systems allow all parties to comply fully with relevant legislation and regulation, including in relation to Know Your Customer (KYC), anti-money laundering (AML), and prevention and detection of fraud and scams. This will require us and our participants to have sufficient visibility of relevant data to meet those legal obligations. This data is likely to call for a significant degree of detail and specificity in particular in the fight against fraud, including payment information at the transaction level. Whatever ultimate decision is taken on the visibility of payments data to the Bank, the design should accommodate sufficiently data-rich payments information to allow us to play our full and proper role in the fight against financial crime.

**4. What are your views on the provision and utility of tiered access to the digital pound that is linked to user identity information?**

The design choices set out in the consultation paper appear broadly suited to the Bank's ambition of maintaining the commercial bank money status quo in matters of privacy and use of data.

**5. What views do you have on the embedding of privacy-enhancing techniques to give users more control of the level of privacy that they can ascribe to their personal transactions data?**

Past experience in areas such as cookies and standard form contracts contained in 'terms and conditions' suggests that individuals will not generally have sufficient understanding and inclination to engage with complex privacy issues transaction by transaction. If embedded techniques to give choice are to be employed, these should be constructed with the higher levels of privacy as default, requiring meaningful consent from individuals to 'turn on' enhanced use of data. The Financial Conduct Authority (FCA) Consumer Duty may form a relevant expression of standards relating to clarity of information and methods for market participants and regulators to assess whether the ways that opt-outs are worded and framed are sufficiently likely to elicit meaningful consent based on genuine understanding.

**6. Do you have comments on our proposal that in-store, online and person-to-person payments should be highest priority payments in scope? Are any other payments in scope which need further work?**

Alongside Open Banking and the Joint Regulatory Oversight Committee (JROC), we are progressing work to facilitate account-to-account (A2A) payments in new contexts, including in-store, online and person to person. The NPA is a highly capable architecture and we anticipate it would have the potential to play a powerful role in enabling account to account in retail payments in both digital pounds and commercial bank money, if further work identifies this as the best way to meet the shared objectives and interests of the regulators, ourselves, the industry and end users. Pursuing both approaches at once within overlapping payments contexts could complicate the design aspects for both initiatives, including the funding, liability and commercial models. Overly expansive change initiatives may present both commercial risks and resource demands to our payment systems, which must be kept within appetite given the fundamental importance of our existing payment services to the UK economy and end users. We would encourage the Bank and the JROC to consider these aspects, including the potential for systemic risk, and would view a mutually informed and collaborative approach by the regulators as a key mitigator of any such risk.

In addition to prioritisation of individual payments, the Bank may also wish to consider setting target processing windows for some types of payment to minimise the need for prioritisation and to provide a more consistent customer experience.

For example, Pay.UK, working with the PSR, set the following expectations to maximise efficiency by processing high-volume payments when IT systems are under less pressure and to provide a consistent end user experience:

Standing Orders (high-volume) must be processed between 00:00-06:00 to avoid the ‘online day’, retrying failed overnight payments must be complete before 15:30, Bacs Credits (which includes a large number of salary payments) must be applied before 07:00 to fund other debits the end user may have on the same day.

**7. What do you consider to be the appropriate level of limits on individual’s holdings in transition? Do you agree with our proposed limits within the £10,000–£20,000 range? Do you have views on the benefits and risks of a lower limit, such as £5,000?**

We do not take a view on an appropriate level of holding limit for the digital pound. A holding limit per individual implies that the Bank would have a composite view of an individual’s holdings across all digital pound wallets they controlled, with some potential implications for privacy and data visibility, and that this composite view would be accurately linked to individual legal persons. Holding limits for a form of sterling would be at odds with cash and commercial bank money, and may complicate the issue of whether the digital pound may in principle serve as legal tender. There may be a number of further legal issues as well, for instance around liabilities upon failure of sweeping of excess digital pounds into commercial bank accounts (such sweeping would also add to the technical complexity of the system, as well as requiring all digital pound users to (a) hold and (b) link their wallets to commercial bank accounts, potentially limiting the differentiability to end users of digital pounds as a consumer proposition).

