



Gillmore Centre for
Financial Technology

The digital pound: consultation response from the Gillmore Centre for Financial Technology

HM Treasury, 1 Horse Guards Road London SW1A 2HQ
Bank of England, Threadneedle Street, London EC2R 8AH



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The Gillmore Centre for Financial Technology which is based at Warwick Business School, is a multi-disciplinary research hub exploring the transformative impact of emerging technologies such as artificial intelligence, machine learning, blockchain, mobile payments, cryptocurrencies and crowdfunding platforms.

We welcome HM Treasury and the Bank of England's consultation on a possible digital pound, and the opportunity to respond.

Without any claim to being comprehensive or authoritative, our response addresses several elements of the proposed design and implementation of the digital pound. We summarise some of our key points on the following page, then provide further discussion and explanatory details for consideration, responding to each section of the consultation report as well as each of the twelve consultation questions that it lays out.

We will work to address some of these questions and challenges through multi-disciplinary research, and by convening and inputting to relevant discussion and debate. We would be pleased to hear from anybody interested to discuss or collaborate on any of these or other relevant issues.

Yours sincerely
Gillmore Centre for Financial Technology

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1. Summary of some key points

Key points:

Remuneration rate: the design of a remuneration scheme, including the decision on whether to have a zero-interest rate, is one of the most crucial design choices for the digital pound due to the potential risks and benefits at stake. Given the complexities and uncertainties surrounding this question, a prudent approach would be to initially introduce a non-interest bearing digital pound. However, we believe that - should the digital pound be implemented - the question of remuneration would merit future review and consultation. We also note that whilst under current proposals the digital pound would not be used as a policy instrument or for money creation, there are potential interactions with monetary policy transmission and traditional money creation processes to be better understood (section 4.1).

Setting individual holding limits: determining holding limits for the digital pound involves balancing its effectiveness as a payment system with the risk of bank runs and disintermediation. The consultation proposes a £10,000 to £20,000 limit. However, we note that data presented in the consultation itself suggests a lower limit, such as a £5,000 threshold, could potentially enable widespread use of digital pounds for day-to-day spending while minimizing bank outflows. It is likely important to have flexibility in introducing and gradually increasing limits, especially where higher limits are to be introduced. Without taking a strong stance on appropriate levels, we nevertheless believe further analysis and debate are warranted (see sections 4.2 and 5.3.2).

Sweeping and exchangeability with bank deposits: implementing holding limits would seem to require continuous automatic sweeping arrangements with banks, thus the deliverability of sweeping mechanisms and challenges involved, as well as the resulting public-private partnership and interdependence between the digital pound and the banking system must be fully addressed (see section 5.1). Concerns also arise that any requirement for a bank account - to facilitate sweeping - could limit the potential for digital pound wallets to provide a privacy baseline, or lower access hurdles in the interest of inclusiveness. Design solutions able to mitigate this should also be thought through.

Privacy: we note that since PIPs would need to comply with KYC, AML and CFT requirements (indeed this would be necessary to support interoperability with banks/bank deposits thus effectiveness as an anchor) the digital pound would not provide the privacy benefits of cash. It would be crucial to guarantee a level of privacy at least equivalent to bank deposits. Ideally PIPs could be required to provide a privacy baseline with which all must compete (although the need for a bank account for sweeping purposes could limit this). Identifiability risks associated with transaction data on the core ledger must be mitigated, and the proposed level of anonymization while monitoring holding limits requires clarification. (See section 5.2).

Payments in scope: prioritizing in-store, online, and person-to-person payments aligns with the objective of a retail-focused digital pound for everyday transactions. It is logical to also prioritize payroll, rather than relying on users to transfer balances. Since the digital pound would need to qualify as legal tender, it is also crucial to address the feasibility of using it for tax payments and debt settlements and ensuring legal recognition and practical applicability for such transactions would boost confidence and promote adoption. The consultation rightly rejects limits on legal payments based on ethical considerations, and enforcement of this with PIPs should be ensured (see section 5.3.1 and 5.3.6).

Availability to corporates: direct access to the digital pound for corporates may not be essential if retail and salary payments can easily be facilitated between household wallets and corporate bank accounts. However, introducing the digital pound would be an opportunity to improve competition in payment prices and settlement times. If the digital pound can effectively compete in these areas, merchants would likely drive its adoption. There would be a strong argument for prioritising smaller merchants who are sensitive to these factors and less well served under current arrangements. We also note however, that inclusion of corporates may introduce a range of complications including potentially with enforcement of individual holding limits and holding limits as a quantitative restriction and the digital pound. (See section 5.3.3).

Programmability: Programmability of the digital pound could support innovations such as delivery-versus-payment and micro-payments, and potentially pave the way for a digital pound-based decentralized finance (DeFi) system (see section 3).

Financial inclusion: ensuring full and inclusive access to the digital pound is a complex task. Minimal information requirements should be balanced with identity requirements for enforcement purposes and tiered access could help those with limited ability to meet identification requirements. Strict terms for PIPs would be necessary to ensure universal access and prevent exclusion and the cost of holding and using the digital pound should be kept as low as possible. Potentially, mandating PIPs to offer a basic wallet (along the lines of requirement on the CMA9 to provide “basic bank accounts”) would be necessary. Remunerating low balances would support financial inclusion benefiting and incentivise saving among those who rely on cash, but conflicts with Shariah principles would need resolution. Inclusive consultation and development processes are crucial to avoid domination by vested interests (see section 5.3.6).

2. Part A: The Bank’s proposal for the digital pound

2.1 Question 1: Trends in payments (risks/opportunities)?

Addressed in section 3.

