

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

Discussion paper

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This discussion paper sets out the Bank of England’s proposed regulatory framework for systemic payment systems using stablecoins and related service providers. It is published alongside: the [Financial Conduct Authority’s discussion paper](#) <sup>↗</sup> on its proposed regulatory framework for stablecoin issuers and custodians that fall under its remit; and a [letter from the Prudential Regulation Authority to bank CEOs](#) that sets out expectations for banks issuing different forms of money including tokenised deposits. Further information on how these regimes complement each other can be found in the accompanying [roadmap paper](#).

## Foreword

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Confidence in money is fundamental to UK financial and economic stability. Two forms of money are currently available in the economy.

- The first, fiat or ‘outside money’, is backed by a promise of the state, and includes both cash that is available to the public and central bank reserves that are only available to commercial banks and certain other financial institutions.
- The second, known as ‘inside money’, is issued by the private sector, predominantly commercial banks, and its value is preserved through a combination of strict regulation and issuers’ access to central bank deposits.

Stablecoins used in systemic payment systems would fall into this ‘inside money’ category and would be subject to the Bank’s regulatory regime set out in this discussion paper, including the requirement that they are backed by central bank deposits.

Apart from these forms of money, other assets may be ‘money-like’ in that they are used for payments. Some of these are regulated to support a stable value, but issuers do not have access to central bank deposits and are subject to lighter regulation. These assets include e-money and stablecoins issued by firms outside the Bank’s remit.

There are also assets that incorrectly purport to be money. These are not suitable for use in payments as they do not have a stable value – they include unbacked cryptoassets.

Rapid innovation over the past few decades has changed the way we pay for goods and services. While cash continues to be available for all, its use has been steadily declining and new technologies are generating new forms of digital assets, some of which take the form of money. Households and businesses already have more choice as to how they make or

receive payments. Further innovation could contribute to faster, cheaper and more efficient payments with greater functionality, both domestically and for cross border use. However, for these benefits to be realised, any new forms of digital assets need to be safe.

Ensuring that these innovations meet the evolving needs of households and businesses, while maintaining financial stability, are fundamental responsibilities of the Government and the Bank. There are new digital forms of both public ('outside') and private ('inside') money. The Bank published a [consultation paper on the digital pound](#) in February 2023, in which we discussed the possibility of the Bank issuing a digital currency. We will shortly publish a response to that consultation. This discussion paper focuses on one emerging form of privately-issued digital assets – so called 'stablecoins'.

Stablecoins are a form of digital assets that purport to maintain a stable value relative to a fiat currency by holding assets (which may be of variable value) as backing. As they operate today, existing stablecoins are mainly used as the asset to settle transactions in the crypto world, and do not meet the standards that we would expect, were they to be used for payments more widely. But, as stablecoins purport to have a stable value, and may offer advantages in terms of cost, convenience and functionality, many people in the UK could quickly start to use stablecoins for everyday payments. It is therefore sensible for regulators to set out the regulatory framework that would be needed were stablecoins to become widely used as money for payments in the economy.

The safety of payments and confidence in money are fundamental to financial and economic stability. The Government has introduced legislation that gives the Bank the power to introduce a new regulatory framework to ensure that stablecoins can be used as a safe means of payment. Setting out a framework within which this type of innovation can flourish in a sustainable way will ensure that the stability of the financial system is safeguarded and the provision of payments services upon which people depend is safe and reliable.

This discussion paper sets out the Bank's emerging thoughts on the regulatory framework for systemic payment systems using stablecoins, ie those used for everyday payments in the UK. It builds on the Bank's previous discussion paper on [new forms of digital money](#) published in June 2021, and the Financial Policy Committee's expectations for stablecoins set out in the December 2019 Financial Stability Report.

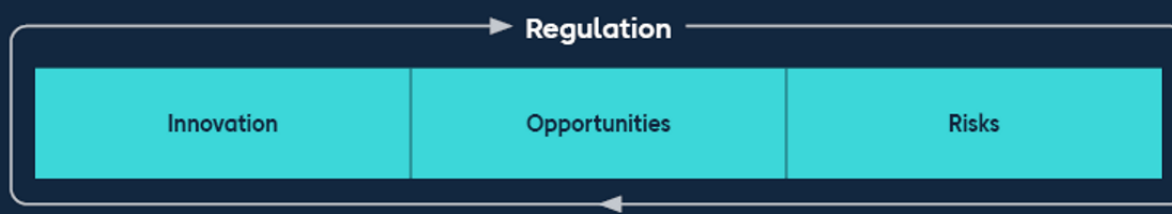
My hope is that this paper will encourage further research and dialogue between the Bank, the payments industry, technology providers, payments users, financial institutions, academics, other central banks and public authorities, and broader society. I encourage anyone with an interest in the issues covered in this discussion paper to respond.

Andrew Bailey

# Part 1: The Bank's proposed regulatory framework

## 1: Innovation in payments and money, and the role of the Bank

Figure 1.1: Regulation lays the groundwork for safe innovation



**The Bank's regulatory regime for systemic payment systems using stablecoins aims to support innovation in money and payments, while safeguarding risks to financial stability.[1]**

The financial system is a diverse set of institutions, markets and activities that people and businesses rely on to support their economic activity. Innovation, including in money and payments, plays an important role in improving the provision of the financial services on which people and businesses depend. The past few decades of innovation have transformed the way we use money to make payments and more recent technological developments are likely to transform this even further. This creates exciting new opportunities both for those that innovate and those that will benefit from new financial products. However, to ensure that innovation is safe and supports, rather than poses a risk to, economic activity, it is important that both new and existing financial activities are regulated appropriately.

Stablecoins aim to maintain a stable value relative to a fiat currency. Stablecoin issuers generally maintain the value of the stablecoins by holding a pool of backing assets, which can be sold in order to return customers' funds to them. As a practical example, if a coinholder paid £100 to the stablecoin issuer, the coinholder would receive an equivalent value of stablecoins in return, ie £100 (minus any potential fees). The stablecoin issuer would then hold the £100 (or remaining amount if fees are deducted) in the form of backing assets. If the coinholder later chose to redeem their stablecoins, the issuer would need to return that amount to the coinholder (minus any potential fees) and take the stablecoins out of circulation.

At present, stablecoins are primarily used to settle transactions, or to store value, in cryptoasset markets. But there are proposals for them to be more widely used for payments in everyday life, competing with cash and commercial bank money, which are the forms of money that are available today.

The Bank's regulation of firms that operate payments at a systemic scale in the economy is rooted in the risks those firms, and the activities they undertake, pose to UK financial stability. To understand how systemic payment systems using stablecoins should be regulated, it is therefore important to understand the financial stability risks they pose, particularly to the robustness of money and payments and the confidence people and businesses have in them.

### 1.1: Stablecoins as an innovative means of payment

**There has been rapid innovation in payments over recent decades, and the ways we pay for goods and services and what forms of money we use are changing.**

Openness to financial innovation and a competitive environment have long been hallmarks of the UK's success in providing financial services to people and businesses. The UK has one of the largest international banking sectors in the world and is home to a thriving ecosystem of financial services provided by non-banks. These services range from traditional insurance and fund management services to trading activities and derivatives clearing to specialist financial services such as Islamic finance.<sup>[2]</sup> For this ecosystem to continue to thrive, it is important that the UK continues to welcome and support innovation that can safely improve the efficiency, accessibility, and resilience with which financial services are provided to households and companies, thereby boosting sustainable economic growth.

Making and receiving payments plays a vital role in our everyday lives and is crucial for the economy. We have seen rapid innovation in payments in the UK (and globally) over recent decades. While cash continues to be available for all to use, and **the Bank is committed to providing cash as a viable means of payment**, its use has been steadily declining. As technology has transformed the way we live and interact, it has changed the way we pay for goods and services and what forms of money we use to do so. Many of us now make digital payments at the tap of a card, mobile phone or other electronic devices for the majority of our day-to-day payments and rely on virtual rather than physical wallets.

New technologies, such as 'distributed ledger technology' (DLT), including 'blockchain', have enabled the emergence of new forms of digital assets, and digital money.<sup>[3]</sup> Competition is increasing, as firms other than traditional providers, such as technology companies, are moving into the provision of payment services.<sup>[4]</sup>

Commercial banks are exploring whether they could issue a tokenised form of bank deposits, while a range of central banks, including the Bank, are exploring how new technologies could be used to issue a digital version of central bank money. In February 2023, the Bank and HM Treasury (HMT) [published a consultation paper](#) <sup>[5]</sup> in which they assessed the case for issuing a ‘digital pound’ and consulted on design choices. This would be digital money for use by households and businesses for their everyday payments, issued by the Bank with digital wallets provided to customers by the private sector.

While these plans by commercial and central banks are still in their early stages, new technologies have already led to the emergence of new non-bank private providers of digital assets that could be used for payments. These are known today as stablecoins. The Bank set out its emerging thoughts on new forms of digital money, including stablecoins, in its [2021 discussion paper](#).<sup>[5]</sup>

**Stablecoins could be used as a new form of digital money transferring value in new payment systems. They could offer benefits as an innovative way of settling transactions that enables new services and functionality in payments.**

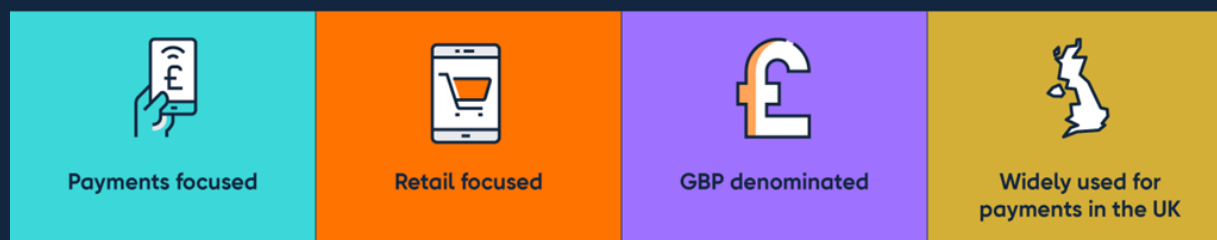
Payment systems using stablecoins are a new type of system for transferring value – the essence of any type of payment – which is built on innovative technology. They facilitate payments and the settlement of transactions independently of existing payment systems (albeit with existing payment platforms being used to purchase and redeem the stablecoins – so called on-ramps and off-ramps).

Payment systems using stablecoins might be able to offer significant benefits to users (Box A). For example, the technology means that they could contribute to faster, cheaper and more efficient payments, both domestically and for cross-border use. And they may offer greater functionality and programmability – the ability to automate the transfer of value more extensively and more efficiently via ‘smart contracts’. They could provide greater choice by competing with existing forms of money and payment systems. And they could open the door to future innovations that meet evolving transaction needs. The technology is as yet unproven at the scale and resilience level needed if they were widely used for everyday payments. Nevertheless, payment systems using stablecoin technologies have the potential to be used at greater scale and become a systemic element of payments in the UK economy.

## 1.2: The new regulatory regime for systemic payment systems using stablecoins

**Figure 1.2: Scope of the Bank's proposed regime**

What type of stablecoin is the regime intended for?



**For innovation in payments to thrive, regulation is needed to ensure it is safe and sustainable.**

For the potential benefits of payment systems using stablecoins to be realised, it is necessary to have clarity about the regulatory framework within which they would need to operate. This will enable innovation to flourish in a sustainable way. Safety of sterling payments and confidence in money are fundamental to UK financial and economic stability. Having a clear regulatory framework will help to ensure that the stability of the financial system is safeguarded and the provision of payment services on which people depend are safe and reliable, even as issuers of new forms of money and operators of payment systems exploit new opportunities made possible by technological change. And it will allow those who want to use innovation to provide better products and services to understand the risks that need to be managed in line with the framework as they develop those products. It also ensures that new, innovative products are not simply gaining a competitive advantage over existing products by taking higher risks.

New technologies may be exploited by existing or new commercial banks by the tokenisation of the bank deposits that constitute the great majority of the 'money' used to make payments in the UK today. Equally they might be used by new non-bank entrants to the payments market whose business models are focussed more tightly on the provision of payment services as opposed to wider banking services.

The roadmap paper that accompanies this discussion paper explains how the regimes for these different models fit together, as summarised in Figure 1.3. For banks, the current regulatory regime for banking will need to be applied and tokenised deposits and other new forms of digital money will be subject to the approach set out in the accompanying letter to bank CEOs from the PRA. For non-banks, the Bank of England's current regulatory regime



for systemic payment systems and service providers will need to be extended to capture new technologies and risks, as will the Financial Conduct Authority (FCA) regime for payment providers.

**The Government has enacted legislation that will allow the Bank to regulate systemic payment systems using stablecoins, to ensure they can be used as a safe means of payment and store of value.**

**Figure 1.3: Regulatory landscape for stablecoins issued by non-banks and banks**



Note that banks could issue other forms of money besides deposits, but deposits can only be issued by banks.

Ensuring that modern forms of money and payments meet the evolving needs of individuals and businesses, while maintaining financial stability, are fundamental responsibilities of the Government and the Bank. Reflecting this, under the Financial Services and Markets Act

2023 (FSMA 2023), Parliament<sup>[6]</sup> has expanded the regulatory remits of the Bank, the FCA, and the Payments Systems Regulator (PSR), to include stablecoins and payment systems using stablecoins.

The Bank's implementation of its expanded remit is intended for stablecoins that are widely used for payments in the UK and that may pose risks to financial stability – which we refer to as 'systemic payment systems using stablecoins'. The FCA's remit will cover all 'fiat-backed stablecoins'<sup>[7]</sup> issued in the UK. Stablecoins issued outside the UK will need to be approved for use in payments chains in the UK. This will allow the FCA to set rules to protect consumers and protect and enhance the integrity of the UK financial system, including where UK-issued stablecoins are used for activities other than payments. Further details as to the legislation and the regulators' expanded remits, including for the PSR, are given in Section 2.

The Bank's remit will cover systemic payment systems using stablecoins, systemic service providers to payment systems using stablecoins and related service providers. In existing payment systems, payments are made by transferring money that has been issued by central banks or commercial banks. When a stablecoin is used to make a payment, the stablecoin itself is transferred. Hence, an important element of the Bank's regulatory regime will be to ensure systemic payment systems using stablecoins meet minimum standards in relation to the settlement asset being transferred – the stablecoin – itself. The key terms used in this discussion paper to describe the Bank's proposed regulatory regime are provided in Table 1.1.

Table 1.1: Definitions of key terms used throughout the discussion paper

Term	Definition
<b>Digital settlement asset (DSA)</b>	<p>A digital representation of value or rights, whether or not cryptographically secured, that-</p> <ul style="list-style-type: none"> <li>• can be used for the settlement of payment obligations;</li> <li>• can be transferred, stored or traded electronically; and</li> <li>• uses technology supporting the recording and storage of data (which may include distributed ledger technology)</li> </ul>
<b>Service provider</b>	<p>An entity that provides services in, or to, the payment chain, including entities such as issuers, wallet providers and exchanges, which is subject to regulation by the Bank. In relation to DSA, a service provider could be recognised by HMT as (i) systemic in its own right or (ii) systemic because it provides essential services to a systemic payment system using stablecoins or to a systemic service provider</p>
<b>Stablecoin payment chain</b>	<p>A set of activities/entities organised to facilitate payments through a payment system that uses stablecoins (which may include entities that are not regulated by the Bank)</p>
<b>Stablecoin</b>	<p>These are a form of digital assets that purport to maintain a stable value relative to a fiat currency by holding assets (which may be of variable value) as backing.</p>
<b>Systemic payment stablecoin</b>	<p>A stablecoin that is used as the DSA by a payment system that is recognised by HMT as systemic</p>
<b>Systemic payment system using stablecoins</b>	<p>A payment system that uses a stablecoin as the DSA and that is recognised by HMT as systemic</p>

**The regulatory standards proposed in this paper focus on sterling-denominated stablecoins used in systemic payment systems for retail payments.[8]**

As noted previously, existing stablecoins are primarily used to settle transactions and to store value in cryptoasset markets. These markets have been growing rapidly and have already experienced a number of failures (Box B). However, they remain relatively small and have limited interconnections with the wider financial system. Consequently, the Financial Policy Committee (FPC) of the Bank has judged that, at present, **direct risks to the stability of the UK financial system from cryptoassets and decentralised finance (DeFi) are limited**, and hence stablecoins used primarily in cryptoasset markets or DeFi would not currently be considered as systemically important. In contrast, sterling-denominated stablecoins that are

intended to be used widely for everyday payments by households and businesses in the UK would likely be recognised as systemically important. As such, they would need to be prepared to meet the regulatory standards proposed in this paper.

**The Bank is considering the risks and benefits from innovations in wholesale settlement and will set out its views on this in due course.**

For stablecoins that could be used for wholesale payments,<sup>[9]</sup> the Bank noted in its [2021 discussion paper](#) that these raise different risks and issues that go beyond those addressed by the regulatory regime focused on in this paper. The Bank recognises that [innovation may have potential benefits for wholesale market transactions](#). In this vein, Box C sets out the approaches to innovation in wholesale settlement that the Bank is currently pursuing, including the [renewal of the RTGS service](#) and a Roadmap for RTGS beyond 2024. The Bank is considering the risks and benefits of further innovations in wholesale settlement, including the use of stablecoins for wholesale purposes, and will set out its views in due course.

### 1.3: Safeguarding financial stability and the singleness of money

**Systemic payment systems using stablecoins may pose risks to financial stability that differ and go beyond those associated with other payment systems and with money issued by commercial banks in the form of bank deposits.**

In its [2021 discussion paper on digital money](#), the Bank examined the implications of new forms of digital money, including stablecoins, which have the potential to scale up and grow rapidly, and to become widely used as a trusted form of sterling-denominated payments.<sup>[10]</sup> It outlined the potential opportunities and risks presented by such stablecoins for monetary and financial stability (Box A). It noted that the most significant risk to financial stability arises from the potential for stablecoins to undermine public confidence in money and payments, and hence in the wider financial system. The analysis in the [2021 discussion paper](#) and the [responses to it](#), have informed both the Bank's proposal set out in this paper and the legislation underpinning it.<sup>[11]</sup>

**To maintain confidence in money and payments, all forms of money should have the same value, be generally accepted as a means of payment and be interchangeable without loss of value with all other forms of money used in the economy. This is called the singleness of money.**


The 'singleness' of money refers to the principle that all forms of money should have the same value, be generally accepted as a means of payment and be interchangeable without loss of value with all other forms of money used in the economy. The stability of the UK economy and monetary system relies on this principle.

In the case of stablecoins, singleness of money could be compromised by frictions (eg delays, costs) in the ability to exchange the stablecoins for other forms of money, disruption to the ability to make payments, or a lack of confidence in the issuer's ability to fulfil requests for redemption in full. In particularly adverse scenarios, a lack of confidence could cause a run on the stablecoin, involving redemption requests from a large number of coinholders. This, in turn, could overwhelm the issuer's capacity to redeem the stablecoins, thereby leading to its failure. If this happened to a systemic payment system using stablecoins, it could disrupt the ability of users to make payments and lead to a loss of confidence in money and payments, and in the financial system more broadly.

Following a decline in the use of cash for payments over time, commercial bank money, which is issued by commercial banks in the form of bank deposits, now constitutes the majority of money used to make payments in the economy. For systemic payment stablecoins to be used alongside commercial bank money, the Bank must be satisfied that they provide an equivalent level of protection against loss of value and loss of confidence, in order to safeguard financial stability. This means that they must be regulated to an outcome equivalent to that which applies for commercial bank money in terms of resilience against risks – in other words, 'same risk, same regulatory outcome'. This does not mean that issuers of stablecoins have to be regulated in exactly the same way as commercial banks. But it does mean they must be regulated in a way that ensures that stablecoins would maintain the same value as, and would always be fully interchangeable with, other forms of money. This speaks to the singleness of money.

**To preserve the singleness of money, systemic payment stablecoins must be fully interchangeable with other forms of money.**

Today, stablecoins are commonly traded in secondary markets. Their prices frequently deviate from par value and in times of stress these deviations can be significant. Were these stablecoins to be widely used for payments in the economy, such deviations would be a departure from the singleness of money and compromise confidence in them and their general acceptance in payments.

The Bank is not minded at present to prohibit systemic payment stablecoins from being traded on secondary markets. Rather, its proposed regulatory regime seeks to remove incentives for market participants to exchange systemic payment stablecoins at rates that depart from par. In particular, our approach is to require all issuers of sterling-denominated systemic payment stablecoins to ensure that they can be exchanged at par – that is, without loss of value – for other forms of money, including a digital pound (if introduced), on demand. This is consistent with the [international standards published in July 2022 by CPMI-IOSCO](#)  for payment systems, which state that stablecoins should be convertible into other liquid assets as soon as possible, at a minimum by the end of the day, and ideally intraday.

