

Regulatory regime for systemic payment systems using stablecoins and related service providers

A response

R. Bidder^a

^a*KBS, QCGBF*

Abstract

This document contains responses to a subset of the questions asked by the Bank of England in its systemic stablecoin consultation. Questions 2, 6, 11, 12, 16, 20, 21, 23, 24 and 25.

*The views expressed in this document and all errors and omissions should be regarded as those of the authors and not necessarily those of the Deutsche Bundesbank, the Eurosystem, the Bank of England, or Qatar Central Bank.

Q.2 Do you have views on further requirements that may be needed to ensure the singleness of money when stablecoins are traded in secondary markets?

The bank should consider making liquidity facilities available to stablecoin issuers, much as depository institutions may currently access a discount window. This consideration should take into account the (anticipated) safety and simplicity of stablecoin issuers' balance sheets.

Under the Bank's proposals (and indeed under HQLA-backed paradigm, suitably designed) stablecoin issuers appear dramatically easier to regulate than traditional banks, to the extent that liquidity facilities can safely be offered, without the scale, complexity and expense of the regulatory demands currently imposed on incumbent banks who access existing liquidity facilities. Fractional banking and the complexity of modern banks' balance sheets require much more resources to attain the same regulatory outcome than narrow banks/stablecoins with HQLA or central bank money as backing assets.

The bank states on p. 15, in relation to backstops:

A similar arrangement would be challenging to develop for systemic payment systems using stablecoins. The UK's deposit guarantee scheme is funded by the financial services industry with firms paying an annual levy to fund the running of the scheme.

With 100% backed stablecoins (by central bank money or, in my opinion, by HQLA, with appropriate design), the problem these backstops are set up to solve (fragility from fractional banking, excessive leverage, and the complexity of incumbent bank balance sheets) is dramatically reduced. Premia to underpin any insurance or to fund such backstops should be extremely low.

In this early stage of the policy design process it is striking that the Bank would apparently close off this option. Indeed, the Bank or the government might consider helping to fund the scheme in the short run, until enough operators emerge to have the industry 'self-fund' if indeed that proves to be costly, which it may not. One should also recall that such a subsidy arguably already implicitly exists in the incumbent system (excessively cheap deposit insurance and concerns over too-big-to-fail institutions obtaining distorted funding rates).

While stablecoins (and underlying blockchain technologies) work on their redemption efficiency, and under the assumption that they are backed by CB money or, *at worst*, HQLA, it seems that a liquidity facility is an appropriate service to be offered by the central bank. If people run on a stablecoin backed by HQLA (and perhaps HQLA that will soon be *native to a blockchain* and thus easily verifiable/regulatable) then

any redemption problems *should* be smoothed out by public provision of liquidity. This would be consistent with standard Bagehot-esque logic. Of course, the presence of a facility also makes the run less likely (which already is quite hard to envisage for a narrow bank holding only HQLA).

This is not to say that there aren't other concerns arising from HQLA-backed stablecoin. There are interesting debates to be had about whether there is adequate supply of underlying HQLA and whether locking them up to underpin stablecoins could disrupt market functioning in other areas. Some may also question the quality of some assets currently designated HQLA and certainly the reporting/transparency of some extant stablecoins leave a lot to be desired. But these complexities are reasons to include, not exclude, such stablecoins from the regulatory discussion at this preliminary stage.

The bank should include exploration of liquidity provision for HQLA-backed stablecoins as part of its research and broaden its proposal beyond exclusively central bank money-backed stablecoins.

Q.6 Do you agree with the Bank’s assessment of the risks posed by vertical integration of stablecoin functions? Are there other risks that the Bank should consider based on existing business models? What mitigants could be put in place to ensure that risks posed by multi-function entities are addressed?