3. Part B: Future need for a digital pound?

We agree with the main case made by the consultation that the digital pound may be necessary to replace cash as an anchor within the Sterling system, as well as the case that it could potentially in future also similarly support the integration of new forms of digital monies into the Sterling system, where we believe it can provide a proactive approach to mitigating fragmentation risks and competition issues. Several design issues, interactions among these, and with the regulatory approach on stablecoins must be carefully considered in order to meet these objectives, and trade-offs with financial stability objectives will need to be carefully balanced. Meanwhile by allowing PIPs to implement programmability and other features, the digital pound could also ultimately open the way to significant payments innovation and perhaps the development of a future Sterling DeFi system.

Currently, numerous commercial banks issue private monies denominated in Sterling. The trust and uniformity that has been achieved across the Sterling system is a remarkable feat. It relies on legislation, regulation, the RTGS (real-time gross settlement), institutional arrangements such as interbank clearing, deposit protection, LINK, as well as - crucially - the exchangeability of all private (commercial bank IOUs) Sterling monies with physical cash (mostly IOUs from the Bank of England¹), which provides a trusted universally available form of public money. However, for unity and trust to continue to be maintained this system will need to evolve and adapt in the face of ongoing technology driven change in payments and money.

In particular, considering the clear and ongoing decline in cash usage and ongoing digitalisation, it is likely a digital analogue to cash will become needed to provide continued access to a universally available form of public money to support trust and uniformity. Moreover, while it remains uncertain what new digital monies will (or will not) succeed, the potential risk of the fragmented emergence of new forms of private digital monies is becoming increasingly clear. It is also evident that the issuers of these private monies will not necessarily be banks, and therefore - initially at least - they will not possess the same characteristics as commercial bank money.

The physical nature of cash makes moving between cash and other forms of money challenging. Given that cash is no longer the most efficient possible bridging asset between bank deposits, it would seem even less practical to e.g. require (future) stablecoin issuers to distribute bank notes. A digital pound however, could – assuming adequate interoperability achieved - act as a viable bridge asset between all different forms of money, enabling them to be immediately and freely exchanged at par, solving the fragmentation and competition issues that might otherwise arise. A digital pound may thus become essential for achieving the objective of seamless convertibility between all (current and new) private digital Sterling monies in an evolving landscape.

¹ Since the Peel Banking Act of 1844 gave the BoE a monopoly on notes (although some notes in circulation are issued by Scottish and Northern Irish commercial banks, these are fully matched by Bank of England money held at the Bank of England). Meanwhile coins are public money produced by The Royal Mint under a contract with HM Treasury.

Furthermore, whilst it is important to consider alternative and/or additional responses to potential fragmentation risk and competition issues, we believe there may be a particularly crucial role to be played by the introduction of a digital pound which can provide a uniquely flexible *ex ante* approach to proactively getting ahead of fragmentation and competition issues. We note that many of the key institutional arrangements helping to support unity and trust within the current system, have been reactive measures introduced as *ex post* responses and in many cases developed slowly over time.

We thus agree with the main case made by the consultation that the digital pound may be necessary in order to replace cash as an anchor within the Sterling system. We also support the argument that the digital pound could in future potentially also similarly support the integration of new forms of digital monies into the Sterling system.

Nevertheless, it is essential to carefully consider several design issues that could significantly impact the effectiveness of the digital pound in fulfilling its purpose and maintaining unity and trust. These issues include convertibility, holding limits, interoperability, and eligibility criteria. The interactions between these different design elements, as well as interactions with the regulatory approach on stablecoins, and trade-offs with financial stability objectives will need to be carefully balanced.

Regarding convertibility: the right of holders to exchange their bank deposits for cash at par on demand is fundamental to the role of cash as anchor. Thus presumably, the Bank would exchange bank deposits for digital pounds in order to secure the anchor currently provided by cash. While the consultation does not discuss this, it may be important to also consider whether the Bank should, from a financial stability perspective, also reserve the option to say no (e.g., in the context of a system wide run out of bank deposits). This may be important given that while holding limits can put a saturation limit on any shift from bank deposits into the digital pound, the speed of outflow is still potentially a key risk. This will be particularly the case for a higher holding limit. However, discretionary convertibility of this sort could have a very negative impact on confidence. Thus, there is clearly a tension to be balanced here (just as there is with the right to exchange bank deposits for cash) between the role of convertibility in anchoring confidence and trust vs. convertibility as a source of instability (see section 4.2). This might potentially be best balanced in transition by guaranteed convertibility up to a lower holding limit, rather than discretionary convertibility.

In addition to the importance of holders' ability to withdraw cash, the ability to swap cash for bank deposits is another crucial element in the unity of the pound. We note that the consultation does not explicitly address whether banks would be required to accept digital pounds (from their customers). However, not only would confidence in the ability of holders to convert in *both* directions between bank deposits and the digital pound be essential for the unity of the pound, but it seems likely that in order to enforce individual holding limits, the digital pound would in fact *necessitate* a system of linked spillover bank accounts and continuous automatic sweeping. The resulting implicit large-scale public-private partnership raises important questions on the technical and business challenges involved which appear yet to be answered and it will be important to clarify these issues.

For as long as there is demand for cash and cash survives, it seems important that the digital pound should be exchangeable with cash - a requirement that will depend on physical exchange mechanisms being in place and accessible. There is a clear risk that fungibility is impaired in the context of a declining cash network.