The Bank recognises, however, that in future further requirements might be needed to maintain the singleness of money. This might include arrangements to ensure that, when coinholders move between stablecoins and commercial bank deposits, or other forms of money, these transactions are settled between the relevant institutions via accounts held at the Bank. This ensures that transactions are settled in central bank money (at par, and with no risk of change in value), which some argue is key to maintaining the singleness of money [↗](#). The Bank welcomes views on this topic and will outline any further requirements in due course.

**Question 1:** Do you agree that, to preserve the singleness of money, systemic payment stablecoins must be fully interchangeable with other forms of money at par?

**Question 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?

#### 1.4: The FPC's principles and expectations

**The FPC has set two expectations for systemic payment stablecoins. These are consistent with a 'same risk, same regulatory outcome' approach to regulation.**

In 2019 Q4, the FPC considered the risks of stablecoins that could have the potential to become widely used as a means of payments. These were assessed alongside other payment chains and existing forms of private money (ie commercial bank money). In the light of this assessment, the FPC set out two expectations around the regulation of systemic payment stablecoins:

- Payment chains that use stablecoins should be regulated to standards equivalent to those applied to traditional payment systems using commercial bank money. Firms in stablecoin-based systemic payment chains that are critical to the functioning of the chain should be regulated accordingly.
- Where stablecoins are used in systemic payment chains as money-like instruments they should meet standards equivalent to those expected of commercial bank money in relation to stability of value, robustness of legal claim and the ability to redeem at par in fiat.[12]

**The FPC has subsequently clarified that systemic payment stablecoins issued by non-banks, which do not benefit from deposit protection or resolution arrangements, could nonetheless meet its expectations as long as regulation is designed to mitigate risks to financial stability to the same degree.**

Under the banking regime, the safety of commercial bank money benefits from a backstop deposit guarantee scheme and resolution regime. 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. At least in the short term, it is likely there will at most be a small number of systemic payment stablecoins in the market, which could limit the ability to pool risks to provide a sufficient guarantee at reasonable cost. And while, in principle, the risks of stablecoins could be pooled together with those of banks, this may not be appropriate given their different business models (both financial and operational), technology and regulatory frameworks. Meanwhile, a resolution regime for systemic payment stablecoins, if required, may take a number of years to design and implement.

In order to meet the FPC's expectations in the absence of backstop arrangements that are available for banks, other elements of the regulatory regime, such as backing and capital requirements, would need to be more robust than for banks to ensure the necessary overall level of protections. These protections seek to ensure that stablecoin issuers are able to meet redemption requests promptly and in full, in normal times or in stress, so as to mitigate the risk of losses to coinholders.

The figure below summarises the key elements of the proposed regulatory framework, which is described in the remainder of this discussion paper.

**Figure 1.4: Key elements of the regulatory framework for systemic payment systems using stablecoins and related service providers**

Issuers		Transfer function/payment system	Wallets
Stablecoins fully backed with central bank deposits	Issuers must have UK presence	Comply with the Bank's requirements and international standards for systemic payment systems	Coinholders' legal rights and private keys must be protected
No interest on central bank deposits and no interest to coinholders	Legal claim against issuer and smooth redemption process	Settle using an asset that meets the Bank's requirements (see first column)	
Capital to mitigate operational risks	Holding limits for individuals	Infrastructure, including ledger, must meet the Bank's requirements	Method of storage should not impair compliance with the Bank's requirements
Robust safeguarding regime for the backing assets	Legal separation of issuance and other activities		

All firms in the chain will be expected to demonstrate robust requirements in the areas of governance, risk management, operational resilience, third party outsourcing as well as managing failure



## Box A: Opportunities and risks presented by new forms of digital money

The Bank outlined the opportunities and risks presented by new forms of digital money, including stablecoins, in its [2021 discussion paper](#). These are summarised below.<sup>[13]</sup>

Potential benefits include:

- **Boost to economic activity**

Innovation in this area could offer both new forms of money, and new infrastructure to transfer such new forms of money in order to make payments with new functionalities. Such innovation could boost economic activity. It could contribute to faster, cheaper, and more convenient and efficient payments with greater functionality. And it could open the door to future innovations that meet the evolving transaction needs of households and businesses.

- **Lower costs and increased speed across the payment chain**

New forms of digital money and payment systems could enable cheaper payments by increasing competition, lowering the costs faced by retailers when accepting payments. By offering real-time settlement, new forms of digital money could also avoid the liquidity costs incurred by the multi-day settlement timeframe that currently often occurs. Monies exchanged would immediately belong to the recipient and the payment would be irrevocable (with refunds and returns processed as separate payments).

- **Greater resilience of the UK payments infrastructure**

As an independent means of payment, new forms of digital money and payment system could add resilience and act as a contingency in the event of a disruption to other payment mechanisms. For example, they could help alleviate temporary problems with card payment networks.

- **Meet future payments needs**

New forms of digital money and payment system could help meet future payment needs. For example, they could allow users to execute payments automatically based on some defined criteria – so called ‘programmable money’. They might also enable payments for very small amounts – or ‘micropayments’ – if they allow small transactions to happen at a lower cost than today, potentially contributing to improved financial inclusion.

- **Improve cross-border payments**

New forms of digital money and payment system could further act as a building block for better cross-border payments. This would mean, for example, that

households and non-financial businesses could make cross-border payments quicker and cheaper.

- **Increase financial inclusion**

Promoting greater financial inclusion improves welfare and boosts economic participation. As such, user technology that enhances financial inclusion could be an important benefit of new forms of digital money. This could include inclusive features for those with specific access needs, for example, visibility assistance, or integration with affiliated services like digital ID.

The [2021 discussion paper](#) also outlined risks presented by new forms of digital money to the Bank's objective of maintaining both monetary and financial stability. It considered five key issues:

- **Confidence in money and payments**

Public confidence in the role of sterling as the unit of account for virtually all transactions in the UK economy and in all monies denominated in sterling that circulate in the UK is central to the Bank's objectives. Unless adequately regulated, stablecoins may fail to honour their commitments and this could undermine confidence in money and payments and in the financial system as a whole.

- **Banking sector liquidity resilience**

During a system-wide banking stress, the availability of new forms of digital money would offer an additional way to withdraw money from the banking system, which could increase the proportion of banks' deposits that are withdrawn. Prudential regulation and banks' management of their holdings of liquid assets aim to mitigate liquidity risks. The assessment concluded that such risks should, on balance, be manageable over the longer term, including through continuing initiatives to encourage more institutions to access the Bank's liquidity facilities.

- **Credit conditions**

In the event that deposits migrate to new forms of digital money, banks would need to replace them in order to maintain lending volumes. In the illustrative scenario set out in the Bank's [2021 discussion paper](#), it was assumed they did so predominantly with more expensive long-term debt.<sup>[14]</sup> The increased costs were then assumed to pass through to higher lending rates.<sup>[15]</sup>

Greater reliance on longer-term stable funding by banks would reduce the vulnerability of banks to deposit runs. As such, it could reduce the likelihood of a sharp deterioration in bank credit conditions during a stress. However, banks could also be more vulnerable to a deterioration in sentiment, either market-wide or bank specific, in wholesale funding markets. As a result, lending rates could be more volatile overall for those borrowers unable to access other sources of financing. In the illustrative scenario, it was further assumed that some corporate borrowers

found it cheaper to take advantage of credit opportunities in the non-bank sector. While there are potential gains from a shift to market-based financing, whether they are realised will depend on how the financial system adapts. As part of its responsibility for identifying, monitoring, and taking action to remove or reduce systemic risks, the FPC will monitor any implications of a shift to market-based finance for UK financial stability.

- **Money market functioning**

The smooth functioning of money markets is important for the Bank to meet its monetary and financial stability objectives. Any large-scale reallocation of cash around the financial system has the potential to impact how money markets function. Hence, there is a risk of some disruption to money markets in the short-term if new forms of digital money for retail use at scale emerge. But in the long-run, these markets should adapt to the introduction of new forms of digital money, as banks will continue to use short-term wholesale funding and will continue to need to hold liquid assets.

- **Implementation and transmission of monetary policy**

The emergence of new forms of digital money could have an impact on the Bank's framework for controlling interest rates. For example, a large outflow of deposits from the banking system could lead to increased volatility in market interest rates. Such volatility is likely to be manageable, since the Bank stands ready to lend in those markets to banks against eligible collateral.

## Box B: Cryptoasset winter

The so-called 'cryptoasset winter' of 2022–23 was a period of crisis for the still nascent cryptoasset industry worldwide resulting in a steady decline in the value and trading of cryptoassets and the collapse of a number of leading cryptoasset firms. Emerging as an alternative to traditional finance in the wake of the 2008 global financial crisis, the unregulated cryptoasset industry went from a boom in the years of 2020 and 2021 to a crisis of confidence in 2022, due to a series of shocks, price drops, and collapses:

- **January 2022:**
  - The Diem Project is abandoned, and the Diem Association winds down.
- **May 2022:**
  - TerraUSD, an algorithmic stablecoin, loses its peg to the US dollar and collapses.
- **June-July 2022:**
  - Celsius Network (a cryptoasset exchange), Vauld (a cryptoasset lender), Three Arrows Capital (a cryptoasset hedge fund) and Voyager Digital (a cryptoasset broker) file for bankruptcy.
  - Tron's USDD, an algorithmic stablecoin, loses its peg to the US dollar.
- **November 2022**
  - FTX (the third largest cryptoasset exchange in the world) declares bankruptcy.
  - The cryptoasset lenders BlockFi and Genesis file for bankruptcy due to their exposure to FTX.
  - Tether's USDT (the largest stablecoin in the world) loses its peg to the US dollar.
- **March 2023:**
  - Collapse of major US banks that specialised in lending to tech startups and cryptoasset firms following rapid deposit outflows:
    - Silvergate Bank winds down.
    - Silicon Valley Bank and Signature Bank fail and are sold.
  - Circle's USDC (the second largest stablecoin) loses its peg to the US dollar as a result of its exposure to Silicon Valley Bank.

These events have adversely affected confidence in the cryptoasset industry and highlighted the risks investors bear in this largely unregulated market. But the events of the cryptoasset winter had little impact on the much larger, traditional financial sector. This supports the FPC's judgement that direct risks to the stability of the UK financial system from cryptoassets are currently limited.

## Box C: Approaches to innovation in wholesale markets


The Bank, along with other public authorities and the private sector, has been active in exploring new technologies that could present and deliver on the opportunity to innovate in wholesale financial markets and wholesale settlement. As set out in the [digital pound consultation paper](#) , there are three different approaches that could be adopted to deliver enhanced provision of wholesale settlement.

Figure 1.5: Bank's approach to innovation in wholesale markets



## 1. Enhance existing systems

### RTGS Renewal Programme

The Bank is improving the RTGS service, which in 2024 will deliver a modern, flexible, and efficient core settlement engine. This will be modular, flexible and based on open standards. The renewed RTGS service includes the implementation of the ISO 20022 messaging standard. Its implementation will help to deliver wider interoperability between payment types, making it easier to switch between payment systems should the need arise.

### Roadmap for RTGS Service Beyond 2024

The Bank is exploring what innovative services to introduce in RTGS after the new core settlement engine goes live. Following an industry consultation in 2022, the Roadmap for RTGS Service Beyond 2024 is currently focused on exploring new features in two key areas:

1. Resilient channels to connect to RTGS;
2. Innovation and global initiatives (which includes considering extending RTGS operating hours and introducing a synchronisation functionality).

Progressing the priority features set out in the Future Roadmap for RTGS will be key to allowing us to offer the highest degree of resilience while facilitating innovation and competition in the fast-changing payments landscape. They will be key to helping the Bank to deliver wholesale enhanced digital money.

#### **Synchronisation for RTGS**

As part of the second Roadmap focus area (ie innovation and global initiatives), the Bank is considering introducing a synchronisation interface to connect RTGS with a wide range of other ledgers. The introduction of synchronised settlement would enable the Bank to integrate central bank digital money in RTGS with innovative technologies (such as Distributed Ledger).

Synchronisation for RTGS would help realise and deliver on the opportunities presented by new forms of digital money, as specified in Box A. It would deliver on a number of benefits, including: allowing a wider range of financial market infrastructures to provide innovative settlement with risk-free central bank money, and it would lower liquidity costs and settlement risks associated with different types of transactions (such as housing or foreign exchange).

Synchronisation enables 'atomic settlement', which allows linking the transfer of two assets in a way that one asset moves if, and only if, the other asset moves. Such conditional settlement is already widely adopted in securities settlement (eg via the CREST service) and foreign exchange settlement (via Continuous Linked Settlement - CLS). Synchronised settlement can be either Delivery versus Payment (DvP) or Payment versus Payment (PvP), depending on whether the other leg is a payment or an asset movement.

## 2. Enable private sector innovation

**RTGS Renewal Programme** Within the RTGS Renewal Programme, the Bank's focus has been to develop the Roadmap for ongoing improvements to the RTGS service. Some experiments and proofs of concept to deliver on these improvements have included:

- **[DLT Proof of Concept \(2016\)](#)**: a project to explore and demonstrate basic functions of wholesale settlement using DLT. The Bank built on this work via a **[second exercise](#)** (2018) working with Baton Systems, Clearmatics Technologies Ltd, R3 and Token to ensure our renewed RTGS service could connect with systems based on DLT and other innovative technologies.
- **[Cross-border Synchronisation \(2017\)](#)**: a joint project with Ripple demonstrating that synchronised FX transactions in two different simulated RTGS systems can be achieved.
- **[Project Meridian](#)** [↗](#) **(2023)**: a joint project between the Bank for International Settlements (BIS) Innovation Hub London Centre and the Bank of England. The project developed a technical prototype for synchronised settlement, using housing transactions as an exploratory use case.

**[Extending access to RTGS](#)** In 2017, the Bank broadened access to central bank money, to non-bank payment service providers eligible to apply for a settlement account in RTGS.

**[Omnibus Accounts Policy](#)** Launched in 2021, the Omnibus Account is a new type of RTGS account, where the funds of different entities are co-mingled in a single account. In RTGS, the omnibus accounts are available to regulated payment system operators to pool participant funds, thus allowing them to fully fund wholesale settlement on their platform with central bank money.

**FMI Sandbox** **[Announced by the Government in April 2021](#)** [↗](#), the new sandbox is intended for firms exploring how to use technologies such as distributed ledger technology to improve FMIs. The sandbox will be delivered jointly by the Bank, HMT and the FCA, and will launch later in 2023. **[HMT is consulting on the first FMI Sandbox](#)** [↗](#), referred to as the 'Digital Securities Sandbox', to be set up under the Financial Services and Markets Act 2023.

### 3. A new wholesale Central Bank Digital Currency (CBDC) platform



A new wholesale CBDC (wCBDC) platform could enable a wide range of new technological capabilities. However, through the RTGS Renewal Programme the Bank is in a position to realise a number of benefits commonly associated with wCBDC more quickly than it would be possible to launch an entirely new wholesale settlement platform and achieve scale in its usage. The Bank of England has not made any decisions about issuance of a separate wholesale CBDC. As stated in the [Consultation Response Paper to the Roadmap for RTGS Service Beyond 2024](#), the Bank's view is that the consultation feedback endorses the Bank's near-term focus on providing enhanced wCBDC functionality via the renewed RTGS service. However, it does not preclude the Bank from continuing to track the findings of other central banks in exploring the merits of creating a separate wCBDC platform, and the Bank is constantly reviewing its wCBDC policy to ensure it accurately reflects the most effective strategy to enhance wholesale payments.

The global central banking community continues to experiment with technologies associated with wholesale CBDC (including establishing new infrastructure). The Bank engages closely with such initiatives to evaluate whether wholesale CBDC technologies offer benefits to the UK and, if so, whether they might best be delivered via the renewed RTGS service, or whether new infrastructure might be needed. In particular, the Bank is closely involved with the work of the BIS Innovation Hub, especially its London centre, so is well positioned to understand and learn from the range of experiments and approaches being trialled internationally with regard to wholesale CBDC, and wholesale settlement more broadly.

## 2: The Bank's proposed regulatory framework

**The regulatory framework set out in this paper focuses on sterling-denominated stablecoins, as the Bank considers these are most likely, and suitable, to become widely used for retail payments. The Bank does not consider that unbacked digital settlement assets would be suitable for widespread use in retail payments in the UK.**

As described in Section 1, the Bank's payments remit has been expanded by FSMA 2023 to reflect innovation in financial technology. The Bank's expanded powers are broad and capture a range of digital settlement assets used for payments, which could include those that are unbacked or which reference currencies other than sterling (including multiple fiat currencies), if recognised by HM Treasury as systemically important.

The main forms of money currently used in the UK consist of central bank money – reserve accounts held by banks and certain other financial institutions, and banknotes – and commercial bank money – bank deposits held by households and businesses. Importantly, commercial bank money is only acceptable for wide scale use in the UK if it is denominated in sterling, convertible into sterling fiat money at par, and convertible on demand.

The regulatory framework proposed in this paper focuses only on sterling-denominated stablecoins, as the Bank considers these are most likely to become widely used for retail payments. The Bank recognises the possibility that stablecoins referencing currencies other than sterling could become widely used in the UK and will monitor usage of these. If necessary, the Bank will consider how the proposed regulatory framework would need to be adapted for non-sterling referenced stablecoins. The Bank does not consider that unbacked digital settlement assets would be suitable for widespread use in retail payments in the UK.


In exercising its powers, the Bank will work closely with the FCA and other domestic regulators. It will also ensure that the regulatory framework for systemic payment systems using stablecoins is designed to ensure levels of resilience that are at least as great as those conferred by relevant international standards.

### 2.1: The Bank's remit for systemic payment systems using stablecoins and related service providers

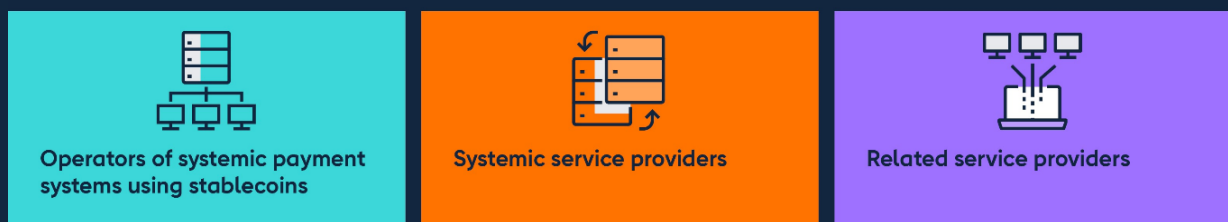
**Systemic payment systems using new forms of digital money and related service providers have been brought into the Bank's regulatory remit by FSMA 2023.**

FSMA 2023 expands the Bank's powers over payment systems in Part 5 of the Banking Act 2009 ('the Act') to include payment systems using new forms of digital money, referred to as digital settlement assets (DSAs). This is a new category of asset that includes stablecoins and other assets that meet the definition of a digital settlement asset.<sup>[16]</sup> DSAs are defined in the Act as 'a digital representation of value or rights, whether or not cryptographically

secured, that: (a) can be used for the settlement of payment obligations; (b) can be transferred, stored or traded electronically; and (c) uses technology supporting the recording or storage of data (which may include distributed ledger technology)'.<sup>[17]</sup>

Under the amended Part 5 of the Act, the Bank's regime applies to DSA payment systems (which facilitate or control the transfer of the digital settlement asset) and DSA service providers (including DSA issuers and custodians) that have been recognised by HMT, via a recognition order, as being systemically important.<sup>[18]</sup> As set out in Table 1.1, a service provider could be recognised because it is systemic in its own right (for example, a wallet that provides services to multiple non-systemic stablecoins), or because it provides essential services to a systemic payment system or to a systemic service provider. HMT is responsible for deciding which payment systems and service providers are recognised as being systemically important and is required to consult the Bank as part of the recognition process. Further information on HMT's role in the recognition process is set out in HMT's latest [policy update](#) .

**Figure 2.1: The Bank's remit for systemic payment systems using stablecoins and related service providers**



Once recognised by HMT, operators of recognised payment systems using stablecoins and recognised stablecoin service providers will be subject to the Bank's existing powers under the Act. These include the power to obtain information, to issue principles and binding codes of practice, and to make directions. The Bank also has powers of enforcement over stablecoin firms within its remit that fail to comply with the Bank's regulatory standards (Box D).