As acknowledged by the Bank in the discussion paper and consultation documents, higher holding limits potentially increase the risks for commercial banks via disintermediation. However, the lower the holding limit, the less a digital pound would be a backstop for other kinds of digital money in practice, which could lessen its psychological role as an anchor to the money supply. We are not aware of a creative solution that resolves the fundamental force of this dilemma. Should one not emerge, it will be important to get the balance right so that disintermediation does not introduce the stability risks that the digital pound wishes to mitigate to begin with, whilst still allowing it to function plausibly as an anchor.

**8. Considering our proposal for limits on individual holdings, what views do you have on how corporates' use of digital pounds should be managed in transition? Should all corporates be able to hold digital pounds, or should some corporates be restricted?**

We believe that end user in the small and medium-sized enterprises (SME) sector should have access to the digital pound, with the holding range calibrated to their needs in a similar way to how holding limits are ultimately calibrated for natural persons. Fairly widespread corporate use is likely to be prerequisite to the digital pound being widely accepted in commercial contexts. We are aware of lively public discussion around whether Central Bank Digital Currency (CBDC) is appropriate for wholesale contexts, and believe this aspect of the digital pound's model should be kept under consideration, with international approaches being one relevant factor.

The Bank and HM Treasury (HMT) will ultimately need to decide whether to recommend to Parliament that the digital pound be made legal tender. If so, restricting its contexts of use (retail/wholesale) and holding limits may lead to a number of difficulties, not least if a debtor wished to use digital pounds to pay a debt but this would take a recipient beyond their holding limits. This would appear to lead to conflicting legal obligations. Not making the digital pound legal tender would potentially limit its adoption and its usefulness as an always reliable anchor of the broader money supply, and would be at odds with the legal status in the UK of other varieties of sterling leading to friction and perhaps other adverse results.

**9. Do you have comments on our proposal that non-UK residents should have access to the digital pound, on the same basis as UK residents?**

In general, we support an approach under which non-UK residents have access to and can use the digital pound on a similar basis to commercial bank money. This is part of the Bank and our desire to see a high degree of interoperability between the two formats of sterling. It may also have benefits to cross-border payments solutions which are aimed at addressing significant problems like the high cost of remittances. Potentially, international co-ordination will be needed to ensure that, from jurisdiction to jurisdiction, the CBDCs of overseas jurisdictions cannot be used for transactions in a way that supplants domestic currency.

## **10. Given our primary motivations, does our proposed design for the digital pound meet its objectives?**

We broadly support the design choices set out in the consultation paper. The plans laid out are generally well-considered as a basis for the design phase of a digital pound to support UK monetary and financial stability. We consider that there are some areas within our expertise where the Bank will need to develop its model further during the design phase in order for the envisaged system to be in the strongest position to achieve the policy intent. These relate to the digital pound's relationship with existing payments infrastructure, a number of aspects of operating a retail payment system, and laying out more clearly the end user perspective and incentive structure that would motivate mass adoption of a digital pound.

### Existing payments infrastructure

In general, currencies – or forms of currencies – can be thought of separately from the payment systems which enable transactions in the currency to occur. Bringing in the digital pound as a form of sterling ('minting' the digital pound) may be well-advised in order to ensure a future public backstop for the money supply.

From this it does not unavoidably follow that a separate digital pound retail payment system comprising a new payments infrastructure is necessary. In order that the pound remains a single, unfragmented currency, a high degree of interoperation between the two digital forms of the pound – the Bank's digital pound and commercial bank money – will be needed. The inter-meshing of the two systems indeed needs to be so extensive that maintaining them as separate payment systems begins to look potentially undesirable, absent additional justification.

We think the case needs to be set out more clearly why the Bank could not achieve its policy goals related to monetary and financial stability through minting a digital pound to flow through the existing banking and payments infrastructure. We do, however, acknowledge the potential tension between such an approach and the model where the asset never leaves the balance sheet of the Bank (as we set out in our answer to Question 2, we recognise the benefits of this model in particular from the perspective of anchoring confidence in the broader money supply).