Regarding convertibility with possible future Sterling stablecoins, we support the proposal that the future regulatory approach on stablecoins would require on demand convertibility at par. This would be essential in order to achieve a seamless system. Design considerations for the digital pound and stablecoin regulations are also interconnected in other ways, including holding limits to mitigate disintermediation risk: if individual holding limits are needed to mitigate against the possibility of disruptive deposit flight from the commercial banking system to the digital pound; presumably in principal similar limits might be required (at least in transition) to mitigate against a similar shift toward central bank reserves via stablecoin issuers (depending on stablecoin design/backing arrangements) and it would be the combined overall shift from bank deposits to public money that would be relevant for the banking system. The approach to holding limits might thus need to consider this. However, we propose that if there is to be a shift out of bank deposits, there may be a strong argument to be made that the seigniorage benefit from this should better go to the digital pound (replacing lost seigniorage on cash) than to zero-interest privately issued digital monies not engaged in lending activity. One view would be that the proposed platform model could allow for PIPs to implement and compete on the sorts of actual value-adding payments innovations which might make future privately issued Sterling backed stablecoins attractive (for example allowing PIPs to implement and offer programmability), without giving away valuable seigniorage in the process.

Indeed, whilst adapting to ensure trust in and the unity of money are maintained must be a primary concern, it is nevertheless clear that the digital pound could potentially do far more than provide the obvious benefits of a digital-analogue of cash. In particular, allowing for programmability might support significant innovations. While the consultation notes delivery-versus-payment for retail goods and micro-payments as two simple but significant examples of possible innovations that might be facilitated by smart contracts, conceivably programmability could support the emergence of a broader digital pound based DeFi system. We note that although the consultation rules out the government or Bank of England initiating programmable functions (i) the digital pound would facilitate seamless convertibility between different forms of Sterling, and if in future some of these possessed programmable capabilities, this could support the emergence of a DeFi system. Meanwhile, (ii) the consultation allows for the digital pound to be directly controlled by smart contracts through PIPs implementing and offering programmability. This would seem to open up the possibility of a future digital pound-based DeFi system that - rather than relying on the digital pound as bridge asset and private issuers for seamless convertibility – instead settles transactions directly in digital pounds on the Bank’s core ledger. Of course, this would be influenced significantly by holding limits on the digital pound and also on whether/to what extent the future regulatory regime imposes holding limits or other quantitative constraints on stablecoin issuance. However, we note that, whilst individual holding limits would put a restriction on the overall scale of the digital pound, it would presumably not restrict e.g. liquidity pooling via smart contracts.

4. Part C: Monetary and financial stability issues?

4.1 Monetary policy

The design of a remuneration scheme, including the decision on whether to have a zero interest rate, is one of the most crucial design choices for the digital pound due to the potential risks and benefits at stake. Given the complexities and uncertainties surrounding this question, a prudent approach would be to initially introduce a non-interest bearing digital pound. However, we believe that - should the digital pound be implemented - the question of remuneration would merit future review and consultation. We also note that whilst under current proposals the digital pound would not be used as a policy instrument or for money creation, there are potential interactions with monetary policy transition and traditional money creation processes to be better understood.

It is not technically possible to remunerate physical cash holdings. However interest could easily be paid on people’s digital pound holdings, just as interest is paid on the reserve holdings of commercial banks. The design of a remuneration scheme, including the decision on whether to have a zero-interest rate, is one of the most crucial design choices for the digital pound due to the potential risks and benefits at stake.

We accept both that the proposal to introduce a non-interest-bearing digital pound aligns with the idea of a digital analogue for cash and the objective of it being primarily a payment instrument - rather than a store of value - and that it would also help to mitigate the risk of deposit outflows from the banking system, even under the potentially high holding limits currently proposed by the consultation (see sections 3.2 and 4.3.2 for discussion). This said it may nevertheless be important to consider possible interactions with the interest rate environment (high/low rates) and whether flows into/out of the digital pound might be influenced by the Bank’s policy stance as well as any implications from this for monetary policy transmission.

At the same time, while the consultation explicitly states that using the digital pound as a tool for monetary policy transmission is not a policy motivation, we also note that some possible business cycle benefits and welfare gains of a digital pound that could potentially represent significant opportunities beyond the core case of replacing cash as an anchor for the sterling system, depend crucially on this capability.

Given however that the complexities of this question are not well understood, and there is much uncertainty about the impact of an interest-bearing CBDC, we see a good case for introducing an initially non-interest-bearing version to allow for learning from the experience, whilst working to further the debate and our understanding of issues with respect to other alternative design choices for a remuneration scheme and their implications.

Alternatively, another option could be to introduce an interest rate that is initially set at zero, but that *could* be set at a level somewhere below deposit account rates (noting that whilst deposit accounts pay interest, current accounts

generally do not). This approach could potentially allow greater opportunities for learning as well as supporting adoption and increasing competition amongst current account providers. There could also be financial inclusion benefits as remuneration could serve to incentivise savings habits among those who currently choose or are forced to rely on cash (see our comments in section 5.3.6).² None of this would necessarily compromise monetary policy objectives.

Recognising the firm existing commitment to a non-remunerated model and that any decision to revisit the approach to remuneration would be preceded by a review with full consultation, we recommend that if a digital pound were to be introduced, the issue of remuneration whilst not clear cut, would be likely for this very reason to merit future review and consultation.

We would also note, that although the consultation is clear that the digital pound would be unremunerated and that it is not proposed to use it as a policy tool for monetary policy transmission, the introduction of an unremunerated digital pound may nevertheless have monetary policy implications:

The consultation states that keeping the digital pound retail-focused would help to ensure that monetary policy is implemented effectively (page 42 of the consultation). However, we note that wide retail adoption of the digital pound could/would nevertheless dramatically alter banks' reserve-positions. While on the one hand this could be seen as reverting the system to a pre-QE (quantitative easing) "scarce reserves" regime, we believe there may be some uncertainty regarding reserve requirements in the context of the wider program of post global financial crisis reforms and how the system today would behave under reserve scarcity and this may be an area to improve our understanding.