The Bank may amend existing rules set out in relevant codes of practice to apply to operators of recognised payment systems using stablecoins and service providers. The Bank will also make new rules for such entities to reflect the additional requirements set out in this paper. It will consult on these amendments and new rules in due course.<sup>[19]</sup>

**In making a recommendation to HMT that it considers a stablecoin entity to be systemically important, the Bank will assess both the role of the entity in the transfer of payments and the stablecoin as a new form of money. It may make this recommendation where a payment system using stablecoins is not operating at systemic scale at present but is likely to do so in the future.**

The systemic importance of payment systems using stablecoins and stablecoin service providers will be assessed according to the criteria for recognition set out in the Act. The Act states that HMT may recognise a payment system as being systemically important if it is satisfied that any deficiencies in the design of the system, or any disruption to its operation, would be likely to threaten the stability of, or confidence in, the UK financial system, or could have serious consequences for business or other interests throughout the UK. A similar recognition criterion applies for service providers.<sup>[20]</sup>

Before recognising an operator of a payment system using stablecoins or stablecoin service providers, HMT is required to consult the Bank. The Bank will expect to provide HMT with a recommendation comprising its assessment of entities relevant to an existing or prospective payment system using stablecoins against the recognition criteria in the Act (Box E). In doing so, the Bank will take into account the role of the existing or prospective entity both in facilitating payments and as an issuer of a new form of money. It may also recommend that a prospective payment system or service provider be recognised as systemic by HMT if they are not operating at systemic scale at present but are likely to do so in the future – this is referred to as ‘systemic at launch’.

At present, most stablecoins are pegged to the US dollar and are used primarily for investment and trading in cryptoassets or to underpin activity in DeFi applications.<sup>[21]</sup> As noted in Section 1, the FPC currently judges that direct risks to UK financial stability from cryptoassets and DeFi are limited, reflecting their limited size and interconnectedness with the wider financial system. Therefore, the Bank’s current assessment is that, at present, existing stablecoins (eg USD Coin or Tether), or any new sterling referenced stablecoins similarly focused on transactions in cryptoassets or DeFi, would not be brought under the Bank’s remit, and would not be subject to the proposed regulatory framework set out in this paper.

**Other UK regulators have also seen their remit expanded over a range of stablecoin entities and activities.**

As set out in HMT’s policy statement, HMT will bring the use of fiat-backed stablecoins in payments, and the activities of issuing and providing custody services to UK-based ‘fiat-backed stablecoins’<sup>[22]</sup> into the FCA’s regulatory remit. FSMA 2023 further expands the remit of the Payment Systems Regulator (PSR), which is the competition regulator for the payments industry. The PSR ensures that those payment systems and service providers designated under the Financial Services (Banking Reform) Act 2013, and hence added to its

remit by HMT, are operated and developed in a way that considers and promotes the interests of all the businesses and consumers that use them. This means that some stablecoin entities – those that are recognised by HMT as being systemically important – may be regulated by the Bank (for prudential purposes), the FCA (for conduct purposes), and the PSR (for competition purposes). As set out in Section 2.3, UK regulators will provide clarity on how the regulatory framework for firms that fall within multiple regimes will work in practice in due course.

**Question 3:** Do you agree that the most likely, and suitable, payment systems using new forms of digital money to become systemic in the UK are sterling-denominated stablecoins which are backed by assets denominated in fiat currency?

## 2.2: Regulating systemic payment systems using stablecoins and related service providers

**The Bank's regime is for systemic payment systems using stablecoins and related service providers. Activities other than payments, such as lending or investment, pose risks that are better captured within other regulatory regimes.**

The Bank's proposals in this paper are intended for stablecoins used in systemic payment systems that are focused on providing payment services. As such, the regime would prevent stablecoins from performing other functions, such as lending or investment, that would otherwise pose risks to the provision of payments at a systemic scale. Stablecoins that are focused on performing functions other than, or in addition to, payments will be better captured within other regimes.

For example, backing stablecoins with illiquid loans and thus performing credit creation increases the risk to the ability of the issuer to deliver on its obligation to redeem the full value of customers' stablecoins at all times. Similarly, if complex and structured stablecoin-based products are used for speculative purposes, this may expose issuers and the value of stablecoins to market movements. In both cases, the risks incurred by performing other functions may reduce overall confidence in the stablecoins and, if used for payments at systemic scale, in payments and money more generally.

Other regimes are better able to mitigate the risks of performing these other functions. For example, in the banking regime, capital and liquidity requirements and the protections that apply in the event of failure (deposit guarantee scheme and resolution regime) address the

risks of liquidity and maturity mismatch between banks' loan assets and liabilities. This in turn, ensures the robustness of monies issued by commercial banks, and hence safeguards the singleness of money used in the UK.

**The Bank's regulatory regime would ensure relevant risks are captured no matter how a stablecoin payment chain is structured.**

Stablecoin payment chains are typically composed of multiple functions and activities, which may be performed by a single (legal) entity or by separate entities. Broadly, a generic stablecoin payment chain is composed of three main functions (Figure 2.2):

1. The **issuance function** that creates stablecoins. This also includes redeeming, or destroying, the stablecoins. It may also encompass the management of the backing assets, though this activity may be outsourced to a third party.
2. The **transfer function** that records transactions and transfers the stablecoins, and the ownership rights and value associated with them, between customers. In existing stablecoins, a significant part of this transfer function is performed by public permissionless ledgers.
3. **Store of value/exchange of value** usually provided by customer-facing entities such as wallet providers and exchanges. Most stablecoins – or the technological means of exercising control over those stablecoins, such as 'private keys' – are held in electronic wallets, which may adopt different models. Exchanges that deal with stablecoins (and cryptoassets more broadly) facilitate customers' ability to exchange stablecoins for commercial bank money and other cryptoassets.

The integration of several of these functions into one entity may pose financial stability risks that will need to be carefully addressed and managed. The Bank's approach to mitigating those risks is discussed in Section 2.4.

**Figure 2.2: Main functions of a stablecoin payment chain**



The three main functions give rise to a number of risks in the payment chain as a whole. Risks can be either operational in nature, for example, due to cyber risk or fraud, or prudential, for example, if insolvency of the issuer means that customers are not able to redeem the full value of their stablecoins. The Bank's regime aims to adopt an end-to-end approach to regulating systemic payment systems using stablecoins – to ensure that risks in the payment chain are comprehensively assessed and controlled for, and do not disrupt the functioning of the payment system. Reflecting this, the entirety of the stablecoin payment chain, and the entities that comprise it, would be expected to demonstrate robust financial resources, risk management (including risks arising from the use of third parties), and governance.

**As the regulator and supervisor of systemic payment systems, the Bank's objective is to ensure that the system conforms to the FPC's expectations and international standards. Systemic payment systems using stablecoins will need to determine an entity that should be held responsible for the safe and proper operation of the transfer function.**

The Banks' proposed regulatory regime is flexible and could accommodate different business models and structures. In some cases, however, firms will need to make changes to ensure that they meet the FPC's expectations and international standards. The starting point for the proposed regime is the international Principles for Financial Market Infrastructure (PFMIs). These aim to ensure the comprehensive risk management of, as well as financial and operational resilience of, all systemic payment systems (Sections 2.3 and 3). Further requirements then relate to the issuance of stablecoins (Sections 4 and 5), the store and exchange of value function (Section 6), and the provision of services to firms in the payment chain (Section 7).



As with its approach to the regulation of other systemic payment systems, and in line with international standards, the Bank's approach to regulating and supervising systemic payment systems using stablecoins involves determining the entity that is held responsible for performing the transfer function and acts as the payment system operator. That entity – once recognised by HMT – would be responsible for ensuring it can assess and control for all risks that may arise across the entire payment chain (including from the form of infrastructure or ledger used) and may disrupt the functioning of the payment system. In other words, the recognised payment system operator would need to perform the role of 'systemic risk manager' across the entire chain. Importantly, the operator of a systemic payment system using stablecoins would also be responsible for ensuring that the settlement asset it uses meets the FPC's expectations and international standards.

Ensuring the reliability and stability of the settlement asset is critical. At present, systemic payment systems only use central bank or commercial bank money to settle transactions. The former is backed by the central bank; the latter is issued by firms subject to robust requirements that mean it is easily and frictionlessly interchangeable with central bank money. Overall, this means that existing recognised payment system operators do not have to assess or manage risks to the stability and robustness of the settlement asset they use. The Bank's proposed regime aims to regulate stablecoins to equivalent standards as those applicable to commercial bank money and ensure that they can be used safely in systemic payment systems.

The Bank would expect the recognised payment system operator to choose a settlement asset that complies with the requirements for issuers set out in this paper. In practice, this means either issuing the stablecoin itself and being regulated against our proposed requirements for issuers, or choosing another issuing entity that is regulated as a service provider (subject to HMT recognition) and which meets these requirements.

The entity that the Bank regulates and supervises as a recognised payment system operator, and that will therefore be responsible for overseeing the entire payment chain, will depend on the structure of a systemic payment system using stablecoins (Figure 2.3). This may, for example, be the entity operating a permissioned ledger. Or it may be an issuer that uses a permissionless ledger and sets the rules for transferring stablecoins on top of the consensus mechanism – the rules set out in computer code – under which the ledger operates. Firms will have the flexibility to adopt different business models and structures, and the Bank will, wherever possible, use the flexibility in its regime to accommodate those structures and bring them within the regulatory framework.

**The Bank will also be able to regulate any critical entity in a systemic stablecoin payment chain, if recognised by HMT, in light of the activity performed and the risks posed.**

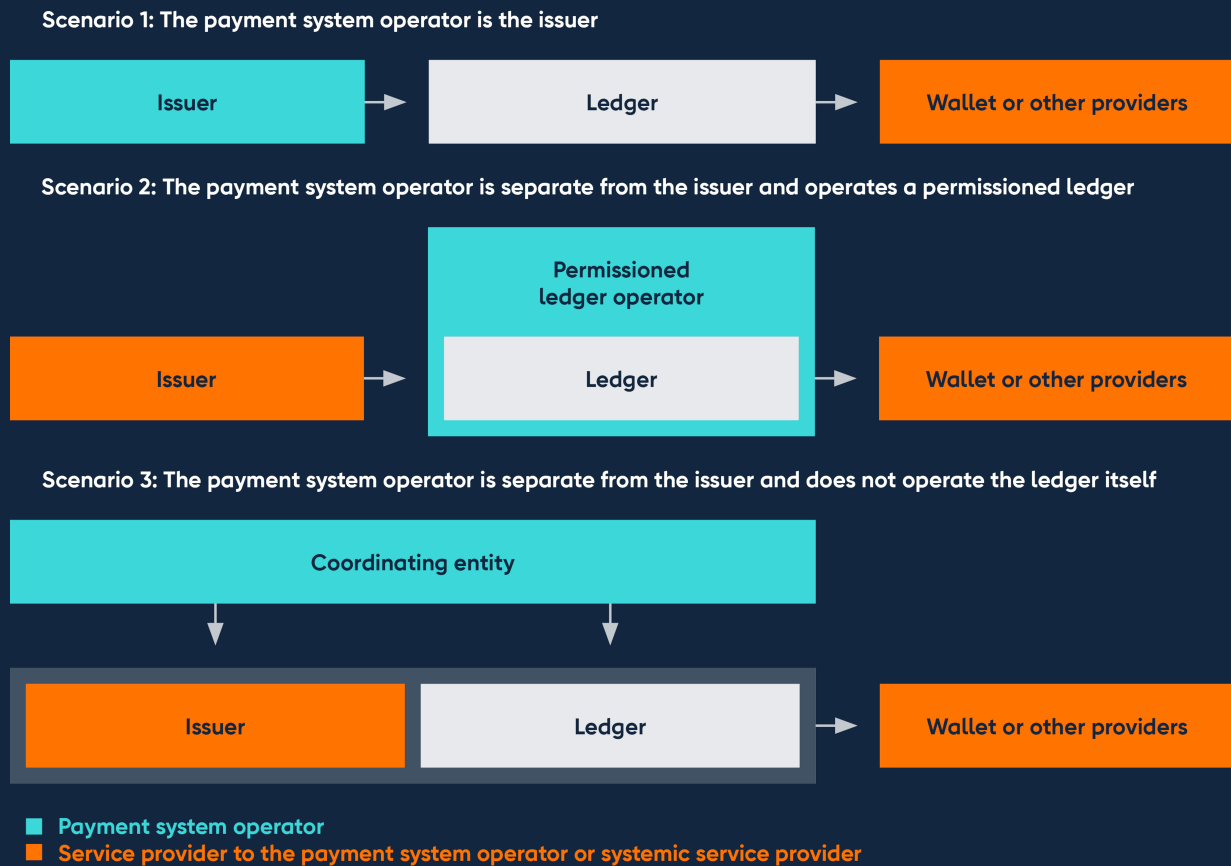


The disruption to, or outage of, any activity provided by service providers in a systemic stablecoin payment chain may threaten customers' ability to access their means of payment and, by extension, pose financial stability risks. Reflecting this, in addition to regulating the recognised payment system operator, the Bank will regulate recognised service providers in the light of the risks those entities pose to the functioning of the payment chain as a whole. These could include, for example, entities such as wallet providers and payment service providers, as well as issuers (if separate from the recognised payment system operator). Such firms, once recognised by HMT, would be subject to the entirety of the Bank's powers as set out under the Act and our supervisory regime once finalised. This is similar to the Bank's ability to regulate service providers that provide critical services to other systemic payment systems.

**The Bank's proposed regulatory regime is designed for systemic payment systems using stablecoins for retail payments. Proposed holding limits, if used, will constrain wholesale use of stablecoins, at least initially.**

The proposed regulatory regime in this paper is intended for stablecoins that have the potential to become widely used for retail payments by households and non-financial businesses in the UK. As explained in Section 5.6, the Bank is considering imposing holding limits for individual coinholders. These are intended to mitigate risks to financial stability associated with large-scale outflows from bank deposits into stablecoins. These holding limits would also constrain wholesale uses of stablecoins by placing an effective cap on the size of transactions.

**Figure 2.3: Examples of stablecoin payment chains**



### 2.3: Joint regulation with other authorities

**The Bank will work closely with HMT and other regulators to allow for a smooth transition into the Bank’s regime and to minimise regulatory overlaps for firms that may fall within multiple regulatory regimes.**

Dual regulation is common today, for example, for banks and investment firms that are in the remits of the PRA and FCA, and systemic payment systems that are in the remits of the Bank and PSR. As noted in Section 2.1, some entities within stablecoin payment chains may be regulated by multiple regulators. This section outlines a number of possible scenarios by which this may occur.

#### Direct entry into the Bank’s regime

A payment system that uses stablecoins could be recognised as systemic at launch. This may be the case, for example, if a firm already has a large user base, which could enable rapid growth in use of their proposed stablecoin as a means of payment. In this case, subject

to being recognised by HMT, firms forming part of the systemic payment chain that are also within the FCA's remit (eg issuers) would be dual regulated – by the Bank for prudential purposes and the FCA for conduct purposes. The PSR may also have a remit over such firms, if these are designated by HMT.

### **Transition from solo FCA regulation into dual regulation**

Some stablecoins might start off as non-systemic, and become more widely used for payments progressively, over time. In such cases, subject to HMT's recognition decision, any firm that is critical to operating the systemic payment system would become subject to the Bank's prudential regime. If such firms are already regulated by the FCA (eg as an issuer), they would effectively need to transition into the Bank's regime and be dual regulated by both the Bank and FCA (and, where relevant, the PSR).

The Bank's regime specifically aims to mitigate the financial stability risks that may arise from systemic payment systems using stablecoins. As a result, some components within the Bank's regime will differ from the FCA's regime for stablecoin issuers - for example, in relation to limits, if implemented, and because systemic stablecoins will be required to be backed by central bank deposits whereas a deposit account with the Bank will not be available to non-systemic stablecoin issuers. Stablecoin firms that need to transition into the Bank's regime may therefore have to make changes to their business models.

Effective information sharing between UK regulators will be critical for the Bank to be able to identify early those issuers that may be systemic or likely to be systemic in the future and to provide a smooth glidepath for stablecoin issuers into the Bank's prudential regime. Close engagement between the industry and UK regulators will also be needed to enable firms that are close to reaching systemic levels to prepare themselves for (and thus mitigate the costs of) going through HMT recognition and then transitioning into the Bank's prudential regime.

### **Service providers might also be dual-regulated**

Service providers such as custodians, exchanges (and issuers if separate from the firm recognised as the payment system operator), may be systemic in their own right or provide essential services to systemic payment systems using stablecoins or recognised stablecoin service providers. Such service providers might also be dual regulated by the Bank and the FCA, where they are recognised by HMT.

**In implementing its supervisory powers, the Bank will continue to work closely with the FCA, the PRA and the PSR.**

The Bank co-operates closely with the FCA, the PRA, and the PSR in relation to the supervision of payment systems. The framework for co-operation is set out in a Memorandum of Understanding (MoU), which is reviewed annually by the parties involved. At this review stage, feedback on the MoU is incorporated from supervised firms. UK regulators

will revisit this MoU in the light of the changes to their respective remits under FSMA 2023 and provide further clarity to the industry on how cross-authority regulation and supervision will work in practice.

As part of FSMA 2023, HMT may, via secondary legislation, make provisions relating to the regulation of recognised DSA payment systems and service providers, for example to clarify how dual regulation of systemic stablecoin entities will work in practice. The UK regulators will work closely with HMT to shape any secondary legislation that is needed beyond the cross-authority MoU, aiming to provide further clarity and certainty to the industry.

**UK regulatory requirements around systemic payment systems using stablecoins and related service providers will be consistent with recommendations, standards and guidance by international standard setting bodies and the Financial Stability Board**

Internationally, the Financial Stability Board (FSB) and international standard setting bodies have developed recommendations, standards and guidance to apply a ‘same risk, same regulatory outcome’ approach to systemically important stablecoins used for payments (Box F). Efforts have aimed to minimise gaps and avoid regulatory arbitrage across sectors and jurisdictions, while ensuring that the emergence of systemic stablecoins used for payments does not threaten financial stability.

The proposed UK regulatory requirements for systemic payment systems using stablecoins and related service providers are consistent with the international recommendations, standards and guidance. The FSB and international standard setters continue working together to ensure that the cryptoassets ecosystem, including stablecoins, is closely monitored and subject to robust regulation, supervision, and oversight, to mitigate potential risks to financial stability.

## 2.4: Organisational structure

**The Bank is examining potential risks around the resilience of systemic payment systems using stablecoins involving entities that undertake multiple functions. It is considering how to mitigate these risks adequately, including via legal separation of activities, if appropriate.**

Certain entities in the payment chain, for example, exchanges, may undertake – whether through a single legal entity or an affiliated group of entities – various combinations of functions. Examples of functions may include: facilitating trading, settlement, custody, market-making, lending and borrowing, proprietary trading, broking, onboarding customers, and issuance of stablecoins. This is sometimes referred to as ‘vertical integration’.

Combining certain activities within the same entity or group could create synergies and other opportunities. However, vertical integration can also lead to vulnerabilities, including conflicts of interest, inadequate safeguarding of clients' funds and assets, as well as complex and **potentially reinforcing risk profiles** [\[23\]](#) This has been demonstrated by events of the past year, such as the collapse of FTX.

Risks associated with vertical integration also exist outside the cryptoasset sector, for example, in banking groups, financial conglomerates, as well as large technology firms that undertake a variety of activities not just limited to financial services. In these group structures, unregulated entities can undertake activities that have the potential to create risks for the group as a whole and increase the risk of failure of other regulated entities within that group. Reflecting this, in the UK, **banks are subject to regulatory requirements to manage the risks arising from their corporate structures.** [\[24\]](#) In addition, ring-fencing provides a broader set of legislative and regulatory requirements for groups within scope to protect the provision of core retail banking services from risks associated with other activities.

Where multi-function entities engage in stablecoin functions, this may pose particular risks for financial stability in the absence of appropriate safeguards. For example, when the issuance of stablecoins is combined with other activities that present risks (eg, facilitating the trading of an issuer's own stablecoins, engaging in brokerage, market making and proprietary trading), this could increase the risk of failure of the issuer and affect the ability of coinholders to redeem in normal times, in stress and in failure.

The Bank considers that, in line with the PFMI, systemic payment systems using stablecoins would need to focus particular attention on certain aspects of their governance and risk-management arrangements to address the risks posed by vertical integration. This may include legally separating the non-stablecoin services that a multi-function entity provides, if those services present a distinct risk profile from, and potentially pose significant additional risks to, the activities performed within the stablecoin payment chain. In particular, the Bank may require the issuer to form a legal entity that is sufficiently financially, operationally, and organisationally separate from other entities in the wider group, so that it is bankruptcy remote. This approach is consistent with recommendations, standards and **guidance by the Financial Stability Board** [\[24\]](#) and international standard-setting bodies.[\[25\],\[26\]](#)

In addition, the FCA will give further consideration to the risks of vertical integration in the cryptoasset sector more broadly, and the Bank will engage with UK public authorities to consider how the regime for systemic payment stablecoins interacts with other parts of the framework (including the FCA's regime).[\[27\]](#)

**Some parts of a systemic stablecoin payment chain will be subject to subsidiarisation requirements, to ensure capital and liquidity are held locally to support coinholders' claims and that services provided in the UK are adequately**

**supervised and regulated.**

The Bank may use its powers of direction under the Act to set a location requirement on entities within a systemic stablecoin payment chain. The Bank can apply such a requirement as part of its role in overseeing, regulating, and supervising recognised entities, in this case systemic stablecoin issuers. HMT previously noted that it would not pursue an automatic or ex ante location requirement for an entity recognised under the Act.<sup>[28]</sup> But it further noted that the Bank has the ability to apply such a requirement where it deems this necessary as part of its role in overseeing the risk posed by a particular recognised entity's operations.<sup>[29]</sup>

In its role as lead supervisor of systemic FMIs, including systemic payment systems, the Bank needs to ensure that risks to financial stability are mitigated and managed through appropriate regulation and supervision, and in a manner that is consistent with the public interest. To this end, the decentralised model of operations and governance adopted for some digital assets, including systemic payment systems using stablecoins and related service providers, could heighten the risks of creating gaps in the allocation of regulatory, supervisory and oversight responsibilities for authorities. These gaps could weaken the resilience needed for systemic payment systems on which households and businesses rely.