Notwithstanding the above, in the event that the final decision to introduce a digital pound with a discrete accompanying retail payments infrastructure is ultimately taken, we will commit to working with the Bank to allow for the high degree of interoperation between the two payment systems that would be our shared goal.

### Operating a payment system

There are a number of aspects of operating a retail payment system which are not explored in great depth in the consultation paper. These include, in no particular order:

- the degree of consumer protections, including who would set and enforce these. We would anticipate these would need to be similar in the degree of protection and accessibility of remedies to other forms of digital payments (and not to cash);

- the funding model, including how the Bank and PIPs would fund the digital pound payment system in a way which is sufficient and not anti-competitive;
- the liability model, including the extent of the Bank’s liabilities and accountabilities if things go wrong, the full picture for end user redress, and how this would interact with liabilities in the realm of commercial bank money;
- the framework for regulating PIPs and ESIPs (in particular from a conduct perspective); and
- the extent to which the Bank could deliver relevant core services itself or would depend on third parties, and, in the latter case, whether this could heighten concentration risks arising from the financial sector’s use of critical third parties (and how this would be managed).

### The end user perspective

The consultation paper envisages significant uptake and use of a digital pound by retail consumers, with transaction capacity of at least 30,000 transactions per second. This implies the digital pound could come to play a large, and perhaps even leading, role in retail payments contexts. But there is only limited discussion of why consumers would choose to adopt the new payment method on a mass scale. As set out in the consultation paper, a digital pound could enable new – and perhaps largely as-yet unforeseen – functionality, incentivising use. However, it is not immediately clear that there is anything innate to a digital pound that would enable functionality that could not be applied to future interbank and card payment methods. (We consider that there is no plausibly envisaged CBDC functionality that our NPA could not facilitate.) We encourage the Bank to give full and early airing to the incentive structure it believes will motivate mass adoption of a digital pound.

The end user perspective is also important when considering the technical design choices to do with interoperation with commercial bank money and interbank payment systems. For example, if a digital pound is, from an end user perspective, seamlessly interoperable with commercial bank money, this may disincentivise consumers from engaging with digital pound infrastructure, such as by downloading a discrete digital pound pass-through wallet app. Conversely, if the interoperability is too low, this may discourage adoption due to the inconvenience of bridging from existing payments methods to the digital pound ecosystem, leading to potential separation of the two payments ecosystems (and undesirable currency fragmentation). Why end users will prefer to have both a current account and a digital pass-through wallet to hold separate pound balances, as compared to everything being in the same place, needs to be set out more clearly, particularly if the two systems can interoperate with very low friction. This is a problem that will need a clear solution if the low uptake of CBDC that has been seen globally up until now is to be changed.

## **11. Which design choices should we consider in order to support financial inclusion?**

No response.



**12. The Bank and HM Treasury will have due regard to the public sector equality duty, including considering the impact of proposals for the design of the digital pound on those who share protected characteristics, as provided by the Equality Act 2010. Please indicate if you believe any of the proposals in this Consultation Paper are likely to impact persons who share such protected characteristics and, if so, please explain which groups of persons, what the impact on such groups might be and if you have any views on how impact could be mitigated.**

No response.

## Technology Working Paper Questions

**1. Do you agree that these six considerations are foundational technology considerations for CBDC? Are there additional or alternative technology considerations that the Bank should be focused on? (Section 3)**

We would suggest that the interoperability of the digital pound with other incarnations of sterling should be added as a seventh foundational technology consideration. This would be consistent with the Bank for International Settlements (BIS) paper on foundational principles for CBDC published in 2020. As well as discouraging uptake, the wrong outcome on interoperability would be likely to frustrate the ability of the digital pound to effectively backstop other forms of digital money, potentially jeopardising the core goals of the initiative.

**2. Which privacy-enhancing technologies, or other privacy mechanisms, might support the proposed policy objectives, and how might they be used? (Section 3.1)**

No response.