We also note that whilst the consultation states that the digital pound would not fundamentally alter the traditional channels of money creation, it is not specific on proposed issuance arrangements and how these would interact with traditional money creation channels:

We must assume it would be possible to transfer bank deposits into digital pound wallets and vice versa. Whilst this swap does not fundamentally alter the traditional channels of money creation *per se* (with money creation/destruction continuing to occur via commercial bank loan formation/repayments), we believe the resulting draining of reserves and deposits from the banking system could nevertheless have the potential to impact credit formation. We expect these effects would depend on initial conditions: on the one hand if an overabundance of reserves in the banking system from QE is crowding out bank lending due to balance sheet costs or leverage requirements binding, bank deleveraging via the outflow of deposits into a digital pound could ease these constraints, leading to increased credit provision. If on the other hand reserves are merely ample or especially in a scarce reserves scenario (such as under quantitative tightening), there is potential for the lack of liquid assets in the banking system and loss of deposit funding (if this is not replaced), to result in credit contraction. The Bank would need to take this into account for conducting QE/QT, liquidity and lending operations.³

Meanwhile, would the Bank also provide digital pounds via direct asset purchases? This would not represent a fundamental change from the "new normal" of QE (in the form of direct asset purchases from non-banks), although this would not come (as currently) with an expansion of commercial bank balance sheets (and potential crowding out effect on bank lending). However, since direct asset purchases are large wholesale amounts, this seems unlikely to be consistent with the stated intention that the digital pound would be retail focussed for day-to-day transactions. Although it could become relevant in a future scenario in which limits on holdings and eligibility were reduced.

2 From a financial inclusion perspective, it could also be worth considering remunerating low balances to improve upon cash for those who rely on it and encourage savings habits (see section 5.3.6). While seigniorage on physical currency is regressive but unavoidable, there would be a policy choice over whether to remunerate digital pounds held by citizens.

3 Since there is little example internationally of CBDC effects for potential impacts and concerns about reduced bank deposits, crowding out bank lending, decreasing reserves that may be harmful to bank liquidity when reserves are scarce or may be helpful to alleviating bank balance sheet size and costs when reserves are excessive, and facilitating bank runs and fragility, it may be helpful for the Bank of England in developing its digital pound policies to consider and analyse the partially related example of the Federal Reserve's approach to introducing overnight reverse repos since 2014 in an experimental approach with initial conservative limits that were over time increased on individual account size as well as aggregate amounts (as well as with a low and then increasing remuneration interest rate).

4.2 Financial stability

Holding limits are proposed to mitigate risk of runs and/or large-scale disintermediation. The proposed £10,000 to £20,000 limit appears driven by a “monthly roll-over balance” element of the Banks estimates, meanwhile a lower limit of say £5,000 might still be consistent with the stated objective for the digital pound of being a day-to-day payment instrument rather than a store of value. Any holding limits – especially lower limits - would depend absolutely on an effective continuous automatic sweeping system, thus both the deliverability of sweeping mechanisms, as well as the resulting interdependence between the digital pound and the banking system must be addressed.

The introduction of a digital pound raises questions about the possible speed and scale of uptake and how to manage associated risks. Potential tools to manage risks include individual holding limits, non-remuneration or tiered remuneration, and discretionary convertibility. We note that the consultation is proposing a non-remunerated model and proposes holding limits as a key line of defence against large-scale deposit outflows from the banking system. It does not appear to explicitly address whether there would be policy discretion over the exchange of bank deposits for digital pounds.

Setting appropriate holding limits poses a challenging trade-off. If the limits are set too low, it could hamper the effectiveness of the digital pound as a payment system and as an anchor. Conversely, if the limits are set too high, it may fail to prevent runs and facilitate large-scale disintermediation. This dilemma suggests the need for additional flexible strategies and tools to mitigate and contain risks. Fundamentally, imposing holding limits provide a saturation limit on the scale of outflows, however as the consultation acknowledges a key risk would be if there were to be a rapid outflow of deposits in transition. This may imply that holding limits might e.g., be raised gradually towards a desired level as we learn about demand for the digital pound. The ongoing ability to dynamically adjust limits seems important, although careful consideration must be given to how this adjustment and policy tool would operate in practice. We note that whilst saturated holding limits would mitigate run risk⁴, by the same token, they would also reduce convertibility and the role of a digital pound as an outside option for depositors. Policy discretion over the exchange of bank deposits for digital pounds would be important to consider, especially if higher limits were to be implemented from the outset.

Regarding the limits proposed: the consultation puts forward a holding limit of £10,000–£20,000 per individual and seeks feedback on it. Although the consultation states that a £10,000 limit would allow three quarters of all people to receive their pay in digital pounds, we note that the monthly income element of the estimates presented on this (Chart D.9, p.81 of the consultation) suggests a limit of £5,000 would allow almost everyone to receive their monthly income in digital pounds (see for example ONS Living Costs and Food Survey data Figure 1) and allow roughly three quarters of all people to receive their monthly income, as well as accommodate bonuses and additional variation in monthly income (as calculated by the Bank). Meanwhile the proposed £10,000 to £20,000 limit is driven by the “monthly roll-over balance” element of the Banks estimates. While it is unclear how “monthly roll-over balance” is calculated,⁵ this apparently represents some non-increasing household savings for the marginal household, and headroom to accumulate savings in digital pound wallets for everybody else. On this basis, the proposed limit could be argued to be unnecessarily high in the context of the proposed non-remunerated model and stated objective of being a payment instrument rather than a store of value. On this basis, any surplus to current spending needs might alternatively be automatically swept into interest-bearing deposit accounts. By the same token, lower limits (that more often bind) may exercise sweeping systems and public-private partnership more, resulting in more acute operational and business challenges as well as increased interconnectedness between the digital pound and the commercial banking system.