Systemic payment stablecoins could be provided and used digitally without being confined to a specific jurisdiction. If a systemic stablecoin issuer providing services to UK-based consumers operated from a legal entity incorporated and regulated outside the UK, or was a branch of such an entity, it would be impractical for the Bank to impose prudential controls on the entity as a whole. It would therefore, in practice, be reliant on prudential controls operated by the issuer's home state regulator. Although the Bank could consider the equivalence of such controls with its own regime and obtain visibility over their exercise, we do not consider that this would be sufficient to achieve the Bank's objectives and to establish a clear overall supervisory responsibility for the systemic UK stablecoin payment chain as a whole.

The Bank therefore proposes that issuers of systemic payment stablecoins should be set up in the UK as subsidiaries in order to carry out business and issuance activities into the UK and with UK-based consumers, both directly and through intermediaries.<sup>[30]</sup> The backing assets (Section 4) and the issuer's capital (Section 5) would also need to be held in the UK.

The Bank's approach for the effective supervision of systemic payment systems using stablecoins that are part of international groups or headquartered overseas is consistent with [the PRA's approach to supervising international banks, under which UK establishment is required](#) where retail deposits exceed a certain threshold.

As regards to other non-UK elements of the payment chain, ie non-issuer systemic entities within stablecoin payment chains, the Bank will take an approach based on the framework applied to those FMIs it currently supervises. The approach will need to consider the risks posed by these recognised entities to the Bank's objectives, the mitigating factors, and the

need to ensure continuity of services in case any of these types of entities fail. Additionally, as it does currently in relation to those FMIs that operate across borders, the Bank will seek co-operation between authorities in different jurisdictions.

In line with this approach, the Bank will have regard to the PFMI and the agreed responsibilities for central banks, market regulators and other relevant authorities for FMIs. Specifically, the Bank's approach will be guided by Responsibility E,<sup>[31]</sup> which states that central banks, market regulators, and other relevant authorities should co-operate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs. As a result, this approach could allow for the possibility of supervisory and/or regulatory deference, subject to international standards.

**Question 4:** Do you agree with the Bank's proposed approach to assessing the systemic importance of stablecoins used for payments?


**Question 5:** Do you agree with the Bank's proposed approach to the regulatory framework for systemic payment stablecoins, as set out in Section 2?

**Question 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?

**Question 7:** Do you agree with our approach regarding subsidiarisation of non-UK issuers? Do you agree with our approach to other non-UK elements of the payment chain? What alternative policy arrangements could be used to effectively supervise, oversee, and regulate non-UK systemic stablecoin issuers and other non-UK elements of the payment chain?



## **Box D: The Bank's powers over recognised payment system operators and related service providers under the Banking Act 2009**

The Act provides the Bank with a range of regulatory and supervisory powers in relation to entities recognised under the Act. These include powers of intervention and enforcement in the event that entities fail to satisfy regulatory requirements. The Bank's powers fall into four main areas: information-gathering; imposition of regulatory requirements and rules; direction of actions to be carried out; and enforcement. The Bank's general approach to its use of such powers in relation to financial market infrastructures, including payment systems, is set out in detail in [Bank's approach to the supervision of financial market infrastructures](#) . A brief description is set out below.

### **Information gathering**

The Act gives the Bank powers to request information necessary to advise HMT on recognition or that it otherwise requires under Part 5 of the Banking Act 2009. This power is not limited to firms already under the Bank's supervision but can be used to obtain information about firms that have the potential to fall within the Bank's remit as systemic, or likely to be systemic, operators of payment systems or service providers. [32] The Bank can also require recognised payment system operators and service providers to commission an independent report from an expert [33] on the operation of the system or provision of services to the system and to appoint an inspector to enter the premises on, or from, which any part of a recognised payment system or related service is operated. [34]

### **Principles and codes of practice**

The Bank may publish Principles, to which operators or service providers must have regard. [35] The Bank requires financial market infrastructures, including payment systems, that it regulates and supervises to have regard to the CPMI-IOSCO PFMI.

The Bank has the power to issue rules in the form of Codes of Practice. [36] Codes of Practice are binding. Failure to comply with a Code of Practice constitutes grounds for the Bank to impose sanctions under the Act. The Bank may issue Codes of Practice that apply to some or all recognised payment systems. The power further enables the Bank to issue Codes of Practice to some or all service providers to recognised payment systems. The Bank also has the power to instruct an operator or a service provider to take particular actions in respect of the system's rules. [37]



## Powers of direction

The Bank has a general power to issue directions to a payment system operator or to a related service provider.<sup>[38]</sup> This may include requiring or prohibiting the taking of certain actions in relation to a recognised system or service provided to that system or setting standards to be met in the operation or provision of services to a recognised system.

To date, the Bank has mostly used its powers of direction to require operators or a related service provider to take specific risk-mitigating actions where risks particular to those entities have been identified by the Bank and the system operator or related service provider has not taken the necessary steps to address them. However, the Bank may also use this power as part of its general supervisory approach in order to set requirements that may vary across firms or over time and are therefore unsuitable for a Code of Practice, eg to impose limits or to require firms to establish a subsidiary in the UK. The Bank may also, as an interim measure, use its power of direction to set requirements for individual firms in areas where it has not yet established a general approach that is to be applied across all firms.

## Enforcement

In the event of a failure of compliance (as defined in section 196 of the Act), and in certain other circumstances, the Bank may decide to impose one or more of the sanctions set out in sections 197–200 of the Act. Further details on the Bank's proposed changes to its policy on enforcement are set out in its [consultation paper](#).

In certain circumstances, if the Bank is satisfied that it is necessary to close a system or disqualify a person without notice, it can use the power under section 201(3) of the Act to impose that sanction immediately.

## Box E: How would firms in stablecoin payment chains be identified as being systemic?

Under the Act, as amended by FSMA 2023, if HMT recognises a DSA payment system or DSA service provider as being systemically important, it will then be subject to the Bank's regulation and supervision.

The Act sets out criteria that must be satisfied for HMT to recognise a DSA payment system or DSA service provider. HMT may only recognise a DSA payment system if it is satisfied that any deficiencies in the design of the system, or any disruption of its operation, would be likely to: (a) threaten the stability of, or confidence in, the UK financial system; or (b) have serious consequences for business or other interests throughout the UK. The Act contains a similar set of criteria for the recognition of DSA service providers.

In considering whether an entity meets the above criteria, HMT must have regard to a list of factors set out in the Act. There is a broadly similar set of factors to which HMT must have regard for assessing the systemic importance of DSA service providers. The Bank will consider these factors both for DSA payment systems and DSA service providers in providing information and advice to HMT in line with the Act. The factors set out in the Act, and the indicators the Bank would consider, are:

- **The number and value of the transactions** that the system presently processes or is likely to process in the future. Some of the relevant indicators that the Bank would consider in its assessment against this factor include: the number and forecast number of stablecoin users; the number and forecast number of the value of transactions; the value of stablecoins in, or likely to be in, circulation; and whether an issuer already has an established network that could be used to facilitate uptake of their stablecoins (for example, whether they are a big technology firm).
- **The nature of the transactions** that the system processes or is likely to process. Some of the relevant indicators that the Bank would consider in its assessment against this factor include:
  1. the nature and risk profile of an entity's activity, including the type of stablecoin users and the time criticality of the transactions;
  2. wholesale or retail nature of transactions – the use or purpose of transactions such as whether a stablecoin is used for cross-border payments, financial transactions/investments, monetary operations, or foreign exchange transactions;
  3. the currency denomination of the stablecoin and/or its reserve assets; and

4. the organisational structure, including the governance arrangements, business model and branding plans.

- **Whether those transactions or their equivalent could be handled by other systems** – this includes whether or not other systems or services are readily available and any potential constraints that may hinder a system or service provider continuing the operation or service provision.
- **The relationship between the system and other systems.** Some of the relevant indicators that the Bank would consider in its assessment against this factor include: an entity’s interconnectedness with other systemically important financial market infrastructures and institutions and with the real economy and governments (eg whether the stablecoin is used to settle transactions for governments, important financial markets or other financial market infrastructures); and institution-specific exposures including cross-ownership/cross-institution linkages.
- **Whether the system is used by the Bank in the course of its role as a monetary authority,** or whether, by virtue of its links, the system could call into question the integrity of fiat money in the UK.

Similar criteria have been applied to the recognition by HMT of non-stablecoin payment systems, including:

- Bacs (recognised 5 January 2010)
- CLS (recognised 5 January 2010)
- CREST (recognised 5 January 2010)
- LCH Ltd (recognised 5 January 2010)
- Faster Payments Service (recognised 24 February 2010)
- ICE Clear Europe (recognised 24 February 2010)
- Visa Europe (recognised 19 March 2015)
- LINK (recognised 23 May 2016)
- Mastercard Europe S.A. (recognised 21 October 2021)
- Sterling Finality Payment System (recognised 31 August 2022)

## **Box F: International recommendations, standards and guidance**

### **CPMI-IOSCO**

In July 2022, the Committee on Payments and Market Infrastructures and the Board of the International Organization of Securities Commission (CPMI-IOSCO), issued guidance on the application of the PFMI, the international standards for financial market infrastructures, to systemic payment systems using stablecoins, (which the guidance refers to as stablecoin arrangements or SAs).

The guidance confirmed that the PFMI apply to systemically important payment systems that use stablecoins (ie provide the transfer function using stablecoins), and that the SA as a whole would be expected to observe all relevant PFMI principles. The guidance elaborates on principles relating to: (i) the governance of SAs; (ii) the framework for the comprehensive management of risks; (iii) settlement finality; and (iv) money settlement.

On (i) governance, CPMI-IOSCO guidance sets out how a systemically important SA should have appropriate governance arrangements. This is particularly important in the context of decentralised ownership. The guidance states that systemically important SAs should be ‘owned and operated by one or more identifiable and responsible legal entities that are ultimately controlled by natural persons.’ It further specifies that the SA’s governance structure should allow for timely human intervention, as and when needed, enabling the SA to execute effective governance and observe the PFMI on a continuous basis.

CPMI-IOSCO guidance on (ii) comprehensive risk management specifies that a systemically important SA should regularly review the material risks that the transfer function bears from and poses to other SA functions and to the entities that either perform another SA function or that the SA relies on for its transfer function. The SA risk-management framework should include tools to address the identified risks.

Guidance on (iii) settlement finality specifies that a systemically important SA should clearly define the point at which a transfer of a stablecoin becomes irrevocable and unconditional and ensure that there is a clear legal basis that acknowledges and supports finality of transfer’. Furthermore, SAs should ‘have a robust mechanism(s) for preventing any misalignment between the state of the ledger and legal finality and ensure that legal finality of a transfer is maintained regardless of competing state(s) of the ledger.’ A misalignment might occur for certain consensus mechanisms, for

example, because the probability of revocation of a transaction converges to, but never reaches, zero with the passage of time; or because a bifurcation in the ledger (ie a fork) occurs. The guidance elaborates on this issue.

CPMI-IOSCO guidance on (iv) money settlement specifies that a stablecoin transferred by a systemically important SA should have little or no credit or liquidity risk. In assessing those risks, the SA should consider, for example, whether coinholders should have a direct legal claim on the issuer and/or the underlying reserve asset to ensure the convertibility at par as soon as possible, at a minimum by the end of the day and ideally intraday, in both normal and stressed times. The guidance also includes a discussion of relevant factors that may determine whether a particular stablecoin is an acceptable settlement asset.

All these four principles are reflected in the Bank's proposed regulatory framework.

### **Financial Stability Board (FSB)**

In July 2023, the FSB, in consultation with the Bank and other relevant international authorities and standard-setting bodies, finalised its framework for the international regulation of cryptoasset activity, endorsed by the G20. It consists of two distinct sets of recommendations:

1. High-level recommendations for the regulation, supervision and oversight of cryptoasset activities and markets (Cryptoasset recommendations).
2. High-level recommendations for the regulation, supervision, and oversight of 'global stablecoin' (GSC) arrangements (GSC recommendations).

The latter sets out 10 high-level recommendations, which seek to promote 'consistent and effective regulation, supervision and oversight of GSC arrangements', based on the 'same business, same risk, same rules' principle.

In line with our regime, the FSB's recommendations seek to address the financial stability risks posed by GSCs, while supporting responsible innovation. Areas covered by the recommendations include, for example, governance structures, risk management frameworks, redemption rights, stabilisation mechanisms, prudential requirements, as well as oversight requirements for specific functions and activities (such as custody).

The GSC recommendations aim to ensure the safety of stablecoins that provide an alternative to commercial bank money. They do so, in particular, by requiring GSC arrangements to provide a robust legal claim for coinholders, to guarantee timely

redemption at par into fiat, to have effective stabilisation mechanisms, and to meet appropriate prudential requirements.

The GSC recommendations complement the FSB's recommendations for cryptoassets and markets that should apply to any cryptoasset activity that poses financial stability risks, including stablecoins. As such, authorities should require stablecoin arrangements to meet the Cryptoasset recommendations in addition to the GSC recommendations where relevant (eg to ensure comprehensive regulation of cryptoasset service providers with multiple functions).

The FSB's high-level recommendations are wholly consistent with the guidance on the application of international standards issued by CPMI-IOSCO and with the FPC's two stablecoin expectations.

## **IOSCO**

In May 2023, IOSCO published a consultation report on Policy Recommendations for Crypto and Digital Asset Markets where they presented 18 recommendations to address concerns related to market integrity and investor protection. The recommendations cover six areas: conflicts of interest arising from vertical integration of activities and functions; market manipulation, insider trading and fraud; cross-border risks and regulatory co-operation; custody and client asset protection; operational and technological risk; and retail access, suitability, and distribution. The Recommendations apply to all types of cryptoassets, including stablecoins. Further risks presented by stablecoins are explored by way of supplementary guidance with two additional recommendations in relation to stablecoin disclosures and the custody of reserve assets.

## Part 2: Further details of the Bank's proposed regulatory framework

### 3: Requirements for the transfer function

Figure 3.1: Summary of requirements for the transfer function

Comprehensive risk management	Governance	Operational resilience	Settlement finality	Settlement asset in line with FPC expectations
Choice of infrastructure should not impair the payment system operator's ability to comply with the Bank's expectations				
Business model changes may be needed to identify the entity playing the role of payment system operator				

#### 3.1: The Bank's 'same risk, same regulatory outcome' approach to the transfer function in systemic payment systems using stablecoins

**The Bank's approach to regulating systemic payment systems using stablecoins aims to ensure that they deliver end-to-end financial and operational resilience.**

Systemic payment systems carry out a function of settling payment obligations by facilitating the transfer of the settlement asset (predominantly, money) between customers. As outlined in Section 2, the Bank's approach to the regulation and supervision of systemic payment systems is based on the international standards set out in the CPMI-IOSCO PFMI. Among other things, those aim to ensure that systemic payment systems: are financially and operationally resilient; can oversee, assess and control for the risks along the entire payment chain that could threaten their operations and ability to meet their regulatory expectations; have processes in place to ensure that transactions that have been completed cannot be arbitrarily cancelled or annulled; and use a settlement asset that is robust and reliable across all participants of the system.

The Bank has used its powers under Part 5 of the Act to set binding rules based on those international standards via Codes of Practice. These include requirements on operational resilience, third-party outsourcing risk management, and governance. The entity recognised by HMT as the payment system operator (the 'recognised payment system

operator') is in charge of ensuring that those rules are complied with, and that international standards are adequately adhered to. This includes ensuring that end users have clear and transparent information as to the degree of protection against various risks of malfunctions or hacks of their means of payments (eg debit cards).

**Requirements for systemic payment systems using stablecoins should reflect their similarities with other payment systems, while accounting for their innovative nature.**

Similar to other systemic payment systems, those using stablecoins carry out the function of transferring a settlement asset in order to settle payments obligations. To the extent that the risks in doing so are similar to those of the transfer function performed by other systemic payment systems, we propose to rely on our existing regulatory and supervisory approach to those systems. This is in line with the Bank's 'same risk, same regulatory outcome' approach to regulating systemic payment systems using stablecoins, as reflected in the FPC's expectations outlined in Section 1.

This means that, in any systemic stablecoin payment chain, the Bank will regulate and supervise (subject to HMT recognition) a central entity (the recognised payment system operator) as being responsible for the robust operation of the transfer function. Alongside demonstrating robust financial and operational resilience, the responsibilities of the recognised payment system operator will include: assessing comprehensively the risks along the chain that could threaten its operations and ability to meet regulatory expectations; and putting adequate controls in place to address those risks. As outlined in Section 2, who that entity is (eg the issuer or another entity) will depend on the nature of the business model.

At the same time, relative to other payment systems, the transfer function of systemic payment systems using stablecoins includes elements that are innovative in nature – for example, the use of external and distributed ledgers (as opposed to in-house ledgers with a centralised entity to record transactions).

In its guidance on the applicability of the PFMI to stablecoins (Box F), CPMI-IOSCO recognised those novel features and clarified how international standards would apply to systemic stablecoin payment chains – highlighting, in particular, those related to settlement finality, money settlement, governance and risk management. Consistent with this, 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.

### **3.2: Leveraging the benefits from, and addressing the risks of, innovative forms of ledgers**

**Ledgers are critical to performing the transfer function in stablecoin payment chains.**



Ledgers form the underlying infrastructure that enables the transfers of stablecoins from one holder to another to be recorded. As such, they are critical to performing the transfer function otherwise performed by the operators of payment system operators or a bank's internal ledger.

Generally, stablecoin issuers decide on which ledgers to issue their stablecoins guided by the features offered by different ledgers and how much they are already used. Box G provides an overview of the various forms of ledgers. At present, issuers often choose to issue their stablecoins on public permissionless ledgers. Alongside stablecoin issuers, banks and other payment systems have also explored using both permissioned and permissionless ledgers to develop new products, including tokenised deposits and permissionless ledger-based settlement.


**| The Bank recognises the benefits that new forms of ledgers can bring for payments.**

The Bank recognises that new forms of ledgers, both permissioned and permissionless, present benefits in terms of efficiency and operational resilience. For example, they can enable frictionless, real-time cross-border payments. Through the use of open-source code and smart contracts, they enable more agile development of innovative payments features. End-to-end encryption and the sharing of transaction records across a network of participants ensure greater security and limit the risk of a single point of failure inherent in existing payment systems. At the same time, public ledgers and the transparency they offer over the transactions performed allow for traceability of fraudulent and unauthorised transactions. Previous ransomware events, for example, have demonstrated how blockchain analysis technology can be used to identify the private keys to wallets used for illicit transactions, and cancel them accordingly.

**| However, some stablecoin payment chains using public permissionless ledgers do not evidence a single (set of) entity(ies) that can take full responsibility for ensuring the robust operation and risk management of the transfer function.**

For these benefits to be realised, however, it is also important that the payment chains that use new forms of ledgers are resilient. In the case of permissionless ledgers, the entities involved in some existing stablecoin payment chains that rely on them tend to operate independently from each other. And there is not obviously one firm that takes responsibility for ensuring the robust operation of the transfer function and mitigating the risks from the infrastructure (ledger) used to deliver it. More generally, this means that there is no entity in charge of comprehensively assessing the risks of the entire payment chain, as required by international standards, and building the right controls to mitigate them. This contrasts with a payment chain where the transfer function relies on a permissioned ledger managed by one central entity.

The lack of a central entity to govern the safe operation of the transfer function and to assess risk across the entire chain means that failures or outages materialising on the ledger may not be addressed adequately or sufficiently rapidly. Governance arrangements that rely solely on software (eg on the consensus mechanism developed for the operation of permissionless ledgers) are likely to be inflexible in the case of providing contingencies and responding to unforeseen situations that may require expert judgment and human intervention to induce change or enforce corrective action.

This absence of centralised governance arrangements makes it particularly challenging to address one of the core risks from permissionless ledgers – namely, that settlement of transactions may not always be final. As indicated in Section 2 (Box F), the [CPMI-IOSCO guidance](#)  sets out clearly that, like other systemic payment systems, systemic payment systems using stablecoins should provide ‘clear and certain final settlement’. They should clearly define the point at which settlement becomes irrevocable and unconditional, and there should be a clear legal basis acknowledging and supporting the finality of transfers.