Vertical integration of the sort considered in the report does pose substantial risks (we have seen as much in well publicised defi and cefi crypto disasters). However, in promoting a single entity responsible for the whole payment chain (as the bank seems to do in the rather opaque discussions on p. 47 and following pages), perhaps the Bank itself is pushing the industry towards vertical consolidation, or at least is promoting the emergence of an immensely complicated institution for regulators to oversee. Is the bank hoping an entity such as pay.uk will emerge to manage and/or take responsibility for the entire payment chain - including administering/controlling underlying blockchains, for example?

On P. 32 where the bank refers to ‘international standards’, I think the Bank dramatically overstates how settled is our understanding (or, indeed, that of CPMI-IOSCO) of best practice in these areas. As the Bank acknowledges on P. 48, there are very particular aspects to blockchain platforms, that would currently make it very difficult to establish a single entity to manage (or at least oversee/be responsible for) every element of the payment chain. At this (very) early stage, is the bank prepared to close off the option of having payments underpinned by a decentralized permissionless blockchain or system of interoperable chains? If so, is the Bank so confident that it is choosing the right model?¹

It is to the Bank’s credit that they state:

the Bank recognises that further supervisory guidance may be needed to give additional detail on how systemic payment systems using stablecoins may comply with the Bank’s requirements already applicable to systemic payment systems

so I hope there will be a flexible and open-minded approach going forward.

¹I also note that on P. 52 the Bank states ‘*the distinction between permissioned and permissionless ledgers refers to the different consensus mechanisms that govern the process used to enable transactions to be approved and recorded*’. Identifying permissioning with consensus mechanisms isn’t strictly correct, though they correlate, as some consensus mechanisms are more appropriate for permissioned or permissionless, public and private.

Q.11 Do you agree with the Bank’s assessment of the important role of backing assets in ensuring the stability of value of the stablecoin?

If the document were discussing wholesale payments / high value settlement, then I would agree that backing should exclusively be with central bank money/deposits. However, given that this document addresses (somewhat) less critical systems, it seems excessively risk averse to limit the backing assets to central bank money. As discussed in my answer to Q.2, the balance sheet structure of an HQLA-backed stablecoin (or one backed with *especially* high quality HQLA) is extremely simple, and far less prone to runs (and certainly insolvency) than banks that currently provide systemic payment services.

Imperfect (though likely to improve) stablecoin redemption methods may conceivably lead to liquidity issues. However, the policy response to such issues have been known since Bagehot - lend against good collateral. It is not at all obvious how a damaging run would emerge in the case of a well regulated stablecoin packed with elite HQLA (possibly issued natively on chain) if the central bank provides it with a liquidity facility. This is especially the case if, as the Bank wisely suggests, some positive capital is also required to be retained by the issuers in their capital structure.

By proposing stablecoin exclusively backed by central bank deposits, there is also the concern that those institutions familiar with the reserves system, will be at an advantage in the (pivotal) early years of stablecoin, when brands and customer loyalty are established. While the Bank has an admirable record of attempting to open its reserves/settlement infrastructure to non-bank providers, it seems important to consider a broader set of stablecoin formats, to further level the playing field. It is not only banks that should be allowed to create money. If other innovative firms without ossified legacy systems are better suited to providing stablecoin services, then they should not be hindered unfairly.

There will be novel problems arising from custody issues that are fundamental to the stablecoin model (we observed some of them in relation to USDC de-pegging around SVB’s failure). There need to be searching discussions of how stablecoins backed by HQLA should arrange this backing. Those discussions can be productively enhanced by the Bank being open to HQLA backing in the first place. Why would anyone innovate and invest in these areas (custody) if the Bank has shut off the possibility (at least for some time) of that being an acceptable avenue? Furthermore, many CBDC pilots have explored on chain issuance of sovereign debt and such native HQLA is on the horizon. This should make HQLA even safer as backing assets though, again, necessitates important discussion of (in this case, private key) custody. The Bank should bear

in mind the opportunity cost of forgoing this discussion when biasing development away from HQLA-backed stablecoin.