Without taking a strong stance on whether or not proposed limits are appropriate, we nevertheless believe further analysis and transparency is warranted. Given the significance of holding limits as a design issue and their absolute dependence on automated and immediate sweeping mechanisms, it is crucial to thoroughly analyse both the implications of different limits on the acceptance and usage of the digital pound *and* their impact on the banking system, as well as the practicality of ensuring those sweeping mechanisms are operationally deliverable across the entirety of the UK banking system and that they would have no negative consequences on financial stability etc. Specifically, we note that since limits would depend absolutely on an effective continuous automatic sweeping

⁴ Although this may need to be carefully assessed at the level of individual institutions.

⁵ Page 81 of the consultation states that “the monthly roll-over balance is estimated from monthly income less expenditure”.

system, this implies an intense interconnectedness between the digital pound and the banking system such that e.g. bank failure could have the potential to disrupt the digital pound. Thus, both how this would work, and the implications from resulting intense interconnectedness should be explicitly addressed and carefully considered.

The consultation assumes that substitution from bank deposits to the digital pound would be at a level consistent with the reduction in excess reserves. We would thus also note that whilst on the one hand successive rounds of QE have hugely increased reserve balances, on the other hand a series of liquidity squeezes have highlighted uncertainties surrounding the current reserve requirement of the system and how a “scarce reserves” regime might operate in the context of changes in the regulatory and financial landscape since the global financial crisis. This may require further examination.

Another area that warrants investigation is the potential impact of initial conditions. For instance, the consultation assumes a starting point characterised by large “excess reserves” resulting from successive rounds of QE. However, as the Bank of England proceeds with quantitative tightening (QT), the capacity to swap excess reserves for digital pounds will gradually diminish. Not just the quantity of reserves at the system level, but also factors such as the distribution of reserves among banks may also need to be considered.

Finally, a more subtle point on the implications from setting holding limits: it is a well-known principle that you can fix either the price or the quantity, but not both simultaneously. The proposed rule operates as a price/interest rate rule, setting a zero-interest rate for the digital pound whilst ensuring its availability to meet demand at that price, up to a quantity consistent with holding limits prescribed. Presumably strict individual holding limits mitigate any risk that if demand exceeded the supply of digital pounds a (secondary) market could emerge with the digital pound not always trading at par. On the other hand, it may be worth considering whether strong demand for the digital pound in excess of holding limits could e.g. give rise to some sort of “shadow price”. The implications here are not yet clear but may warrant consideration.

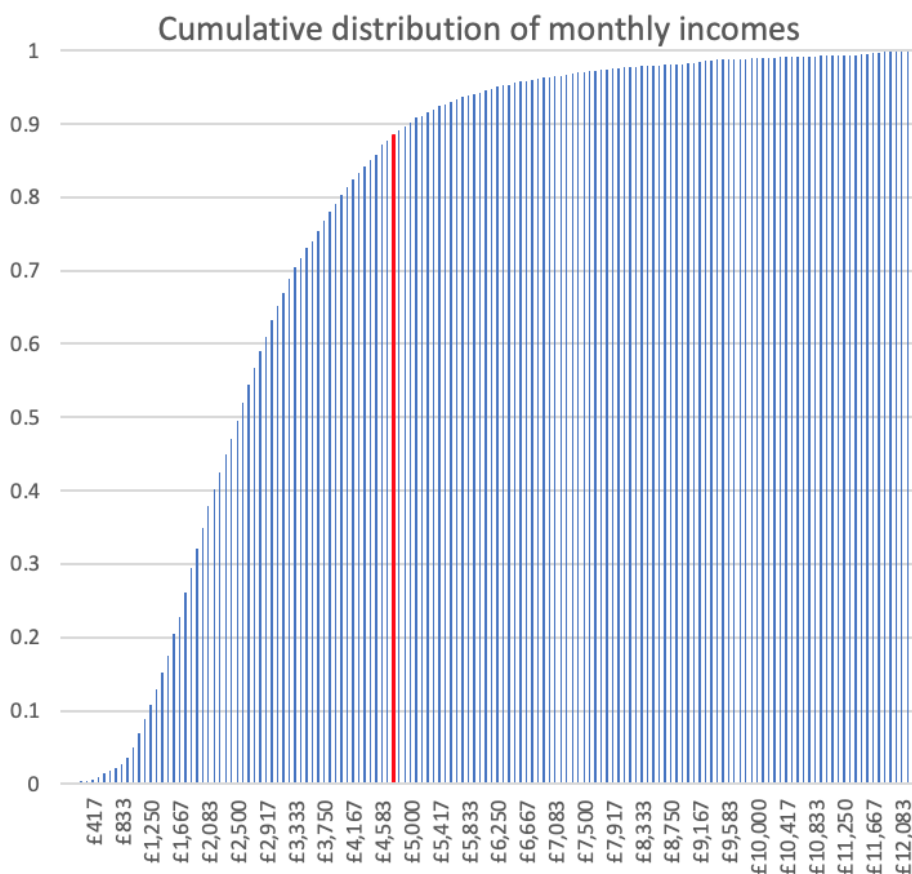


Figure 1: 2019 data. Red bar marks £5,000 monthly income.

5. Part D: The Bank's model for the digital pound

5.1 D.1 The platform model and public-private partnership

5.1.1 Question 2: Platform model (among alternatives) and role of PIPs?

“3. 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?”

If, as stated, the digital pound is to reinforce the role of central bank money as the central anchor, then *de facto* it must be issued by the central bank and free of credit risk (otherwise under a custodial model providers would presumably need to be brought into the deposit protection scheme). We therefore support the proposed model which has the additional benefits of avoiding the complexities that come with a custodial model and the privacy concerns that would come *without* the proposed delegation. Needless to say, this intermediated model would rely on strict rules and enforcement for PIPs. The revenue generation model for PIPs in the proposed “platform” approach (non-custodial model), and regulation and supervision of this, requires further clarification to ensure it aligns with universality and inclusion (see section 5.3.6 for discussion of this) and privacy (see section 5.2 for discussion of this) objectives.