The consensus mechanism used by most existing permissionless ledgers provides probabilistic settlement, where there is always a risk for transactions that have already been approved to be reversed or cancelled. The risk that settlement is not final reduces with each new block of transactions validated and added to the ledger, meaning that it has become common practice for users to wait for a number of such blocks before considering that settlement is, practically, final. However, this does not mitigate the risks of complex and elaborated ‘attacks’ on the ledger by fraudulent actors, of which there have been multiple occurrences in the past, and which may cause disruptions to settlement – for example, if those attacks result in a new ‘chain’ of transactions being created, rendering the previous ones obsolete and, in effect, annulled. In turn, this may mean that customers lose ownership of, and/or means of access to, their stablecoins, thereby preventing them from exercising their legal claim to redeem the full value of their stablecoins from the issuer.

**The Bank does not consider that a systemic payment chain operated in such a decentralised way can meet the FPC’s expectations and international standards.**

In the light of these concerns, the Bank considers that the presence of a central entity assuming the role of payment system operator and regulated as such (subject to HMT recognition) is necessary to mitigate risks in a comprehensive way. This entity, which could be the issuer, would be responsible for ensuring that risks arising from the choice of ledger can be adequately mitigated, while leveraging the benefits that innovative forms of ledgers can bring. The Bank acknowledges that such an entity may not be able to exercise the degree of control over public permissionless ledgers needed to meet international standards and the FPC’s expectations. At the same time, it is open to the possibility that solutions – be they in the form of technological innovations and/or legal arrangements – may be developed

to mitigate the core risks of permissionless ledgers to a degree the Bank deems satisfactory. The Bank recognises that industry is already working actively on these issues and would welcome views on how such changes and/or solutions may be built in the future.

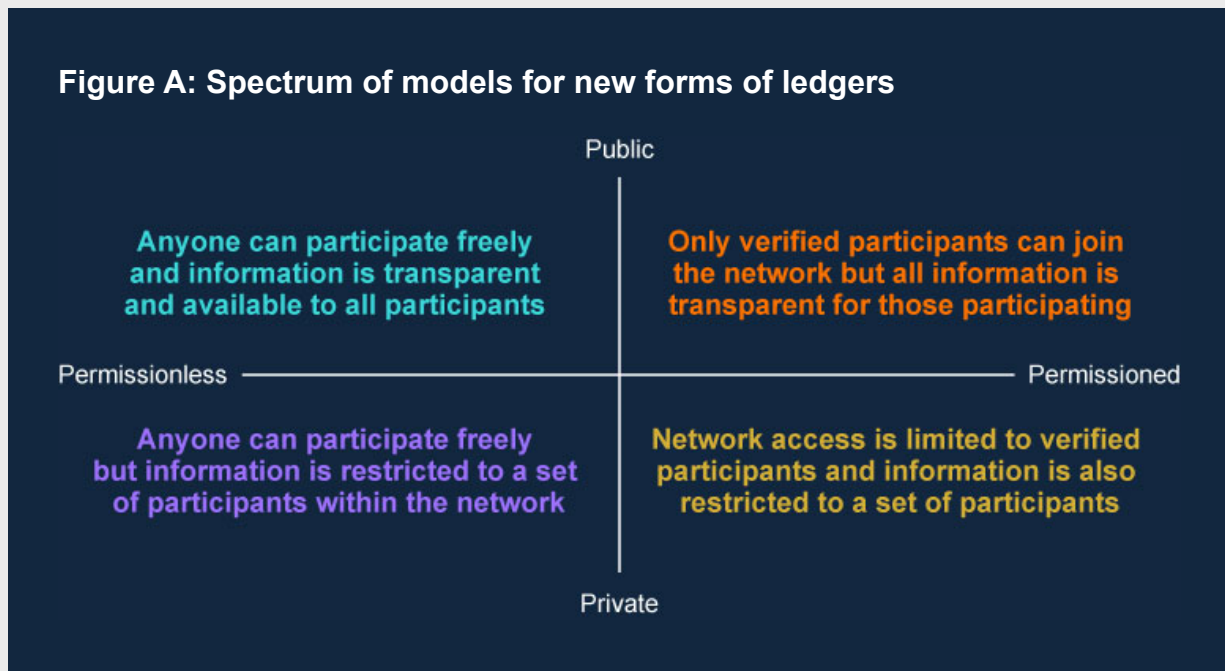
**Question 8:** Do you consider that the Bank's existing binding rules on governance, operational resilience and third-party outsourcing risk management are suitable for systemic payment systems using stablecoins?

**Question 9:** Do you consider that stablecoin issuers can exercise sufficient control over, and mitigate the risks of, public permissionless ledgers (be it via rule setting and/or the use of innovative solutions)?

**Question 10:** How do you consider that existing and emerging stablecoin payment chains operating with a public permissionless ledger may be adapted in order to meet the Bank's expectations and international standards?

## Box G: Different models for distributed ledgers

Ledgers may be categorised along a spectrum, as highlighted in Figure A.



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.

Permissionless ledgers are typically open networks relying on consensus mechanisms that allow anyone, without restriction, to contribute to the validation of transactions. They can vary in their design, depending on the type of use they are intended for and features they want to offer. Permissionless ledgers based on ‘proof-of-work’ consensus protocols require the operation of dedicated hardware to enable the participation to the consensus protocol, while ‘proof-of-stake’ consensus protocols rely on the incentives provided by the network’s native cryptocurrency in order to operate the consensus protocol. However, at their core, the consensus mechanisms of most permissionless ledgers enable transparent distribution of data, decentralisation of control over the ledger, and make extensive use of cryptography and tokenisation/automation. Some permissionless ledgers may operate in a fully decentralised manner. On the other hand, others may have a centralised entity in charge of overseeing the operation and developments of the ledger, for example, to guide participants through changes in the form of consensus mechanism used.

Permissioned ledgers also provide the innovative technological features offered by permissionless ledgers – indeed, both types of ledgers allow for programmable or ‘smart’ contracts. In fact, the consensus protocol may itself be managed via a smart contract. At the same time, they also allow their operator(s)/administrator(s) to restrict access to a specific set of entities or persons and to the functions these can carry out.

In addition, ledgers may be either public or private. The former allow any participant to see fully the state of the ledger and transactions performed. On the other hand, the latter allow the operator of the ledger to restrict access to the records to a set of selected and verified participants only. Different layers of access can be granted, restricting access to certain information to different types of participants.

## 4: Requirements on backing assets and restrictions on remuneration for the issuance of stablecoins used in systemic payment systems

**Figure 4.1: Stablecoins used as a means of payment should be stable in value**



**Requirements on backing assets and restrictions on remuneration need to ensure that stablecoins used in systemic payment systems are always stable in value. This is a necessary requirement for money that is used widely as a means of payment in the economy and is fundamental to financial and economic stability.**

A necessary requirement for any form of money used with confidence as a means of payment in the UK economy is that it maintains its value at all times and is interchangeable at par for other forms of sterling-denominated money. This includes both cash issued by the Bank of England and money issued by commercial banks in the form of bank deposits.

Commercial banks back the money they issue with a variety of assets including long-term loans to households and businesses. In doing so, they undertake liquidity and maturity transformation, which exposes them to credit, liquidity and market risk. The regulatory and supervisory regime for banks aims to mitigate these risks. Along with deposit protection and other requirements, this ensures that commercial bank money maintains its value and can be used with full confidence as a means of payment in sterling and can be exchanged on demand and at par for other forms of money circulating in the economy.

Stablecoins backed with assets that generate credit, liquidity or market risk are not suitable for use in systemic payment systems under the Bank's proposed regime. Such business models more closely resemble commercial bank business models would be more appropriately regulated under the banking regime, which can better regulate these risks.

The Bank's regime is intended for payment system business models that do not involve the payment system exposing itself to credit, liquidity or market risk, and which generate revenue from payment services rather than liquidity and maturity transformation.

## 4.1: Backing assets

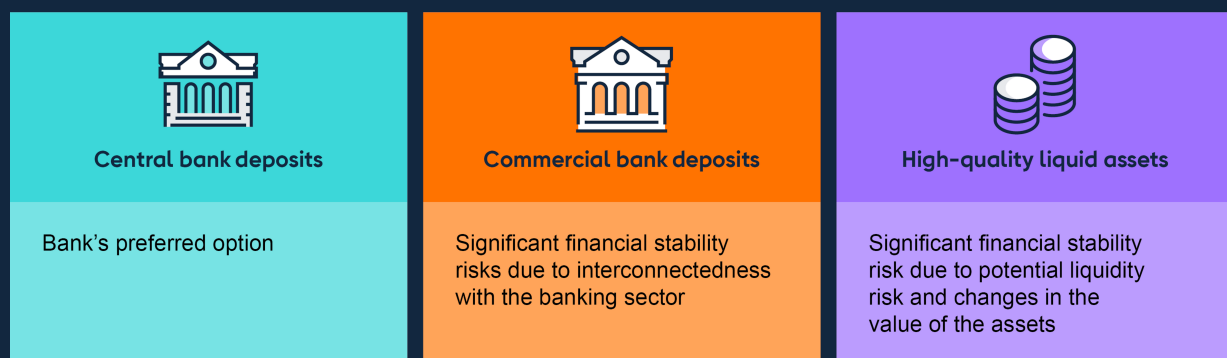
**Backing assets are the mechanism through which stablecoins aim to maintain a stable value against fiat currencies. These are assets held by the issuer to provide a value equal to that of the stablecoins in issuance.**

Stablecoins aim to maintain a stable value, primarily against existing fiat currencies. To achieve this, stablecoin issuers usually claim to hold assets that are at least equal in value to the stablecoins in issuance. These assets are known as ‘backing’ assets.

As noted previously, the regulatory regime for commercial banks is intended to address the risks that arise from backing commercial bank money with assets that generate credit, liquidity or market risk.

For systemic payment systems using stablecoins under the Bank’s regime, the Bank judges that the stablecoins will need to be backed by assets that do not generate these risks. In the [2021 discussion paper](#), we outlined three different backing models for non-bank<sup>[39]</sup> issued stablecoins for use in systemic payment systems: commercial bank deposits; high-quality liquid assets (HQLA), including central bank deposits and high-quality government bonds; and 100% central bank deposits. Of these, the Bank judges that the 100% central bank deposits model is most appropriate for systemic payment systems using stablecoins operating in the UK.

**Figure 4.2: Non-bank backing models for systemic stablecoins**



**The Bank’s preferred option is for systemic stablecoin issuers to back the stablecoins in issue fully with central bank deposits. Combined with the other protections proposed in this paper, this would ensure that the stablecoins always maintain their value. It would also ensure that the stablecoins can be used for**

**payments with full confidence, can be exchanged at par for other forms of money and that coinholders can redeem their funds at full value – and hence maintain singleness of money.**

Deposits held with the central bank, along with banknotes, are the most liquid, risk-free asset in the economy. Requiring full backing with central bank deposits means that the credit, liquidity or market risks associated with other choices of backing assets are eliminated. In the absence of a deposit guarantee scheme or resolution regime, this would give coinholders greater confidence that their stablecoins can be redeemed in full at any time, minimising run risks.

The Bank's preferred model for backing assets would also support sustainable innovation in payment services, which is the focus of its regulatory regime. The Bank considers that full backing with central bank deposits would allow for a greatly simplified regime, relative to the banking regime, for example, and encourage issuers and other firms to focus their business models on payments-related activities. It would encourage investment in building the use cases for new technologies in payments, such as efficiency, cost and functionality, in order for issuers to generate revenue. And it would ensure that revenues are not vulnerable to changes in interest rates. As noted previously, business models that are focused on generating returns on backing assets would be more suited to other regulatory regimes, such as the banking regime.

In reaching its view, the Bank has taken into account [feedback to its 2021 discussion paper](#). The discussion paper explored four stylised regulatory models, including one bank and three non-bank models. Just under half of respondents agreed with the Bank's assessment of the four possible regulatory models, while less than 20% disagreed – the rest were neutral. Among those who preferred a non-bank model (versus the bank model), most supported full backing with central bank deposits, with respondents noting its simplicity, and that it would offer the most reliable conversion to fiat money (on account of the safety of the backing asset). There were, however, concerns that the requirement for a central bank deposit account could be a barrier to entry.

Stablecoin issuers that are recognised as systemic in the UK would need to meet the requirements for access to a deposit account at the Bank.<sup>[40]</sup> For example, issuers would need to demonstrate that they meet the Bank's operational and contractual requirements as well as any other bespoke requirements that may apply. The Bank would also need to assess any operational risks that an issuer's access to a central bank deposit account might pose to RTGS, and the UK's wider financial system. Supervisors would expect any issuer that is likely to be recognised as systemic to have a credible plan as to how they intend to meet the Bank's requirements for such access to be granted. This is in line with market best practice and standards when providing safe, confidential and reliable banking and custodial services.



Respondents to the Bank's [2021 discussion paper](#) also noted that the way in which coinholders use stablecoins could be important for the choice of regulatory model. If stablecoins were used largely for transactional purposes, within the non-bank models, the commercial bank deposit<sup>[41]</sup> and central bank deposit models would be the most appropriate. If stablecoins were used instead as a store of value/means of investment, the model backed with HQLA would be preferable.<sup>[42]</sup> The Bank's view is that stablecoins used as a means of investment would entail risks better managed in the banking regime, if intended also as a means of payment, or in regulatory regimes for investment products.

Other respondents felt that the Bank had not taken account of the risks from large and sudden fluctuations in central bank reserves. Although new forms of digital money are likely to have implications for the quantity of reserves, and the Bank's balance sheet more broadly, the Bank has several mitigants in place to help manage changes in reserves. The Bank is undertaking work to consider how its balance sheet would need to adjust to support the safe and effective provision of digital money.

The Bank's preferred model meets the requirements of [CPMI-IOSCO guidance](#) <sup>[43]</sup>, which states that backing assets should minimise both credit and liquidity risk, and the [FSB High-level Recommendations](#) <sup>[44]</sup> that reserves be composed of conservative, high-quality and highly liquid assets.

**In March 2022, the FPC judged that a model in which the liabilities of a systemic stablecoin issuer are backed by commercial bank deposits would pose significant risks to financial stability and is not appropriate for stablecoins used at systemic scale.**

An alternative model is for stablecoins used in systemic payment systems to be backed by deposits placed with, and safeguarded by, one or more commercial banks. In this model, the issuer would have no direct relationship with the central bank, though the safeguarding banks holding the backing assets would be able to access central bank liquidity.

This would be similar to the backing model that is primarily used by firms that issue electronic money (so-called 'e-money') in the UK and EU. The FCA is considering allowing non-systemic stablecoins to be backed with short-term cash deposits (ie deposits with commercial banks), alongside short-term government bonds.<sup>[45]</sup>

As we highlighted in the Bank's [2021 discussion paper](#), the disadvantage of this model is that the liabilities of systemic stablecoin issuers would be linked to those of commercial banks. In March 2022, the FPC judged that this interconnectedness, at a systemic scale, would [introduce significant financial stability risks](#). For example, a run on a stablecoin used in systemic payment systems would cause the issuer to withdraw funds from the safeguarding bank, possibly prompting that bank to liquidate assets in order to meet the outflow. Even if bank deposits were spread between different commercial banks this could

disrupt asset markets. Conversely, a run on a safeguarding bank could affect the ability of the issuer to withdraw funds from that bank, which, in turn, could precipitate concerns around a loss of value and a run on the stablecoin itself (see Box H for an example of such events). This ‘tiering’ is already common in e-money and existing non-systemic stablecoins. But the financial stability risks posed would be much greater if commercial bank deposit-backed stablecoins reached systemic scale.

**A model in which the liabilities of systemic stablecoin issuers are backed by high-quality and highly liquid assets (other than central bank deposits) would expose them to financial risks and could disrupt asset markets more broadly.**

An alternative would be for stablecoins to be fully or partly backed by high-quality and highly liquid assets, such as government bonds. This model would introduce at least some elements of credit, liquidity and market risks. All financial assets are exposed to some degree of market risk. And even advanced-economy government bond markets, with little or no credit risk, can be subject to a rapid deterioration in liquidity. Indeed, recent market events such as the ‘[dash for cash](#)’ in March 2020 or the [gilt market stress](#) in September 2022 have demonstrated these risks.<sup>[46]</sup>

Such risks, should they materialise, could undermine confidence in a systemic payment system and the stablecoin used, with possible contagion effects on other stablecoins and payment systems. This could result in mass redemption requests. To meet these requests, issuers might be forced to sell financial assets (backing the stablecoin) at a large scale over a very short period of time, likely affecting the price of those assets. This would affect all holders of similar assets in the economy, thereby posing wider risks to financial stability.

In the event that a systemic stablecoin issuer enters insolvency, holding financial assets might also increase delays in the pay-out process for coinholders relative to the central bank deposits model. This is because these assets would need to be identified, reconciled, liquidated and their proceeds distributed to coinholders by the insolvency practitioner.

The Bank considers it unlikely that the financial risks posed by a model in which the liabilities of systemic stablecoin issuers are backed by high-quality and highly liquid assets (other than central bank deposits) could be sufficiently mitigated using other regulatory and supervisory measures, including prudential and safeguarding requirements. Given the absence of a backstop mechanism or deposit insurance, these may not be enough to sufficiently mitigate the risks of a run or protect coinholders under all risk scenarios.

The Bank could, to some extent, mitigate the liquidity risk associated with holding financial assets as backing assets, by extending access to the liquidity insurance facilities currently offered to banks. However, under extreme market conditions, this may not be enough to mitigate sufficiently a loss of confidence in the stablecoin and a subsequent run. These facilities are primarily intended to support the provision of credit in the economy and are more

suited to the risks taken by entities with a banking business model, regulated under the banking regime. The Bank considers a backing model with 100% central bank deposits to be a much simpler and more effective mechanism to ensure that non-bank issued stablecoins used in systemic payment systems maintain their value, can be used for payments with full confidence, can be exchanged at par for other forms of money and that coinholders can redeem their funds at full value – and hence maintain singleness of money.

**Regardless of the backing assets model, the Bank judges that systemic stablecoin issuers would still be exposed to operational risk and distribution costs in the event of distress, which would need to be mitigated through prudential and safeguarding requirements.**

While a 100% central bank deposit model eliminates credit, market and liquidity risks associated with the backing assets, systemic stablecoin issuers would remain exposed to operational risk and distribution costs in the event of distress. The Bank proposes that these are mitigated through prudential and safeguarding requirements, as set out in Section 5.

## 4.2: Remuneration

**In line with the principle that stablecoins used in systemic payment systems should be primarily used for payments, the Bank proposes that issuers should not receive interest on their central bank deposits or pay interest to coinholders.**

In line with the principle that stablecoins used in systemic payment systems should be primarily used for payments, the Bank's regime is designed for business models that generate revenues through the provision of payment services. As such, issuers are expected to play a very limited role in the transmission of monetary policy, as they would not engage in lending and would not be significant participants in money markets. Since participation in the transmission of monetary policy is the primary rationale for remunerating central bank reserves held by commercial banks, the Bank therefore proposes that the central bank deposits held by systemic stablecoins issuers as backing assets should not be remunerated.

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.<sup>[47]</sup> Prohibiting e-money institutions from paying interest already incentivises the use of e-money for payments rather than as a means of investment. Existing payments providers provide incentives for usage, such as points or rewards linked to transaction volumes. The Bank will consider further whether this practice would be permitted for stablecoins used in systemic payment systems.

Firms wishing to offer remunerated deposits, and earn interest on assets held against those deposits, would be more suited to other regulatory regimes, such as the banking regime.

The proposed requirements on the backing assets held by stablecoins used in systemic payment systems would require a different business model from those operated by stablecoins today, which hold a variety of backing assets and receive a large proportion of their revenues from these assets. As noted previously, the Bank considers that these requirements will support sustainable innovation in payment services, by allowing a simpler regulatory regime for payments-focused business models than the banking regime, and by incentivising issuers to invest in payments use cases such as efficiency, cost and functionality in order to generate revenues that are not vulnerable to changes in market interest rates.

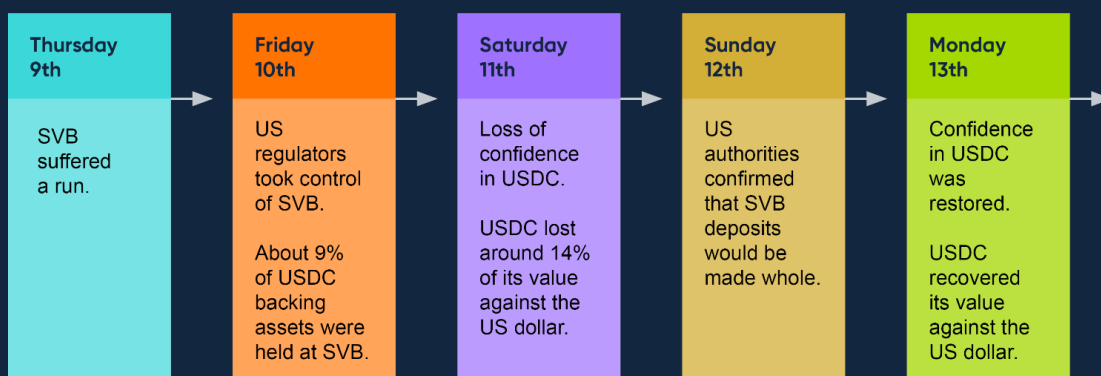
**Question 11:** Do you agree with the Bank's assessment of the important role of backing assets in ensuring the stability of value of the stablecoin?