The bank should include exploration of liquidity provision for HQLA-backed stablecoins as part of its research and broaden its proposal beyond exclusively central bank money-backed stablecoins. Discussions over the use of HQLA (possibly native to blockchains) and the development of new and improved custody methods should not be closed off at this stage.

Q.12 Do you agree that the proposed remuneration policy is consistent with systemic stablecoins being used primarily for payments?

I struggle to see why the Bank has any right to tell people whether or not they should use or offer a stablecoin with positive remuneration and regard it as money. The bank states:

In line with its view that stablecoins used in systemic payment systems should not be used as a means of investment, the Bank further considers that issuers under its regime should not pay interest to coinholders. This would align the treatment of systemic stablecoins with cash, e-money, and a potential digital pound.

Conditional on the safety of the stablecoin being assured, it seems entirely reasonable to allow a (presumably small) positive rate of remuneration. For example, perhaps a stablecoin will be marketed as a real stablecoin (paying an interest rate that tracks inflation).

Again, this connects to whether (positive-yielding) HQLA is allowed as backing, though profits from offering effective payment services could also fund such returns. The Bank has the right to regard stablecoins as payment technology alone, but it is other peoples' right to regard them as a store of value or even an investment.

Bank deposits offer small positive interest rates. It is very unclear why a stablecoin should not, as a matter of policy - especially as the Bank seems completely comfortable with bank deposits being treated as money and being used primarily for payments.

One possible defence for the Bank's approach could perhaps be that they are worried there will be a 'reach for yield' and there could be regulatory arbitrage through somewhat risky, yet ostensibly HQLA securities, being invested in. Overall, though, the Bank's stance on remuneration is unconvincing here and it does not seem to be referring to any standard authority for its stance.

Q.16 Do you agree that issuers should have access to customer information to be able to fulfil redemptions in the case of the failure of an entity providing the customer interface, eg a wallet provider and/or to facilitate a faster payout in insolvency?

Yes, though that doesn't mean that they should have access to customer information in *normal* times. One concern that arises from the Bank's CBDC proposals, and related to the stablecoin debate also, is that payment providers will end up accessing excessive insight into the public's lives. This could then be exploited in anti-competitive and privacy-violating ways.

The Bank frequently refers to these concerns when articulating a possible justification for CBDC. The implication is that a public body would not seek to profit from this data in the way a private sector provider might. However, by simultaneously proposing a platform model and (it seems) delegating wallet operation and programmability to payment providers, the Bank seems to be providing an on-boarding ramp to a digital world where the public's details are still available to be exploited. Of course this can - and probably should - be separately dealt with via appropriate privacy reforms (and perhaps with the emergence of Self-Sovereign Identity infrastructure, ZK methods, homomorphic encryption), rather than being the responsibility of the Bank. However, a small contribution can perhaps be made by requiring that the default setting for such operators (and stablecoin issuers) is initially not to see customer information - though consistent (somehow) with adequate KYC/AML.

The debate over privacy enhancing technologies and the tensions with KYC/AML/security are beyond the scope of this document, but it seems reasonable to leave the decision over whether to reveal details in the hands of (self-sovereign) users in normal times. In emergency periods, the argument to provide additional/easier access to stablecoin issuers is stronger. Emergency access to information may offset other challenges to liquidity that might arise in those contexts, and where *individually* optimal decisions by users (to continue masking their details) might be *collectively* suboptimal and destabilizing to the financial system.

Q.20 Do you consider that the capital requirements would effectively mitigate risks that may result in a shortfall in the backing assets or that can threaten the ability of issuers to operate as a going concern?

The bank states on p. 72

The Bank proposes that capital would need to be maintained at an appropriate level and held in high-quality and highly liquid assets, in order to mitigate the risks it is intended for.