It is also worth noting here, that under the proposed model, PIPs would not be the only public-private partnership. Implementing holding limits would appear to necessitate a system of linked bank accounts and continuous automatic sweeping, implying the digital pound would require a significant large-scale partnership with and be highly interconnected with the banking system. Further details on the technical and business challenges involved and feasibility of this as well as possible interconnectedness based risk implications need to be explicitly addressed.

5.2 D.2 Data protection and privacy

5.2.1 Question 3: Anonymised transactions data? Privacy-enhancing digital pound?

“4. 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?”

It is crucial to guarantee the digital pound provides a level of privacy at least equivalent to bank deposits. We thus welcome the proposed pass-through wallet system and anonymisation of transactions on the core ledger. While PIPs would need to adhere to KYC, AML and CFT standards, they could also be required to provide a privacy baseline with which others must compete. Concerns arise however that the requirement for a bank account for sweeping could limit the potential to provide a privacy baseline, universality and inclusiveness of the digital pound. Identifiability risks associated with transaction data on the core ledger must be mitigated, and the proposed level of anonymization while monitoring holding limits requires clarification.

It is clear that under these proposals the digital pound would provide a level of anonymity comparable to bank deposits and would not provide the anonymity that cash transactions have. We believe that use of the digital pound should provide, at an absolute minimum, the same level of privacy provided by bank deposits. We thus welcome the privacy benefits provided by the proposed pass-through wallet system and anonymisation of transactions on the core ledger i.e., proposal that neither the Bank nor the Government would have access to personal transaction data.

Meanwhile, whilst PIPs would of course need to meet the same KYC/AML and CFT standards as commercial banks (both for KYC/AML/CFT and purposes and to support interoperability), optimistically privacy requirements on PIPs could be used to provide a baseline (option) with which all providers/services would need to compete. In principle this could push those private providers looking to monetise users' data in their services to do so transparently and to either offer value-added in exchange for users' data, or to remunerate them for their use of it – or both.

However, we also have concerns regarding the tension that may arise from the need for sweeping, as it necessitates a bank account for having a digital pound wallet. This raises questions about the potential implications for the digital

pound's ability to ensure a privacy baseline as well as its universality and inclusivity. We also note likely identifiability risk issues with transactions data on the core ledger and would like to better understand how this would be mitigated and the level of anonymisation proposed/that could be achieved whilst monitoring holding limits across the core ledger.

5.2.2 Question 4: Tiered access linked to identify info?

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

Tiered access could support user freedom and benefit those with limited ability to meet ID requirements, promoting inclusion and universality. However, there is a tension between identity data collection for KYC vs. individual privacy and freedom. PIPs should provide a baseline option that meets legal requirements and supports interoperability with banks, and considerations should be given to reducing ID requirements for lower tiers to support broader access. Another challenge arises from balancing individual privacy and enforcing individual holding limits, since verifying user identities becomes crucial for enforcing limits across multiple wallets and the requirement for sweeping and linked bank accounts may introduce additional identity requirement hurdles.

Tiered access (if feasible) would not only help to preserve user freedom (to choose privacy), but crucially could also benefit those with limited ability to meet ID requirements, whose needs it will be essential to address for the purposes of inclusion and universality (see section 5.3.6).

There is of course a fundamental tension between on the one hand capturing identity data for KYC purposes and prevention of crime, and on the other hand universal access, and individual freedom and privacy. Arguably there should be a requirement on PIPs to provide a baseline offer asking no more than the legal and regulatory minima for KYC purposes. A question arises however, how far those minima might be reduced say for the lower tier of a tiered system, to support – among other things – as close to universal access as possible (see also section 5.3.6).

Again however, there may be some constraints arising out of the requirement for sweeping, which will necessitate a linked bank account so come with whatever identity requirements hurdles this requires (also discussed in section 5.2).

We note also that there is - in principle at least – also some tension or trade-off between, on the one hand reducing ID requirements in the interests of liberties and inclusion, and on the other hand the proposal of individual holding limits, which presupposes adequate identity information to know who is behind every wallet in order to verify that a user's holdings across multiple wallets across PIPs are within set limits. In practice, this may come down to whether the lower-qualifying IDs could be sufficiently limited, standardised and/or cross checked so as to prevent multiple IDs undermining the effectiveness of personal limits in achieving the principal financial stability objectives.

We also notice that, whilst users may have multiple wallets across PIPs, they will presumably properly only have a single identity. Thus, the implication is that whilst there may perhaps be solutions to managing who has access to what information from a user's full identity, nevertheless fundamentally you are either a low-qualifying ID user or you are not.

5.2.3 Question 5: “Privacy-enhancing techniques” to give users control?

“6. 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?”

We see potential for PETs to both support users right to choose privacy, push PIPs and others to offer something in return for user's data, and support universality and inclusion objectives. However, PETs are diverse and the details and full implications of the potential use of specific technologies would need to be carefully analysed.

As we have already argued (see section 5.2.1 and section 5.2.2) We believe it would be important both from a freedom and privacy perspective and from an inclusion perspective to give users the option to access the digital pound based on only the legal and regulatory minima. Requiring the provision of this privacy baseline not only supports users right to choose privacy and ability to access the digital pound, but could also push both PIPs and other private providers looking to monetise users' data in their services to do so transparently and to either offer value-added in exchange for

users' data, or to remunerate them for their use of it (or both). We see potential for PETs to support these objectives, however PETs are diverse and the details and full implications of the potential use of specific technologies would need to be carefully analysed.