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

## Box H: Risks of holding commercial bank deposits as backing assets

The risks of backing liabilities with commercial bank deposits became evident following the collapse of Silicon Valley Bank (SVB) in March 2023. Circle, the US-based issuer of the stablecoin 'USDC', held US\$3.3 billion (around 9%) of its backing assets as deposits with SVB. Uncertainty in the market as to whether Circle could access these deposits from SVB led to an immediate loss of confidence in the stablecoin. This resulted in significant redemptions/sales and in USDC trading away from par. The stablecoin temporarily lost around 14% of its value. After US authorities confirmed that SVB deposits would be made whole, confidence in the stablecoin was restored and USDC recovered its value against the dollar. Without the US Government's intervention, the issuer could have faced significantly higher redemption requests likely prompting it to withdraw funds from other safeguarding banks. If these banks were to liquidate assets to meet those outflows, this could have caused market-wide stress. And if the use of USDC had been of a systemic scale, the impact on financial stability could have been significant.

**Figure A: SVB collapse and Circle's USDC de-pegging - timeline of events in March 2023**

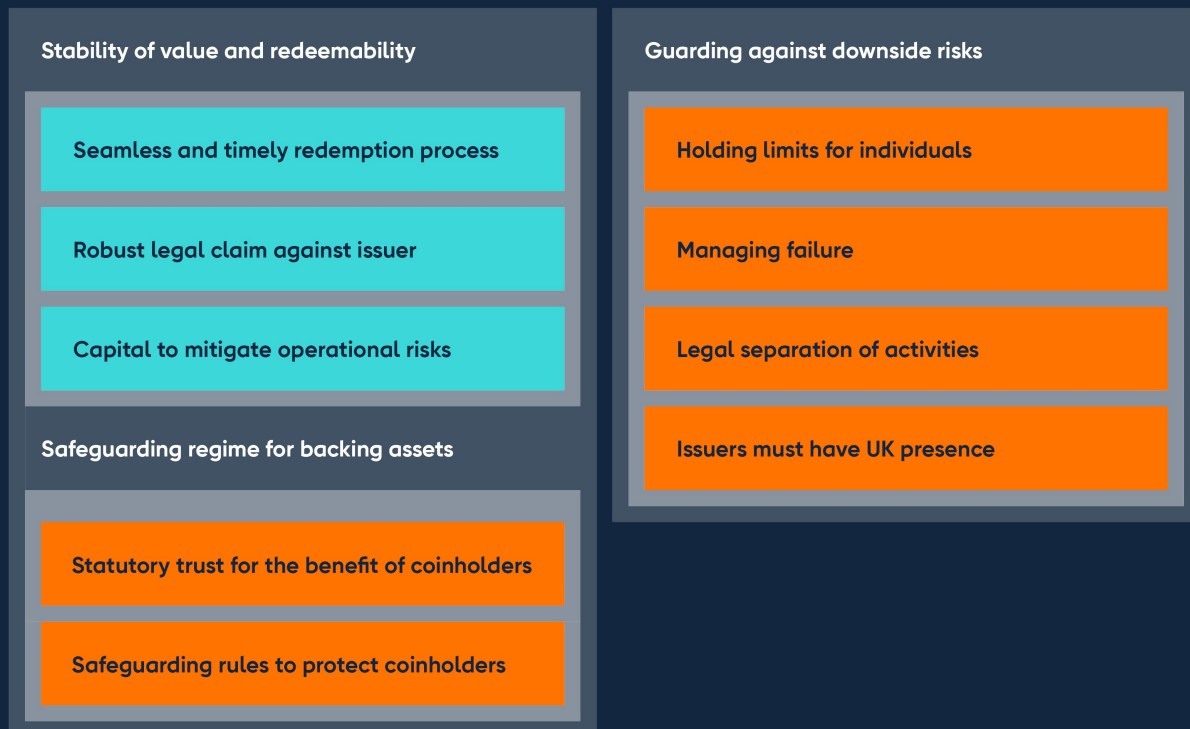


Sources: [Financial Stability Report, May 2023 \(federalreserve.gov\)](https://www.federalreserve.gov/financialstability/20230501) and [USDC nearly regains \\$1 peg after Circle says SVB deposit is available](https://www.circle.com/en/news/2023/03/13/usdc-nearly-regains-1-dollar-peg-after-svb-collapse).

## 5: Other requirements for the issuance of money used in systemic payment systems

Figure 5.1: Key requirements for issuers

### Ensuring confidence in stablecoins as a form of private money used in systemic payment systems



**Requirements for issuers aim to ensure confidence in systemic payment stablecoins as a form of private money. This means ensuring stability of value and the ability to redeem in fiat.**

As described in Section 4, backing assets play a key role in underpinning the confidence of customers of systemic payment stablecoins that their stablecoins will be stable in value. Backing assets alone, however, are not sufficient to ensure stability of value, coinholders' ability to redeem in fiat and interchangeability with other money in the economy. It is also necessary to have certainty of the coinholders' legal claim for the value of the stablecoin, a frictionless redemption process, and robust safeguarding of backing assets. Further measures are also needed to guard against downside risks, including capital requirements to mitigate the risk of a shortfall in the backing assets, a robust supervisory regime and arrangements for the orderly management of failure.

## 5.1: Legal claim for the value of stablecoins used in systemic payment systems and redemption arrangements

**In order to provide the same level of resilience as commercial bank money, holders of stablecoins used in payment systems should have a robust legal claim for the value of their stablecoins against the issuer and should be able to withdraw their funds on demand at the face value of the stablecoins without undue constraint.**

To maintain confidence in systemic payment stablecoins as a form of private money, coinholders should always be able to redeem their stablecoins into commercial bank money (ie bank deposits) at any time and receive the same value (minus any potential fees) as they initially exchanged to obtain the stablecoins (ie redeem at par in fiat on demand). And the issuer, as the entity responsible for the backing assets, should be subject to regulatory requirements to ensure such redemption requests can be met in both normal times and in stress.

The Bank proposes to require systemic stablecoin issuers to ensure that there are no undue restrictions or conditions that would prevent coinholders from redeeming their stablecoins.<sup>[48]</sup> They would be required to meet redemption requests of any size and at par. This is essential to meet the FPC's expectation that stablecoins used in systemic payment systems as money-like instruments should meet standards equivalent to those expected of commercial bank money in relation to stability of value, robustness of legal claim and the ability to redeem at par in fiat. As noted in Section 1, it is also essential to ensure that the singleness of money in the UK is not compromised.

The Bank further proposes to require systemic stablecoin issuers to process redemption requests by the end of the day on which a valid redemption request is made, and in real time wherever possible.<sup>[49]</sup> This is in line with CPMI-IOSCO guidance requiring timely convertibility of stablecoins at par by the end of the day. Issuers would be required to demonstrate to the Bank how they intend to manage redemptions both in normal times and in stress, and both during and outside of the operating hours of payment systems they use to process redemption requests.

The Bank recognises that there could be different ways in which redemptions are fulfilled and does not propose to prevent or restrict any particular model, provided it is satisfied that risks in the process are sufficiently mitigated. For example, some issuers of stablecoins used in systemic payment systems may not interact directly with individual coinholders and instead delegate redemption to firms acting as entities that provide the customer interface. In that event, the issuer as the entity responsible for the backing assets would continue to be accountable for compliance with the Bank's proposed regulatory requirements for redemption, as set out above. And it would need to demonstrate to the Bank how its redemption model, and its control over those other entities involved in redemption, comply with those requirements.



The Bank further proposes either to prohibit redemption fees or require that any redemption fees charged to coinholders reflect the cost incurred by the systemic stablecoin issuer or any other entity providing the redemption service. Redemption fees, particularly disproportionately high redemption fees, could create frictions across the redemption process as coinholders may seek to avoid fees by selling their stablecoins in the secondary market. During times of stress, this could increase the risk of stablecoins trading away from par value, which may exacerbate run risk and spread financial instability.

**In case of a failure of any participant in a systemic payment system using stablecoins, the Bank expects all relevant parties to work with the appointed administrator to minimise disruptions and facilitate redemption or payout.**

The Bank recognises that the redemption process could be disrupted in the event of a failure of any participant in a systemic payment system using stablecoins. In that event, the Bank expects issuers and other relevant entities to cooperate with the appointed administrator or other insolvency official of the failed participant to facilitate redemption/payout. As part of this, all relevant entities would be expected to comply, as soon as reasonably practicable and subject to confidentiality and similar obligations, with written requests from administrators or other insolvency officials, the Bank, or other authorities for the provision of information and technical expertise.

Issuers of stablecoins used in systemic payment systems would further be required to maintain a recovery and administration plan to be able to fulfil redemptions in the case of a failure of any firm in the payment chain and/or to facilitate a faster payout to coinholders in the case of failure of an issuer. This could include ensuring, subject to confidentiality constraints, access to sufficient customer information (including their balances held) to ensure repayment.

Finally, the Bank would reserve the right to require, or allow for, a temporary pause on redemption for financial stability reasons, for example, through a direction to the systemic stablecoin issuer (Box D).

**Question 13:** Do you agree with the Bank's proposed requirements on the redemption process, including the role of all firms in the payment chain?

**Question 14:** Do you have views on requirements on redemption fees, or prohibiting these, to minimise any frictions across the redemption process?

**Question 15:** Can you identify any issues with the requirements on systemic stablecoin issuers and other relevant firms within a payment chain to cooperate and support the appointed administrators with a view to facilitating redemption or payout in



the event of a firm failure?

**Question 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?

## 5.2: Safeguarding

**In order to ensure redemption in fiat, at par and on demand – in business as usual and at times of stress – backing assets underlying coinholders’ claims will need to be robustly safeguarded. In the absence of deposit protection, the safeguarding regime helps to ensure that stablecoins are fully backed, and the backing assets are duly protected and available to satisfy coinholders’ redemption requests.**

As described in Section 4, requiring that issuers back their stablecoins with central bank deposits eliminates the risk that the value of backing assets falls below the value of stablecoins in issuance due to changes in the market value of the backing assets. This will eliminate much, but not all, of the risk that backing assets are insufficient to meet redemptions in full. Other risks will remain. For example, failing to segregate backing assets when new stablecoins are issued may result in other (non-coinholder) creditors having a claim against these assets. Poor record keeping or inadequate reconciliation practices may lead to a shortfall not being recognised.

To mitigate these risks, the Bank proposes that there should be a safeguarding regime to protect coinholders’ legal claims and to ensure that coinholders can redeem their stablecoins at par value at all times. This is critical for meeting the FPC’s second expectation that systemic payment stablecoins should meet equivalent standards to commercial bank money.

The safeguarding regime would be centred on two key features: (a) statutory trust, where the backing assets are held for the benefit of coinholders; and (b) safeguarding rules. This is in line with both FSB [High-Level Recommendations](#) <sup>[50]</sup> and the CPMI-IOSCO [Guidance on Application of the PFMI to stablecoin arrangements](#) <sup>[51]</sup> which require a robust or direct legal claim on the issuer and/or the underlying reserve assets.

### Statutory trust

**The Bank proposes that the assets backing stablecoins used in systemic payment systems are kept in a segregated account and protected from claims of other creditors. The Bank’s preference is for this to be structured as a trust arrangement.**

The segregation of backing assets, and coinholders' rights to those 'segregated assets', are critical to ensuring that coinholders can redeem in full at all times. The Bank has considered two legal models – a debt model and a trust model – for protecting coinholders' rights and satisfying the FPC's second expectation (Table 5.1).

The 'debt model' is inspired by the Electronic Money Regulations 2011, which establishes the regulatory regime for e-money. Drawing from those regulations, the debt model would confer on coinholders an unsecured debt claim against issuers for the par value of their stablecoin holdings. In the event of insolvency, coinholders' contractual claims would be elevated in order of priority above all other creditors<sup>[52]</sup> and paid out from the backing assets, which are segregated from the rest of the issuer's estate.

The 'trust model' draws from the [FCA's Client Assets Sourcebook](#)<sup>↗</sup>. This establishes a regulatory regime for firms providing safeguarding services – that is, the holding of clients' assets by safeguarding firms on 'statutory trust' for the sole benefit of those clients. The trust model would confer on coinholders a beneficial interest in the segregated assets held on statutory trust by the systemic stablecoin issuer, supplemented by a residual unsecured debt claim against the issuer itself to the extent of any shortfall. This would mean that coinholders' proprietary claims against issuers (as trustees) for the par value of their stablecoin holdings are protected in both going and gone concern. This is because the segregated assets that are held on trust would be properly ring-fenced and would not form part of the issuer's general estate in insolvency.

Table 5.1: Models of coinholders' rights

Right	Debt model	Trust model
<b>Coinholders' legal claims</b>	<ul style="list-style-type: none"> <li>Unsecured debt claims against issuer for the par value of stablecoin holdings.</li> <li>Upon the issuer's insolvency, contractual claims are elevated in priority above all other creditors.</li> </ul>	<ul style="list-style-type: none"> <li>Proprietary claims against issuer for the backing assets on statutory trust up to the par value of stablecoin holdings.</li> <li>Proprietary interest in the backing assets.</li> <li>Unsecured claims against issuer for any shortfall once trust assets have been realised.</li> </ul>
<b>Duties owed to coinholders</b>	<ul style="list-style-type: none"> <li>Issuers owe contractual and statutory duties to coinholders.</li> </ul>	<ul style="list-style-type: none"> <li>Issuers owe contractual, statutory, and fiduciary duties to coinholders.</li> </ul>
<b>Legal remedies</b>	<ul style="list-style-type: none"> <li>Legal remedies for issuers' breach of contractual or statutory duties.</li> </ul>	<ul style="list-style-type: none"> <li>Legal remedies for issuers' breach of contractual or statutory duties.</li> <li>Equitable remedies for issuers' breach of fiduciary duties.</li> </ul>

The Bank proposes to adopt the trust model, on two grounds. First, a statutory trust would afford greater clarity than the debt model as to the nature of coinholders' claims. It would also give additional (equitable) rights to coinholders to protect their beneficial interests in the segregated assets (for instance, tracing and recovery of backing assets wrongly transferred to a third party), which may increase the likelihood of a full and timely payout. Second, the Bank considers there is a benefit to aligning with the FCA, which is proposing to adopt a trust model in its regime for the backing assets of non-systemic stablecoins. This would reduce transition costs for non-systemic stablecoins that are later recognised as systemic payment systems using stablecoins.





### Safeguarding rules

**Safeguarding rules are needed to ensure that coinholders and supervisors are confident that a systemic stablecoin issuer has sufficient backing assets to meet redemptions at all times.**

The Bank's proposed safeguarding regime would need to be further supported by a bespoke set of rules designed to ensure stablecoins are fully backed and these assets are available to satisfy redemption requests. Safeguarding rules would govern the segregation of backing

assets, the reconciliation of these assets with issued stablecoins, the organisational controls over the issuance, transfer, and holding of these stablecoins, and reporting on issuers, stablecoins, and backing assets. These rules would be set with a view to achieving a number of specific outcomes, as set out in Table 5.2.

**Table 5.2: Safeguarding rules**

<b>Safeguarding rules</b>	
	<p><b>Segregation</b></p> <p>In line with the statutory trust, the Bank proposes issuers would be required to segregate (ie to operationally set aside from their general assets) backing assets. Neither issuers nor any other person will be allowed to have any interest in or right over the backing assets, except as provided in legislation/regulation.</p>
	<p><b>Reconciliation</b></p> <p>Issuers would be required to carry out accurate and consistent reconciliation between the value of stablecoins in issue and the value of backing assets. The Bank expects issuers to undertake intra-day reconciliation as often as necessary to ensure that the requirement of one-to-one backing to issuance is met at all times. At a minimum, issuers would be required to undertake reconciliation not less than once during each day.</p>
	<p><b>Organisational arrangements</b></p> <p>Issuers would be required to have adequate organisational arrangements (internal governance and controls) in place, which mitigate the risk of misapplying or mismanaging the backing assets, fraud, inadequate record keeping, or negligence.</p> <p>Organisational requirements would include issuers' duty to keep accurate records and put in place recovery and solvent wind-down plans as well as an administration plan, containing information that assists insolvency practitioners in achieving a timely payout of coinholders.</p>
	<p><b>Reporting, audits, and notification</b></p> <p>Issuers would be required to provide regular and ad hoc reports to the Bank in respect of their stablecoins (eg around issuance, redemption, freezing) and stablecoin arrangements (eg ledgers, custodians, wallet providers). Issuers would also be required to have an annual audit conducted by an external auditor on the adequacy of their compliance with the Bank's regime for systemic payment systems using stablecoins. Issuers would be expected to inform the Bank in writing and without delay of any instances of non-compliance.</p>

The Bank is further considering its position on issuers' use of so-called 'treasury wallets' for systemic payment stablecoins. This refers to the practice by which some issuers hold their own stablecoins in proprietary/treasury wallets. These stablecoins are typically held 'unbacked' by any assets, unlike other stablecoins in circulation. The Bank's view is that issuers should be required to comply with safeguarding rules so as to fully back all stablecoins held in treasury wallets. This would mitigate the risk of 'unbacked' stablecoins held in treasury wallets diluting the pool of backing assets available to support coinholders' redemptions – for example, if these stablecoins were to enter into circulation as the result of (for instance) theft, fraud, misuse, mismanagement, negligence or inadequate practices of reconciliation and record-keeping. The Bank is open to industry feedback on alternative solutions to mitigate this risk.

**Question 17:** Do you have views on the Bank's proposed safeguarding regime being centred on two key features (statutory trust in favour of coinholders; and safeguarding rules)?

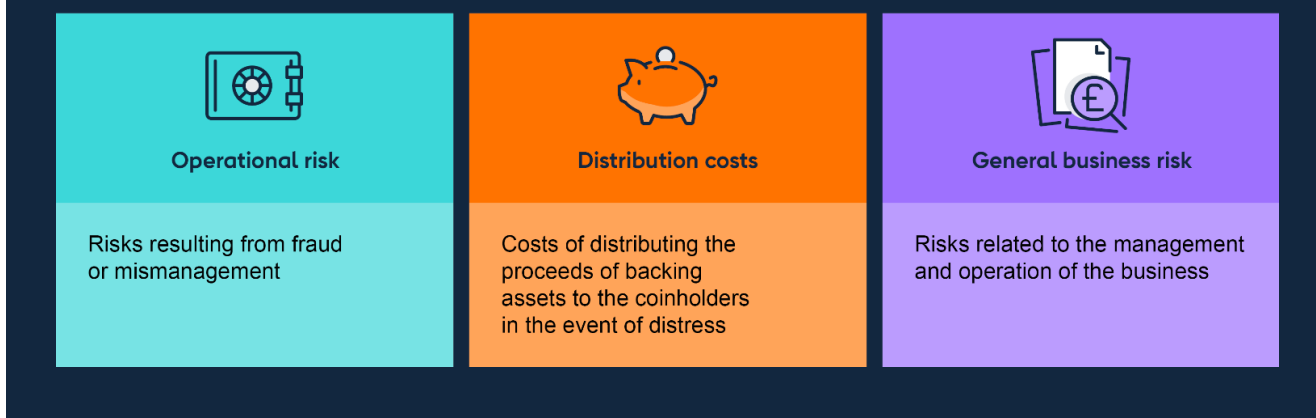
**Question 18:** Do you think there are any other features that need to be reflected in the safeguarding regime for systemic payment stablecoins?

**Question 19:** Do you agree with the requirements for stablecoins owned by the issuers held in treasury wallets?

### 5.3: Capital requirements

**In addition to backing requirements, and the safeguarding regime, the Bank proposes that issuers of stablecoins used in systemic payment systems should hold additional capital against other risks that may result in a shortfall in the backing assets or that can threaten the firm's ability to operate as a going concern.**

**Figure 5.2: Key risks faced by issuers of systemic payment stablecoins**



The proposed requirement of full backing with central bank deposits would eliminate credit, market and liquidity risk in the backing assets. The safeguarding regime would help ensure that there is an appropriate legal structure and strict rules so that coinholders can always redeem at par. However, holders of stablecoins would still be vulnerable to there being a shortfall in the backing assets or any threat to the issuer's ability to operate as a going concern.

For example, issuers would be exposed to operational risk, such as cyber-attacks, that could lead to the theft or misuse of stablecoins, creating a mismatch between the backing assets and the stablecoins in issue. Likewise, in times of distress or failure of the issuer, there would be costs associated with the distribution of the backing assets to coinholders, which could result in coinholders not receiving the full value of their stablecoins. Meanwhile, general business risk could generate sudden losses that mean an issuer is no longer able to operate, including meeting redemptions. Such losses may result from, but are not limited to, adverse reputational effects, poor execution of business strategy, ineffective responses to competition, and legal or operational risk.