**3. Are the provisional requirements and metrics discussed in the paper, particularly for uptime, transaction throughput and transaction speed, realistic and appropriate? (Sections 3.3 and 3.4)**

It will be hard to gauge the appropriateness of these metrics until the Bank sets out further the incentives it believes will drive mass adoption of a digital pound. The provisional requirements appear very ambitious, and if the Bank considers the digital pound will be able to go beyond existing payments infrastructure in these areas it should set out the factors it believes makes these outcomes more attainable for the digital pound. It would also need to consider whether divergence in requirements and metrics between commercial bank money infrastructure and the digital pound could introduce risk or reduce interoperability.

**4. Are there other significant components or activities that the Bank should consider in designing a CBDC? (Section 4)**

Our answer to this question is set out as part of our answer to Question 10 of the main consultation paper.

**5. Are there alternative models that might better address the technology considerations and technical requirements outlined in this paper? (Section 4)**

As above, it is possible that models featuring closer integration of digital pound currency-holding and payments solutions with existing banking and payments infrastructure could address many of the Bank's concerns around monetary and financial stability.

Under many plausible architectures aligned to the Bank's proposal to introduce a discrete retail payment system for the digital pound, the NPA could feasibly play an enhanced role in processing payments within the digital pound ecosystem. This approach could see the NPA go beyond being the point of contact between bank accounts and the digital pound ecosystem, potentially heightening interoperability and reducing friction. If the decision were made to bring in a digital pound relatively quickly, this would also give the Bank the benefit of a mature infrastructural architecture, supporting activities and delivery programme.

We welcome further opportunity to engage with the Bank to explore the above possibilities. We will need to ensure that our current and envisaged systems, services and operations would not be negatively affected if the decision were ultimately taken not to bring in a digital pound, or if the final design model is ultimately materially different from what is contemplated in the present design phase. Any plans for changes to our systems should have as a key goal not introducing risk that could affect our abilities to operate our critical payment systems robustly and sustainably.

**6. Other than those described in this paper, are there additional important factors to consider related to ledger design? (Section 4.1)**

We support the Bank's conclusion that a single central ledger is likely to be the most appropriate design. We recognise the need to continue to monitor evolutions in Distributed Ledger Technology (DLT) and whether this or other new technologies could come to offer superior characteristics for recording payments information in the future.

**7. What are the most appropriate approaches or technologies for collecting and analysing aggregate transaction data? (Section 4.2)**

No response.

**8. Do you agree with the need for aliases (both well-known and disposable)? If so, should the alias service be hosted as part of the Bank-managed infrastructure, or should it be distributed across the CBDC ecosystem? (Section 4.3)**

No response.

**9. What features would a CBDC API require to enable innovative use cases? (Section 4.4)**

No response.

**10. Do you agree with the suggested list of devices for making payments with CBDC? (Section 4.5)**

No response.

**11. How viable is it to enable interoperability between CBDC and other forms of money using existing payments infrastructure? (Section 4.6)**

As a sophisticated and mature interbank payments platform with a full suite of next-generation capabilities, the NPA is the best conduit to the interoperation of commercial bank money and the digital pound. We believe the NPA can be harnessed to enable a very high degree of interoperation. It may well be the case that the fullest and most seamless interoperation can be achieved through the use of the NPA for payments processing functions within the architecture of both interbank payments and the digital pound. We anticipate further engagement with the Bank to robustly explore the various technical approaches, and the implications of these to both of our organisations' objectives, in the design phase.

**12. Is programmability and smart contract functionality an important feature of a CBDC system? If so, what is the best approach to enabling such functionality? (Section 4.7)**

We believe that, like privacy, the potential programmability of a public currency raises fundamental questions about individual rights and liberties along a number of domains. We believe a regulator with statutory independence can very rightly contribute technical expertise to these discussions, but that they are best legislated by Parliament.

**13. How important is offline functionality in a CBDC system? What are the most effective ways to implement offline capability? (Section 4.8)**

No response.

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