5.3 D.3 User experience for households and businesses

5.3.1 Question 6: Which payments to prioritise within scope?

7. 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?

Prioritizing in-store, online, and person-to-person payments aligns with the objective of a retail-focused digital pound for everyday transactions. It is logical to also prioritize payroll, rather than relying on users to transfer balances. Since the digital pound would need to qualify as legal tender, it is also crucial to address the feasibility of using it for tax payments and debt settlements and ensuring legal recognition and practical applicability for such transactions would boost confidence and promote adoption. The consultation rightly rejects limits on legal payments based on ethical considerations, and enforcement with PIPs should be ensured.

We note that prioritising in-store and online (that is, all retail) payments as well as person-to-person payments is consistent with the stated objective of a retail focussed payment instrument for everyday transactions. At the same time, it seems to us that payroll should – by the same logic - also be prioritised, rather than relying on users moving balances across.

We would additionally note that since the digital pound would surely have to qualify as legal tender (meaning that it would be legally recognised for the repayment of any monetary debt) any considerations around the feasibility of paying taxes and settling debts in digital pounds would be an essential aspect to address. We also note that ensuring the digital pound not only held legal status but was practically applicable for tax payments and debt repayments would provide the necessary assurance and functionality for individuals and businesses to confidently embrace and utilize the digital pound in their financial transactions, supporting its adoption and acceptance within the broader economy.

We also welcome that the consultation rules out the application of limits on any legal payments on ethical grounds and note that this would need to be enforced with PIPs (see discussion in section 5.3.6).

5.3.2 Question 7: Individual holding limits?

“8. 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?”

Determining holding limits for the digital pound involves balancing its effectiveness as a payment system with the risk of bank runs and disintermediation. Lower limits, such as a £5,000 threshold, could potentially enable widespread use of digital pounds for day-to-day spending while minimizing bank outflows. It is important to have flexibility in introducing and gradually increasing limits. However, implementing limits would require automatic sweeping arrangements with banks, and the deliverability of sweeping mechanisms, as well as the resulting interdependence between the digital pound and the banking system must be addressed. Further analysis and transparency are necessary to establish appropriate limits.

The question of setting appropriate holding limits for the digital pound involves a challenging trade-off between the effectiveness of the digital pound as a payment system and anchor, vs. mitigating risk of runs and/or large-scale bank disintermediation. Considering the Banks estimates (Chart D.9, p.81 of the consultation) arguably lower limits such as a £5,000 threshold could enable almost everyone to receive their monthly income in digital pounds - consistent with use of the digital pound for day-to-day spending - while minimizing the risk of outflows from commercial banks (see section 4.2 for more detailed discussion). As well as considering limits directly, flexibility in introducing limits and the potential for gradual increases may also be important considerations (see section 4.2). However, limits would require automatic sweeping arrangements with banks, and lower limits would likely exercise the sweeping system more leading to increased costs, operational challenges, and risks compared to higher limits. This would also create

interconnectedness between the banking system and the digital pound, potentially impacting the digital pound in the event of a bank failure. Additionally, interactions with identity requirements (see section 5.2) and implications for inclusion need to be considered (see section 5.3.6). Although we don't take a definitive stance on the appropriate limits, we believe further analysis and transparency are necessary.

5.3.3 Question 8: Availability to corporates?

“9. 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?”

Direct access to the digital pound for corporates may not be essential if retail and salary payments can easily be facilitated between household wallets and corporate bank accounts. However, introducing the digital pound would be an opportunity to improve competition in payment prices and settlement times. If the digital pound can effectively compete in these areas, merchants would likely drive its adoption. There would be a strong argument for prioritising smaller merchants who are sensitive to these factors and less well served under current arrangements. Inclusion of all corporates may introduce a range of complications including potentially with enforcement of individual holding limits and holding limits as a quantitative restriction.

The Consultation acknowledges the difficulty in determining which types of businesses should have access to the digital pound. Recognizing this challenge, further research and thoughtful consideration are necessary.

The inclusion of corporates in the digital pound ecosystem may depend on the purpose for which they require or demand digital pounds, which, in turn, relies on how retail and corporate payments interact and the clearing and settlement arrangements between the digital pound and bank deposits. If retail payments can easily be made from household digital pound wallets to corporate bank accounts, and salary payments can easily be made from corporate bank accounts to household digital pound wallets, there may be no necessity to provide corporates with direct access to the digital pound for everyday payments. However, the introduction of the digital pound could provide a useful opportunity to introduce meaningful competition in terms of payment prices and settlement finality. For the most part these are invisible to/ignored by consumers, however corporates – in particular smaller corporates/merchants – are very sensitive to both. Were the digital pound to offer meaningful competition in these two areas, merchants would likely play a significant role in driving the adoption of the digital pound.

Based on this perspective, the digital pound would be most valuable for corporates engaged in numerous retail transactions, particularly the smaller and medium sized merchants which have little bargaining power and are highly sensitive to short term cash flow. While this leaves an open question as to how high their balances should be, if limits were supported by automated sweeping facilities, this would help to minimise required limits. In our view there would be a strong argument for prioritizing small and medium-sized enterprises (SMEs), as they currently face transactional challenges within the existing arrangements.

On a separate point, it is worth considering whether corporate access to the digital pound could introduce additional complexities and challenges in enforcing individual holding limits, particularly if shell corporations could be utilized to bypass these limits. Furthermore, it should be noted that the number of UK corporates is more elastic than the UK population, which could impact the overall effectiveness of individual holding limits as a quantitative restraint on the digital pound.

5.3.4 Question 9: Availability to non-UK residents?

“10. 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?”