In the absence of deposit protection, these risks could generate 'first mover' dynamics that could drive runs on an issuer, with potential risk of contagion to other stablecoins. Holding capital against these risks would allow the issuer to restore any shortfalls in the backing assets and/or absorb losses that would otherwise threaten its ability to continue operating, thereby protecting coinholders' ability to redeem their stablecoins at par in other forms of money and delivering on the FPC's second expectation.

**The Bank proposes to use existing international standards (the PFMI) as a baseline for calculating capital requirements with some modifications to mitigate the risk of a shortfall in backing assets.**

**Figure 5.3: Overall proposed capital requirements and shortfall reserve requirements for issuers of systemic payment stablecoins**



Under the PFMI, a systemic payment system must hold capital in an amount at least equal to the highest of any of the following: (a) six months of operating expenses; (b) potential business losses; or (c) wind-down costs. Issuers would further be required to have procedures in place to identify all sources of risks that may impact their functions and activities, and the likelihood of adverse effects on the backing assets. Systemic payment systems using stablecoins would also be subject to these PFMI requirements.

In addition, the Bank considers that systemic stablecoin issuers would need to mitigate the risk that a shortfall in backing assets could result in a loss of confidence in the stablecoin. The Bank proposes to require that issuers clearly identify risks that can lead to a shortfall in the backing assets, including any operational risks such as fraud or mismanagement, and the costs of distributing assets to coinholders. Issuers would need to hold a reserve of assets to mitigate these shortfall risks. These assets would need to be held by issuers on statutory trust for the benefit of coinholders (in a similar legal structure to that proposed for the backing assets). The purpose of this proposed 'shortfall reserve' is to ensure that backing assets and shortfall reserve assets are fully available to meet coinholders' redemption requests, to protect redemption at par and so protect confidence in the stablecoin, mitigating the risk of runs.

The proposed calibration of capital requirements would seek to avoid duplication amongst the risks captured. The issuer would make two calculations: the capital requirements under the PFMI approach; and the required shortfall reserve assets. Capital requirements for other business risks would be calculated as the PFMI calculation minus the capital funding the shortfall reserve assets.

The Bank acknowledges that, due to the novelty of the industry and consequent unavailability of historical data, estimating the capital requirements may be challenging. Issuers would need to demonstrate to the Bank how they have arrived at their calculations, and this would be subject to the Bank's supervisory approval. Factors that would be considered may include the firm's business model, technological solutions for reconciliation of assets and liabilities, and accuracy and timeliness of record keeping.

**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.**

Issuers would be required to inform the Bank as soon as practical if the capital or the value of the reserve assets falls, or is expected to fall, below a minimum level that supervisors judge to be adequate to mitigate the risks it is intended for. Issuers would also be required to prepare a viable plan specifying how they intend to restore capital to the levels required within a reasonable period of time.

The Bank also proposes that issuers develop early warning indicators to assist supervisors in identifying, sufficiently in advance, situations in which they consider they are at risk of failing to comply with the capital requirements. If appropriate and proportionate in the circumstances and based on its supervisory risk assessment, the Bank may require the issuer to implement a recovery strategy (including, for example, ceasing issuance of new stablecoins, or raising new capital) or consider implementing solvent wind-down. These actions would be intended to mitigate the risk that the issuer fails with insufficient resources for coinholders to be able to redeem their stablecoins in full. If an attempted solvent wind-down fails, or is likely to fail, the Bank would assess whether the issuer meets the conditions to be placed into special administration (refer to Section 5.5).

The Bank does not consider that the reserve assets, which are intended to mitigate operational risks and distribution costs, need to meet the same standards as backing assets. Therefore, rather than being fully held in central bank deposits, these assets could comprise a narrow set of high-quality and highly liquid assets. However, the assets would need to be sufficiently liquid so as not to delay either the implementation of a solvent wind-down plan or insolvency proceedings, which would slow down payouts to coinholders.

**Question 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?

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



**Question 22:** Do you have views on the requirement to hold reserve assets in a statutory trust, to ensure that stablecoins are fully backed and the backing assets are duly protected and available to satisfy coinholders' redemption requests at all times?

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

#### 5.4: Supervision of issuers of stablecoins used in systemic payment systems and early intervention

**The Bank proposes to apply its existing approach to the supervision of financial market infrastructure firms, including systemic payment systems, to issuers of stablecoins used in systemic payment systems.**

In line with its statutory responsibilities, the Bank has developed a [supervisory approach in relation to financial market infrastructures](#) <sup>↗</sup>, including systemic payment systems, with a view to protecting and enhancing the stability of the UK financial system. The Bank proposes to apply this approach (with necessary modifications) to issuers of stablecoins used in systemic payment systems. Under this approach, issuers would bear full and primary responsibility for identifying vulnerabilities and mitigating risks to financial stability. In addition, the Bank's supervision would aim to avoid disruption to systemic payment systems using stablecoins by:

1. mitigating risks that may cause a widespread loss of confidence in the value of, or reliability of access to, a stablecoin used in systemic payment systems; and
2. reducing the vulnerability of issuers of stablecoins used in systemic payment systems to failure and ensuring that any such issuer that fails does so in an orderly manner and without adverse consequences for the rest of the financial system.

The Bank proposes to assess issuers' vulnerabilities against those supervisory objectives and reach forward-looking judgements on a number of key areas, for example, issuers' business models, governance and risk management practices, redemption processes, adequate levels of capital, safeguarding of backing assets, and operational and financial policies and controls. Where risks are judged unacceptably high, and taking into account that stablecoins would have been recognised as systemic because they pose financial stability risks, the Bank will expect issuers to take action to reduce them or may, otherwise, intervene.

**The Bank may use its powers to intervene early when an issuer of a stablecoin used in a systemic payment system is experiencing stress, with the aim of protecting coinholders from losses and to mitigate any risks to financial stability. In the extreme event of default, the Bank will exercise its powers to ensure an orderly failure.**

As with other payment systems and commercial banks, the Bank's regime for systemic payment systems using stablecoins cannot eliminate business model failure, or financial and operational risks, entirely. Rather, the Bank's objective is to maintain financial stability by ensuring that risks are managed and mitigated to an appropriate degree and that any failure of an issuer is orderly.

Given residual risks will always remain, an effective approach to early intervention is critical to reducing threats to financial stability. The Bank proposes to use its powers under the Act to identify weaknesses and intervene early or pre-emptively where an issuer is experiencing stress or failing. Supervisory measures may take various forms depending on the risk assessment.

In the first instance, the Bank proposes to apply its supervisory approach through regular engagement with issuers of stablecoins used in systemic payment systems, including analysis of data and management information, onsite testing and direct engagement with issuers' senior management and staff. The Bank's supervision would assess the risks posed by issuers and their potential impact on coinholders and financial stability, and (where judged necessary) issuers would be required to take specific actions to mitigate those risks.

Where an issuer is experiencing stress that poses a risk to coinholders being redeemed in full and/or financial stability, the Bank would use its powers to direct an issuer to undertake remedial action. For instance, issuers may be directed to raise new capital, limit or cease issuance or redemption of stablecoins, or implement another recovery strategy.

In extreme scenarios, the Bank would have the power to direct issuers to return coinholders' funds, allowing an orderly and solvent market exit. The Bank can use its power of direction where it considers it is appropriate and proportionate. For instance, the Bank considers that compulsory redemption may be appropriate and proportionate in the event of a material breach of legal conditions or regulatory requirements, especially where the Bank judges that any deficiency in an issuer's resources may expose coinholders to risks.

Under this supervisory approach, issuers of stablecoins used in systemic payment systems would also be required to maintain a credible plan to enable a successful wind down. This would provide, among other things, the various paths, early warning indicators, and clear triggers for stress scenarios, governance and decision-making processes, anticipated timeframes and costs, and arrangements for ensuring the transfer and continuity of critical services to another entity and/or full redemption of stablecoins.

## 5.5: Failure of issuers

**Arrangements for dealing with failing issuers of stablecoins used in systemic payment systems aim to reduce disruption to continuity of service and mitigate the residual shortfall risk to coinholders.**

Even with a robust supervisory framework in place, there will remain a risk of issuers' failure. If solvent-exit options or solvent wind-down are impractical or unsuccessful (for example where operational incidents cause a sudden and material shortfall in backing assets) and an issuer fails or is likely to fail, the Bank may seek to apply to the courts to place the issuer into special administration under the FMI Special Administration Regime (FMI SAR), as modified by HMT. This may also apply to other recognised service providers involved in systemic stablecoin payment chains, such as wallet providers (refer to Section 6).

The FMI SAR regime was established in 2013 to allow courts to place operators of recognised systemic payment systems and service providers to these systems into special administration, with the objective of protecting the stability of the UK financial system. In 2022, [HMT consulted](#), and have since published its [response](#) to that consultation, on the application (with modifications) of the FMI SAR regime to systemic payment systems centred on 'digital settlement assets', including systemic payment systems using stablecoins.

HMT's key proposed changes included: (i) adding a new objective to FMI administration (ie timely return of funds) alongside the existing one (ie continuity of services); and (ii) providing the Bank with the power to direct the court-appointed administrators as to which objective should be prioritised. The modified FMI SAR aims to decrease the likelihood of a disorderly failure of issuers and custodians of stablecoins whilst protecting coinholders' rights.

It is important to note that the modified FMI SAR is not a resolution regime. This means that the FMI SAR will not have the same range of tools to facilitate continuity of service as the resolution regimes do for the largest banks<sup>[53]</sup> and recognised central counterparties.<sup>[54]</sup> In addition, the timeliness of payout by issuers will be dependent on the speed with which administrators are able to effect such payout. It is possible that a payout may not be as rapid as, for example, under the Financial Services Compensation Scheme (FSCS) for covered bank deposits.<sup>[55]</sup>

## 5.6: Limits

**Figure 5.4: Limits on holdings of systemic stablecoins**

To mitigate financial stability risks of large and rapid outflows of deposits from the banking sector

To mitigate risks posed by systemic payment systems using stablecoins while they are scaling up

Set at a relatively low level initially

**The Bank considers it likely that, at least during a transition, limits would 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. The Bank welcomes feedback on the use, calibration and practicalities of limits.**

A range of financial stability risks presented by new forms of digital money, including stablecoins, were outlined in Section 1 (Box A). These include risks stemming from large and rapid outflows from bank deposits into new forms of digital money, and from large-scale reallocations of cash around the financial system disrupting the functioning of critical money markets.

Similar to its proposed approach for the digital pound, the Bank considers it likely that limits on stablecoins used in systemic payment systems would be needed to manage financial stability risks by constraining the degree to which deposits could flow out of the banking system at least during a transition.<sup>[56]</sup> The Bank recently consulted on an individual holding limit of digital pounds between £10,000 and £20,000, and sought views on a lower limit, such as £5,000.

Applying similar holding limits to stablecoins would allow the Bank to learn more about the extent of bank disintermediation associated with their use and the resulting impact on the cost and availability of credit. As bank deposits flow to new forms of digital money, including stablecoins, commercial banks could lose retail deposit funding and pass on higher wholesale funding costs to customers. Thus, credit conditions could worsen. The impact is, however, uncertain and depends, among other things, on the speed and scale of adoption of digital money. Applying holding limits would allow the Bank to mitigate the financial stability risks while it monitors the financial sector's response to households and businesses using new forms of digital money at a greater scale. These limits would apply to all stablecoins used in systemic payment systems, and would be raised, or removed completely, if the Bank believes the risks to financial stability have been mitigated.

Firm-specific limits could further mitigate risks posed by systemic payment systems using stablecoins during a mobilisation period, ie while they are launching and scaling up. Mobilisation would allow systemic issuers to put in place the frameworks required for them to meet the Bank's supervisory and regulatory requirements. Similar processes are currently applied to some new systemic payment systems<sup>[57]</sup> and [banks](#). These mobilisation limits would be maintained until the operator of the system demonstrates to the Bank that the payment system can operate safely and that it meets the Bank's supervisory and regulatory requirements.

The Bank has considered the advantages and disadvantages of different types of limits that could be applied (Table 5.3). It considers that holding limits are most effective at mitigating large and rapid outflows of bank deposits, which in turns helps in managing the financial stability implications of sudden bank disintermediation. Holding limits would also cap the size of coinholders' exposures in case of a shortfall in backing assets or the failure of a systemic stablecoin issuer. And finally, as mentioned in Section 2, holding limits would be most effective at restricting the use of systemic stablecoins to retail payments. This is because they would constrain wholesale use by placing an effective cap on the size of transactions.

The Bank recognises that implementing holding limits for each systemic stablecoin may be operationally challenging, given that users may be able to use multiple entities to access a given stablecoin. This is likely to require close coordination across the entities that operate or provide services in relation to the payment system. The Bank would welcome feedback on the practicalities of implementing such limits, including potential technological solutions.

Other types of limits, such as on transaction volume or size may also be imposed in the mobilisation period.

In March 2022, the Bank published its [Responses to the Bank of England's Discussion Paper on new forms of digital money](#). The Bank noted that the respondents mainly agreed that limits would be a useful tool to manage financial stability risks. One respondent further suggested that limits could be useful in creating controlled operational phases for assessing the performance and resilience of new systemic payment systems using stablecoins. Respondents also noted the need for limits to be applied consistently and reviewed regularly to avoid stifling competition in the interests of incumbents.

**The Bank expects that any holding limits would be set at a relatively low level initially.**

The Bank would take a consistent, appropriate, and proportionate approach to calibrating limits for stablecoins used in systemic payment systems, having regard to similar policy tools across different types of digital money, such as the limits proposed for the digital pound.

There is considerable uncertainty regarding the future composition of the digital money landscape, such as whether a digital pound is introduced and how many systemic payment systems using stablecoins will operate in steady state. Any stablecoin limits would be set at a level that is consistent with, and no higher than, those set for the digital pound, if introduced. Setting limits at a relatively low level initially would lean against the risk of large and rapid flows of deposits from the banking system while the Bank learns more about the potential risks posed by the introduction of new forms of digital money.

Imposing holding limits at a relatively low level, at least in transition, would not rule out the possibility that a payment system using stablecoins could be widely used for payments, given that the volume of transactions could still be high. But some types of payments could become impractical, constraining the use cases for stablecoins to lower value transactions, and hence payment volumes processed by systemic payment systems using stablecoins could be lower as a result. The Bank would welcome feedback on the use and calibration of limits.

**| The Bank would place any limits using its general power to issue directions.**

The Bank would place any limits on stablecoins used in systemic payment systems using its general power to issue directions to a payment system operator or a related service provider to recognised payment systems under Section 191 of the BA 2009. This is in line with the Bank's general approach to using powers of direction for requirements that could vary across firms or over time (Box D). Limits would apply to stablecoins used in systemic payment systems once the payment system is recognised by HMT as systemically important.

Table 5.3: Advantages and disadvantages of different types of limits

Type	Description	Advantage	Disadvantage
<b>Balance sheet limits</b>	Caps the total number of stablecoins in issuance.	<p>Effective for macroprudential purposes.</p> <p>Allows for more control on the speed of growth and size of systemic issuers.</p>	<p>Heightens the risk of de-pegging or trading away from par if stablecoin demand is high and limits are binding.</p> <p>Increased risk of de-pegging would contradict second FPC expectation.</p>
<b>Holding limits</b>	Caps the number of stablecoins coinholders can hold per systemic stablecoin issuer.	<p>Effective in controlling outflows of bank deposits, which in turns helps in controlling bank disintermediation.</p> <p>Effective at capping the overall amount of funds that would be unprotected and exposed in case of a shortfall in the backing assets or failure of the issuer.</p> <p>Effective at restricting the use of systemic stablecoins to retail.</p>	<p>When limit is reached, coinholders could migrate to other systemic stablecoin issuers.</p> <p>The multiplicity of entities within the blockchain (issuers, wallets, and exchanges) could make limits operationally difficult to implement, operate and monitor.</p> <p>Large balance coinholders could be impacted when limit is applied.</p>
<b>Processing limits</b>	Restricts the overall number of transactions stablecoins can process.	Effective indirect way of controlling the speed of growth and size of systemic issuers.	<p>Risks the continuity of payments and services to coinholders.</p> <p>Could impose usability challenges and frictions for payments.</p>

Type	Description	Advantage	Disadvantage
<b>Transaction limits</b>	Caps the volume or value of transactions for coinholders.	<p>Would be easier to implement in comparison to other types of limits.</p> <p>Effective against non-economic risks such as operational and fraud risks.</p> <p>Could help in restricting the use of systemic stablecoins to retail.</p>	<p>Not as effective in mitigating financial stability risks, since coinholders could process several transactions in a specific period of time, for example, during stress.</p> <p>Could impact the usability or generate additional frictions in normal conditions.</p>

**Question 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?

**Question 25:** Do you have views on the use, calibration and practicalities of limits?

**Question 26:** Do you have other views on the Bank's proposals for requirements for systemic stablecoin issuers, as set out in Section 5?

**Question 27:** Considering the requirements for issuers in Sections 4 and 5, how might business models need to change in order to retain commercial viability from those in the market today?



## 6: Requirements for wallet providers

Figure 6.1: Summary of requirements for wallet providers

Clear legal rights for coin holders	Financial and operational resilience	Robust record keeping	Robust segregation of assets
Possible implications on the type of storage used - eg custodial vs unhosted model			
Off-chain transactions at scale to be regulated like payment systems			

### 6.1: The role of wallets in stablecoin payment chains

**In stablecoin payment chains, wallets provide coinholders with the means to operate and enforce control over their stablecoins, separate from the transfer and issuance functions.**

As outlined in Section 2, in stablecoin payment chains, the connection between end-users and the stablecoins they own is often provided by an entity – commonly known as a ‘wallet’ – which is separate to the entity that issues the stablecoins.

Stablecoin wallets function as a gateway, providing the information and technological means that customers need to control their stablecoins and interact with a ledger. Critically, this includes the private keys and/or any other means of control that are used to produce digital signatures whenever transactions are initiated. In this way, wallet providers play a key role in conferring coinholders effective control over their stored value (in the form of stablecoins) and a way to exchange them with other forms of money, including commercial bank money. It is therefore critical that wallets do not threaten the end-to-end financial and operational resilience of stablecoin payment chains.

**There are two main types of wallets – custodial and non-custodial – which have different implications for the degree of control that coinholders can exercise over their stablecoins (and means of access to them).**

There are two broad types of wallets available for coinholders to access their stablecoins – ‘custodial’ wallets and ‘non-custodial’ or ‘unhosted’ wallets.

Custodial wallets hold the coinholders’ private keys and may also administer their stablecoins on their behalf. When a customer wants to access their funds or perform transactions, they need to authenticate themselves to the custodial wallet provider. These means of authentication typically include providing login credentials or two-factor authentication. Upon

successful authentication, the custodial wallet provider uses the stored private key associated with the customer's account to digitally sign transactions on the customer's behalf, without revealing the actual private key to the customer.

The degree of direct control coinholders have over their stablecoins and/or means of access to them may depend on whether they contract directly with a custodial wallet or with a more general intermediary, like an exchange, where custodial services are only part of a broader set of activities (Section 6.4).

In contrast, non-custodial, or unhosted, wallets provide users with full control over the means of access to their stablecoins. They do so by generating a pair of public and private cryptographic keys that the coinholder can use directly to send and receive stablecoins from and to a specific blockchain address univocally associated to the key pair. In this case, the responsibility for protecting and securing the private keys lies with the user. This is typically achieved through a seed phrase – a list of random words that acts as both a generation and a recovery mechanism for the private key. Any compromise or loss of these seeds generally leads to the permanent and irrevocable loss of the stablecoins, though the industry is developing solutions to mitigate those risks.

Both custodial and unhosted wallets may use different (and sometimes a mix of) methods for the generation, storage of and access to the private keys. 'Hot storage' refers to models where that is done online or software-based, while 'cold storage' refers to offline, hardware-based models.

Finally, both types of wallets (albeit mainly custodial wallets) can offer the ability to exchange stablecoins into other stablecoins and cryptoassets. This may be through the integration with an exchange (Section 6.4), or with another service provider that can assist with payment initiation or arrangement (Section 7).

## 6.2: The Bank's proposed approach to custodial wallets

**The activity of providing custody services for systemic payment stablecoins is vital to ensuring confidence in systemic stablecoin payment chains and money more generally.**

Custodial wallet providers perform a key role in systemic stablecoin payment chains because they safeguard the technological and/or legal means for coinholders to exercise their claim on the stablecoin issuer. Any operational, financial or governance issue that would prevent coinholders from exercising their claim and redeeming their stablecoins could, in turn, hinder their confidence in both the stablecoin and money and payments more generally and, thus, threaten financial stability.

Custodial wallet providers perform multiple specific and critical activities, the risks of which need to be carefully addressed to ensure the resilience of the entire systemic stablecoin payment chain. Those activities and the risks they pose are highlighted in Table 6.1.