Setting aside the language that implies capital is an asset, the thrust of requiring a capital buffer makes sense. However it seems reasonable for capital ratios to be set lower than for standard banks - at least once the business models and operation risks of stablecoin issuers have settled down and been battle tested (this assumes HQLA or central bank money-backed stablecoins). Indeed operational risks arising from buggy smart contracts could actually render apparently non-systemic stablecoins systemic, if they all are underpinned by the same smart contract implementations. As such, in the early years, stablecoins (especially those not backed exclusively by central bank money) should have higher capital requirements than they likely would in the long run.

Q.21 Do you have views on the approach (including any existing or bespoke methodologies) that should be considered for calibrating capital requirements?

They should perhaps be lower than for (incumbent, traditional) banks, particularly if a liquidity facility is provided and the backing assets are safe and simple. They should initially be higher than their steady state, as there are enormous operational risks surrounding untested stablecoin ecosystems at scale in the early years of operation (e.g. bugs in smart contracts that are widely used). Indeed, the correlation of risks from relative uniformity of smart contracts - even if they are audited - is one of my main concerns with stablecoins.

Q.23 Do you have views on the range and quality of the assets issuers would be required to hold to mitigate shortfall risks?

Systemic stablecoins should be backed by central bank deposits and, in my opinion, (superior forms of) HQLA. I could envisage there being some minimal reserves ratio though perhaps not an especially high one. There is a good argument to consider allowing non-bank providers to hold deposits with the central bank.

Q.24 Do you agree that, at least during a transition, limits would likely be needed for stablecoins used in systemic payment systems, to mitigate financial stability risks stemming from large and rapid outflows of deposits from the banking sector, and risks posed by newly recognised systemic payment systems as they are scaling up?

Likely yes. In fact, in my own research (*CBDC and Banks: Disintermediating fast and slow* - joint with Matthias Rottner of the Bundesbank and Tim Jackson of the University of Liverpool), evidence is offered that suggests that a CBDC alone might be destabilising of the financial system (in providing an especially suitable asset to run to) but with limits could be stability-enhancing because it reduces the size of a fragile banking system (by competing with deposits and making bank funding more expensive). It is not at all obvious that CBDC will be especially popular or draw much funds from banks in normal times (though in a survey of German households we show that the substitution may not be trivial). In times of banking stress, however, there may be a more substantial move.

I expect stablecoins (particularly if they are remunerated) to be more popular than CBDC, as the Bank seems to be proposing a very limited (e.g. no programmability) digital Pound. As such, one would think the risk of disintermediation would be higher for stablecoins and the demand for limits, greater.

Again, I would note that even non-systemic stablecoins could be underpinned by a small set of commonly used contracts that could hide significant correlation risks. Latent systemic risk in the early years of stablecoin (regardless of their official definition as systemic or non-systemic) is a significant concern. As such, limits could be justified on that basis too - with the aim of raising them once stablecoins are battle tested or when other mitigants of risk have emerged.

Q.25 Do you have views on the use, calibration and practicalities of limits?

In my aforementioned work (*CBDC and Banks: Disintermediating fast and slow* - joint with Matthias Rottner of the Bundesbank and Tim Jackson of the University of Liverpool) our model, partly calibrated to EU data and hypothetical digital euro demand in our survey of German households, suggested ideal limits of around EUR1500-2500. The model was very simplified in many dimensions, however. Nevertheless, these numbers are similar to what representatives of the ECB have been mentioning in recent times. In its CBDC discussions, the Bank has mentioned higher limits (GBP10k-20k) - calibrated (it seems) off examining uninsured deposits and also from a desire to allow a large fraction of the population to go about their daily payment lives (standard expenditures, receiving salaries), making use of the digital pound. This is not an unreasonable approach, though it is striking how much higher the limit is than in the European case.

The Bank should likely run several household surveys, throughout their design process, to see what hypothetical demand among households and firms might be. Elasticities of substitution derived from models of competition in the banking sector and between deposits, savings accounts and other ‘money-like’ assets should be estimated.