Non-UK residents should have access to the digital pound when visiting the UK, possibly through a dedicated low-tier wallet. However, using the digital pound outside the UK raises complexities and currency substitution risks for other jurisdictions. Adequate conditions, such as calibrating holding limits for different jurisdictions, must be implemented to address these concerns (considering that the proposed £20,000 limit may be excessive for some jurisdictions).

The issue of providing access to non-UK residents for the digital pound is complex and poses challenges. Currently, non-UK residents can use cash when visiting the UK and hold it when here or abroad without limitations.⁶ Similarly, it is important to offer access to the digital pound to non-residents, if it is to have widespread utility. One possibility is to create a low-tier wallet specifically designed for non-UK residents within the UK. However, using the digital pound outside the UK introduces some complexities, as it could lead to currency substitution concerns in other jurisdictions. If use of the digital pound outside of the UK were to be permitted, its design should include limitative conditions for non-UK resident access adequate to prevent currency substitution, excessive capital flows, and volatile exchange rates in other countries.

While the optimal arrangements are unclear, if the digital pound were allowed for use outside the UK, the Bank of England would likely need to apply different terms based on users' locations. This could involve calibrating holding limits for different jurisdictions, as the proposed individual limit of £20,000 may be excessively high for some. The specifics of setting up a digital pound wallet for non-UK residents also require further clarification.

5.3.5 Question 10: Does Bank's proposal meet its objectives?

"11. Given our primary motivations, does our proposed design for the digital pound meet its objectives?"

We believe the proposed design for the digital pound does have the potential to meet its objectives subject to a number of design issues (including those discussed in our response); whether interaction with the banking system (including sweeping) and other interoperability issues can be adequately resolved; roll out, awareness and branding; and the behaviour and supervision of PIPs.

5.3.6 Question 11: Design choices for financial inclusion?

"12. Which design choices should we consider in order to support financial inclusion?"

Ensuring full and inclusive access to the digital pound is a complex task. Minimal information requirements should be balanced with identity requirements for enforcement and tiered access could help those with limited ability to meet identification requirements. Strict terms for PIPs are necessary to ensure universal access and prevent exclusion and the cost of holding and using the digital pound should be kept low, potentially by mandating PIPs to offer a basic wallet. Remuneration above current accounts or on low balances would support financial inclusion, but conflicts with Shariah principles would need resolution. Inclusive consultation and development processes are crucial to avoid domination by vested interests.

Ensuring full and inclusive access to the digital pound is a complex task.

To achieve universal access the information requirements and process for obtaining access to the digital pound should be as minimal as possible. We recognise however that balancing this objective with the need for identity verification for enforcement of personal holding limits and compliance with KYC, AML and CFT requirements poses a challenge. As noted in section 5.2.2, tiered access could be considered to accommodate individuals with limited ability to meet identification requirements (including but not limited to prison leavers, insecurely housed, itinerants, refugees and migrants) and ensure inclusivity. One possible detail could e.g. be linking access to the digital pound to the payment of benefits linked to legal status.

It is also crucial to keep the cost of holding and using the digital pound as low as possible, aligning with the goal of a cash-like digital currency. The revenue generation model for PIPs in the proposed "platform" approach requires further clarification to ensure it aligns with universality and inclusion objectives. It seems likely that this would require strong rules and enforcement. One potential strategy could be to mandate PIPs to offer a basic wallet with essential functionality and privacy, similar to the requirement on the CMA9 to provide "basic bank accounts". It would also be important to address the challenge of incentivizing PIPs to market this basic wallet to users who may not demand additional services.

⁶ Although some jurisdictions may impose limits on the amount of cash that people may carry in.

Meanwhile, although the consultation rightly rules out applying limitations on payments on for example ethical grounds (subject to the payment being lawful), we believe this will require strict terms being imposed on and adhered to by PIPs in order to ensure universality of access, and avoid some users being excluded. Indeed, we note potential inclusion benefits here, since whilst private corporations may potentially (and do) choose to exclude some users or raise their fees based on e.g. ethical or political considerations, a properly managed digital pound – as public money and digital analogue for cash - should not exclude or penalise anybody on this basis (within limits of the law).

Meanwhile, since it seems unlikely the digital pound could be designed to be less vulnerable than digital bank deposits and payments are to state surveillance and control type risks, perhaps the best contribution the digital pound could make to mitigating political risk of this sort, would be any contribution it could make to supporting (rather than further substituting) access to cash. This would also contribute to mitigating rather than contributing to digital exclusion – arguably one of the largest inclusion issues currently faced by banking. Due consideration should be given to how convertibility between cash and the digital pound could be supported. However since the exchangeability of the digital pound for cash would presumably need to rely on the UK’s declining existing cash network, it is not clear to us how convertibility between the digital pound and cash would be any better than between cash and bank deposits.

Meanwhile, as noted in section 4.1, some level of remuneration above current accounts (which generally do not pay interest) but below rates on savings accounts would have financial inclusion benefits by improving on cash and incentivising saving for those that currently rely on cash. An alternative consideration would be to offer some level of remuneration solely on low balances, to support the poorest users. We note however that there would be a difficult conflict with Shariah principles (which prohibit interest payments) for any remunerated digital pound, unless e.g., some form of profit-sharing mechanism could be incorporated. For the digital pound to be universal, this issue would need to be resolved before it could be remunerated.

Apart from addressing design choices for financial inclusion, it is crucial to ensure inclusive consultation and development processes for the digital pound. Although money is central to everyone’s daily lives, limited engagement and potential dominance of vested interests pose risks during the consultation process.

Overall, achieving full inclusivity and addressing financial inclusion in the design and implementation of the digital pound require careful consideration of the various challenges and trade-offs.

5.3.7 Question 12: PSED and Equalities Act?

“13. 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 comment.