**Table 6.1: Roles performed by custodial wallet providers and risks posed**

Roles/services	Risk
<b>Authentication of the coinholder's identity</b>	<b>Loss or hack of coinholders' means of authentication</b> may prevent coinholders from accessing their stablecoins and redeeming them for their full value.
<b>Safeguarding coinholders' means of control over their stablecoins and administering coinholders' legal rights</b>	<p><b>Unclear legal rights in case of custodian failure:</b> if failure of the custodian materialises, it may not be clear whether coinholders have a robust claim on the custodian for their stablecoins. The absence of clear legal rights may further exacerbate coinholders' exposure to credit risk in case of the custodian's failure.</p> <p><b>Loss of stablecoins or disruption in the ability of coinholders to access/control their stablecoins:</b> due to, for example, outage, cyberattack, fraud or loss, which may prevent coinholders from making payments and exercising their rights.</p>
<b>Facilitate exchange into commercial bank money (and/or other cryptoassets)</b>	<b>Risk of disruption due to, for example, default of the wallet provider,</b> impacting the process of exchanging in and out of commercial bank money.

In light of these risks, the Bank considers that custodial wallet providers should deliver against the outcomes set out in Table 6.2. These are in line with the [FSB's High-level Recommendations for GSC arrangements](#) <sup>[57]</sup> and [IOSCO's consultation on Policy Recommendations for Crypto and Digital Asset Markets](#) <sup>[58]</sup>.

**Table 6.2: Outcomes to be demonstrated by entities providing custody services for systemic payment stablecoins**

Roles/services	Outcomes we would expect
<b>Authentication of the coinholder's identity</b>	<ul style="list-style-type: none"> <li>• <b>Robust record-keeping of coinholders' authentication methods</b> to ensure these are adequately protected from hack or loss.</li> </ul>
<b>Safeguarding coinholders' means of control over their stablecoins, and administering coinholders' legal rights</b>	<ul style="list-style-type: none"> <li>• <b>Robust legal rights</b> provided to customers to ensure they maintain beneficial ownership over their stablecoins at all times.</li> <li>• <b>Robust record-keeping and segregation of assets</b> including between customers and with the firm's own assets, with record keeping of different holdings for each customer.</li> <li>• <b>Ability to redeem directly from the issuer</b> in case of custodian's failure.</li> <li>• <b>Strong operational resilience and governance arrangements</b>, including to manage the risks that may arise from the operation of the ledger.</li> <li>• <b>Clear processes and resources in place to ensure customers can be compensated</b> in case of operational risks (eg, hack or fraud that results in coinholders' means of control over their stablecoins being stolen or lost).</li> </ul>
<b>Facilitate exchange into commercial bank money (and/or other cryptoassets)</b>	<ul style="list-style-type: none"> <li>• <b>Demonstrate financial resilience and robust governance</b> to compensate for operational risks in a timely manner.</li> <li>• <b>Strong controls in place</b> to ensure that redemption can be delivered at all times and in a timely manner.</li> </ul>

**The Bank intends to rely on the FCA's new regulatory regime for stablecoin custodians to mitigate their risks, but it could also apply its own requirements directly to a custodian, if necessary.**

The FCA is developing a regime for the custody of stablecoins issued in the UK. This regime is inspired by the Client Asset Sourcebook, and the existing regime for custodians of other financial assets. The Bank expects that the FCA's new regulatory regime will address the risks set out in Table 6.1 and set out requirements that would deliver on the expected outcomes set out in Table 6.2. In light of this, the Bank does not, in general, expect to regulate stablecoin custodians directly. Rather, it will seek assurances from the firms within

its supervision that: (i) activities performed by wallet providers do not threaten the ability of the payment system operator to perform payment transactions; and (ii) coinholders are able to exercise their legal claim on the issuer to redeem the full value of their stablecoins.

The Bank may, however, consider that a custodial wallet provider warrants recognition by HMT as a service provider. This may be necessary, for example, if the custodial wallet provider provides custody services for most of the systemic payment stablecoins in circulation, or if it provides custody services to multiple payment systems. Subject to HMT recognition, the Bank would then regulate the recognised entity directly to ensure it delivers against the outcomes set out in Table 6.2 to mitigate the financial stability risks it poses. As discussed in Section 2, no existing stablecoin would be considered systemic today, and similarly no existing wallet would be considered systemic.

Before applying any direct requirements, the Bank would take into account other regimes that might already apply to a systemic stablecoin custodian. For example, existing PRA-regulated firms may provide custody services for systemic stablecoins and in this case the custodian would have to be regulated by the FCA for conduct purposes under the proposed regime for stablecoin custodians, and the PRA for prudential purposes. The Bank is of the initial view that the PRA regime would likely be able to deliver the same regulatory outcomes required for a systemic stablecoin custodian via its existing prudential regime for PRA-regulated banks providing custody services for other securities. The Bank and PRA, alongside the FCA, will continue to coordinate in order to determine how to minimise the risks of regulatory overlaps in the case of multiple applicable regimes.

### 6.3: The Bank's approach to unhosted wallets

**Given the nature of their operations, unhosted wallets typically do not carry out due diligence on customers for their own purposes and are currently not subject to regulation to require them to do so.**

Unlike custodial wallets, unhosted wallets operate in a way that gives users a greater degree of privacy and autonomy over their assets and financial transactions, since the wallets do not safeguard the cryptoassets nor means of control over them (private keys). This means, for example, that unhosted wallets could operate on a decentralised platform that enables peer-to-peer transactions without the need for intermediaries. These platforms are usually selected by customers due to their lower transaction fees and privacy/anonymity of customer data. But it also means that transfers to and/or from unhosted wallets (and between unhosted and custodial wallets) could be left unchecked, making them difficult to track. This, in turn, could make unhosted wallets attractive tools for potential money laundering and terrorist financing purposes.

Importantly, while they perform the function of linking stablecoins or cryptoassets to a unique owner, unhosted wallets do not identify these owners through their personal details. This contrasts with hosted wallets, which are required to collect personal data when onboarding customers in order to carry out checks for money laundering and terrorist financing purposes. The anonymity associated with unhosted wallets can make it more challenging for authorities to identify individuals associated with illicit activities. This risk is exacerbated in the case of cross-border transactions, where unhosted wallets may be exploited to move funds across borders quickly and fraudulently.

**If operating at scale, unhosted wallet providers and the money laundering and terrorist financing risks they pose may hinder the ability of a systemic stablecoin payment chain to deliver against the FPC's expectations.**

The money laundering and terrorist financing risks of unhosted wallets (and, more broadly, cryptoassets transfers) are covered under the international recommendations set out by the international Financial Asset Task Force (FATF). These recommendations include a 'travel rule' for cryptoassets transfers. This rule requires virtual asset service providers and financial institutions to share relevant sender and recipient information alongside any virtual asset transaction between firms, in order to prevent and address the risks from the misuse of cryptoassets. The travel rule was implemented in the UK by [the Money Laundering Terrorist Financing and Transfer of Funds \(Information on the Payer\) Regulations 2017](#) [\[59\]](#) (MLRs) on 1 September 2023. The FCA have been working with the industry, the Joint Money Laundering Steering Group and HMT on [guidance](#) to help firms comply with the travel rule, noting that firms should adopt a risk-based approach to unhosted wallet transfers and only require sender/recipient information in case of enhanced money laundering and terrorist financing risks.

Under the FCA's proposed regulatory regime for stablecoin issuers, regulated stablecoin issuers will be required to carry out customer anti-money laundering (AML) checks when dealing with customers directly at redemption if this is the issuer's first point of interaction with those customers. Additionally, when redemption requests are received from unhosted wallet owners, regulated stablecoin issuers would require AML checks at the point of redemption.

While these additional checks are welcome, they may not be sufficient to ensure the integrity of day-to-day payments and transfers, which is key to maintaining people's confidence in the money they use to transact. Customers may not always redeem their stablecoins from the issuer (or indeed may not redeem their stablecoins at all, for example, if transacting with other unhosted wallet owners), which would leave transactions unchecked. The Bank considers that this could make it challenging for systemic stablecoin issuers to deliver on their regulatory obligations under the Bank's proposed regime at all times, for example,

around the timely payout at the point of failure, and the application of holding limits. These are key to delivering the expectations set by the FPC and international standards, and to maintaining financial stability.

To that end, the Bank is still exploring the risks associated with unhosted wallets and their suitability to be used at systemic scale for payments in the UK in the way that they currently operate.

## 6.4: The Bank's proposed approach to exchanges providing wallet services

### **| Coinholders tend to use wallet services provided by exchanges.**

Most exchanges provide wallet services – in the form of both custodial and unhosted wallets – as an integrated gateway that allows coinholders to exchange their stablecoins with other stablecoins or cryptoassets and, importantly, fiat currency. This exchange of value function is usually provided as part of a broader set of activities performed by exchanges. The risks from, and the Bank's approach to, the vertical integration of multiple activities into single entities like exchanges are addressed in Section 2.4.

### **| The Bank will regulate exchanges providing custody services against its proposed requirements for custodians, if recognised by HMT.**

Importantly, if an exchange provides custodial services to coinholders and therefore performs the store of value function in a systemic stablecoin payment chain, it may be recognised by HMT and hence would be captured by the Bank's regime for systemic stablecoin payment chains – more specifically the requirements that custodial wallet providers should meet (refer to Section 6.2). Exchanges providing unhosted wallet services should also consider how the Bank's approach set out in Section 6.3 would affect their business.

Beyond that, the Bank expects exchanges that perform trading activities for speculative purposes to be beyond the Bank's remit for systemic payments systems. If, however, an exchange performs the activity of settling payment transactions at systemic scale, it could fall within the Bank's remit for systemic payment systems and be regulated as such (subject to HMT recognition).

## 6.5: Addressing the risks of off-chain transactions

### **| Wallet providers, including exchanges, may operate their own ledgers off-chain to maximise speed and efficiency of transactions. These provide for quicker, cheaper transfers between customers of the same wallet provider or exchange.**

Off-chain transactions refer to transactions that occur outside the main blockchain network and are recorded on a separate off-chain ledger. Off-chain ledgers are usually used by custodial wallets and exchanges to address issues such as speed and costs (eg fees) of the



transactions and enable their customers to transact more easily. For an exchange, consent to use off-chain transactions is usually provided as part of the terms and conditions that a client agrees to upon signing up to the exchange. In the case of unhosted wallets, off-chain transactions are specifically initiated by the user via decentralised platforms, as indicated in Section 6.3.

An off-chain transaction involves two sets of coinholders creating a separate channel between their respective wallets. The value to be transacted is then transferred through this channel. Multiple transactions can be executed within this channel that is specific to the two counterparties without the need for validation from the wider network – hence offering faster transactions at reduced cost, while also maintaining privacy. After all transactions are completed, the channel is closed and only the final net balance is recorded back onto the main ledger.

The Bank's initial position is that, were entities like exchanges and custodial wallet providers to develop their own off-chain ledgers at a systemic scale, the Bank may regulate them directly either as a payment system operator or as a systemic service provider, subject to recognition by HMT. This recognises the benefits that operating an off-chain ledger can bring, while ensuring that the operator of the ledger is regulated in line with the operational risks it poses, similar to other payment systems. Additional operational risks would also need to be considered, for example, in relation to reconciling the net balance onto the main ledger and the interoperability of the main ledger and private channels.

Importantly, the privacy element of off-chain transactions raises similar anonymity concerns to those raised for unhosted wallets, a risk that may be exacerbated if the off-chain transactions occur between two different blockchains. It will therefore be essential that the right controls are put in place to enable the issuer to satisfy its obligations. Supervisors, via the payment system operator, will also have a role to play in determining the end-to-end resilience of the payment chain including, for example, to ensure that the use of off-chain transactions does not threaten: (i) customers' ability to exercise their claim on the issuer; and (ii) the overall resilience of the payment chain.

**Question 28:** Do you agree with our proposed expectations for custodial wallet providers for systemic stablecoins (including when provided via exchanges) and how we propose applying them in a systemic stablecoin payment chain?

**Question 29:** Do you consider that unhosted wallets could operate in a way that the systemic stablecoin payment chains can meet the Bank's expectations (including for the issuer to deliver against the Bank's requirements set out in this Discussion Paper)?



**Question 30:** Do you agree with the Bank's proposal to regulate off-chain ledgers operated at systemic scale under the same requirements otherwise applicable to systemic payment systems?

## 7: Requirements applicable to other service providers

**Like other systemic payment systems and other financial institutions, systemic stablecoin payment chains may rely on a broader set of service providers to perform their activity than those covered in previous sections.**

The other service providers covered in this section encompass firms that are critical to the delivery of the issuance, transfer and/or store of value functions, without directly performing them. They may include, for example, technology providers like cloud outsourcing providers as well as privacy, security and encryption software providers, or firms providing the infrastructure to enable the operation of the ledger, among others.

The reliance on such service providers may be done on a third-party outsourcing basis, for example, if the service provider performs an activity on behalf of a firm in the systemic stablecoin payment chain, or via non-outsourcing third-party arrangements.

**Depending on the activity performed and the risks posed, the Bank may regulate those service providers to ensure they do not threaten the ability of firms in systemic stablecoin payment chains to deliver against regulatory expectations.**

The activities of those service providers may bring additional operational risks. The failure or outage of one entity may have repercussions for the ability of other entities along the payment chain to perform their activities. In turn, this may affect coinholders' ability to complete payment transactions, including to redeem their stablecoins at full value, in a timely manner.

Depending on the scale of the risks posed and activities performed, these service providers may come into the Bank's remit in various ways. Where relevant, and in particular where they provide services to a wider set of financial services firms, they may be captured by the [proposed regulatory regime for critical third-parties](#), subject to HMT designation. The Bank may alternatively recommend that the service provider be specified by HMT as a critical service provider to a firm already recognised by HMT in the systemic payment chain, or recognised as a systemic service provider in its own right. In that case, the Bank would expect to apply its [approach to critical service providers](#) <sup>↗</sup> (including the relevant Codes of Practice relative to [operational resilience](#) and [third-party outsourcing risk management](#)), though adjustments to the supervisory approach may be needed.

If the service is provided on an outsourcing basis, the Bank is of the initial view that its proposed [Code of Practice](#) would apply. The Bank expects firms outsourcing (parts of) their activity to retain full responsibility for delivering against regulatory expectations.

**Exchanges may also provide a wider range of services beyond wallet services.**

Beyond providing wallet services, exchanges may also provide a wider range of ancillary activities including brokerage, market-making, staking, and other decentralised finance operations. The Bank is not proposing requirements for such activities at this stage, though as set out in Section 6.4, exchanges may be regulated as a service provider or payment system operator (subject to HMT recognition). Exchanges will need to consider the risks that providing such ancillary activities may pose to their role in systemic stablecoin payment chains (be it as a wallet service provider or recognised payment system operator, where relevant). The Bank's approach to mitigating the risks from vertical integration is outlined in Section 2.4.

**Question 31:** Do you agree with the Bank's approach to regulating service providers to firms operating in systemic stablecoin payment chains?

**Question 32:** The Bank will have due regard to the public sector equality duty, including considering the impact of proposals for the design of the regulatory framework for systemic payment stablecoins on those who share protected characteristics, as provided by the Equality Act 2010. Please indicate if you believe any of the proposals in this Discussion 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 any impact could be mitigated.

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## How to respond

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The Bank invites views on the questions listed below. Respondents should provide answers by 12 February 2024. After this, the Bank will assess the responses. These responses would inform our future work on systemic payment stablecoins.

**Discussion questions**

1. Do you agree that, to preserve the singleness of money, systemic payment stablecoins must be fully interchangeable with other forms of money at par?
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?
3. Do you agree that the most likely, and suitable, payment systems using new forms of digital money to become systemic in the UK are sterling-denominated stablecoins which are backed by assets denominated in fiat currency?
4. Do you agree with the Bank's proposed approach to assessing the systemic importance of stablecoins used for payments?
5. Do you agree with the Bank's proposed approach to the regulatory framework for systemic payment stablecoins, as set out in Section 2?
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?
7. Do you agree with our approach regarding subsidiarisation of non-UK issuers? Do you agree with our approach to other non-UK elements of the payment chain? What alternative policy arrangements could be used to effectively supervise, oversee, and regulate non-UK systemic stablecoin issuers and other non-UK elements of the payment chain?
8. Do you consider that the Bank's existing binding rules on governance, operational resilience and third-party outsourcing risk management are suitable for systemic payment systems using stablecoins?
9. Do you consider that stablecoin issuers can exercise sufficient control over, and mitigate the risks of, public permissionless ledgers (be it via rule setting and/or the use of innovative solutions)?
10. How do you consider that existing and emerging stablecoin payment chains operating with a public permissionless ledger may be adapted in order to meet the Bank's expectations and international standards?
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?
12. Do you agree that the proposed remuneration policy is consistent with systemic stablecoins being used primarily for payments?
13. Do you agree with the Bank's proposed requirements on the redemption process, including the role of all firms in the payment chain?
14. Do you have views on requirements on redemption fees, or prohibiting these, to minimise any frictions across the redemption process?

**Discussion questions**

15. Can you identify any issues with the requirements on systemic stablecoin issuers and other relevant firms within a payment chain to cooperate and support the appointed administrators with a view to facilitating redemption or payout in the event of a firm failure?

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?

17. Do you have views on the Bank's proposed safeguarding regime being centred on two key features (statutory trust in favour of coinholders; and safeguarding rules)?

18. Do you think there are any other features that need to be reflected in the safeguarding regime for systemic payment stablecoins?

19. Do you agree with the requirements for stablecoins owned by the issuers held in treasury wallets?

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?

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

22. Do you have views on the requirement to hold reserve assets in a statutory trust, to ensure that stablecoins are fully backed and the backing assets are duly protected and available to satisfy coinholders' redemption requests at all times?

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

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?

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

26. Do you have other views on the Bank's proposals for requirements for systemic stablecoin issuers, as set out in Section 5?

27. Considering the requirements for issuers in Sections 4 and 5, how might business models need to change in order to retain commercial viability from those in the market today?

28. Do you agree with our proposed expectations for custodial wallet providers for systemic stablecoins (including when provided via exchanges) and how we propose applying them in a systemic stablecoin payment chain?

## Discussion questions

29. Do you consider that unhosted wallets could operate in a way that the systemic stablecoin payment chains can meet the Bank's expectations (including for the issuer to deliver against the Bank's requirements set out in this Discussion Paper)?
30. Do you agree with the Bank's proposal to regulate off-chain ledgers operated at systemic scale under the same requirements otherwise applicable to systemic payment systems?
31. Do you agree with the Bank's approach to regulating service providers to firms operating in systemic stablecoin payment chains?
32. The Bank will have due regard to the Public Sector Equality Duty, including considering the impact of proposals for the design of the regulatory framework for systemic payment stablecoins on those who share protected characteristics, as provided by the Equality Act 2010. Please indicate if you believe any of the proposals in this Discussion 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 any impact could be mitigated.

## Who should respond?

The Bank welcomes responses to any questions but does not expect respondents to provide an answer to every question. We are keen to hear from a wide range of stakeholders, which includes community or charitable-focused organisations, the payments industry, businesses, and the general public.

You can respond to this questionnaire through the [web form](#) .

You can also respond by email:

 [DP-stablecoinpaymentsystems@bankofengland.co.uk](mailto:DP-stablecoinpaymentsystems@bankofengland.co.uk)

By post:

Regulatory regime for systemic payment systems using stablecoins and related service providers: discussion paper  
FMID Payments Policy Team  
Bank of England  
20 Moorgate  
London  
EC2R 6DA

By telephone: 020 3461 4878

Should you have any additional requirements, please contact us through one of the above channels and we can provide this in accessible formats.

## Privacy note

By responding to this discussion paper, you provide personal data to the Bank of England (the Bank). This may include your name, contact details (including, if provided, details of the organisation you work for), and opinions or details offered in the response itself.

The response will be assessed to inform the Bank's work as a monetary authority, as a supervisor of financial services firms and as the central bank of the United Kingdom, both in the public interest and in the exercise of the Bank's official authority. The Bank may use your details to contact you to clarify any aspects of your response.

We will retain all responses for the period that is relevant to supporting ongoing financial services law and policy developments and reviews. To find out more about how we deal with your personal data, your rights or to get in touch please visit [Privacy](#) and the Bank of England.

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure to other parties in accordance with access to information regimes including under the Freedom of Information Act 2000 or data protection legislation, or as otherwise required by law or in discharge of the Bank's functions.

Please indicate if you regard all, or some of, the information you provide as confidential. If the Bank receives a request for disclosure of this information, we will take your indication(s) into account but cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system on emails will not, of itself, be regarded as binding on the Bank.

## Public Sector Equality Duty

The Bank, in the exercise of its public functions including its banknote issuance and other functions relating to the proposals in this paper, is subject to a statutory duty set out in the Equality Act 2010 (Equality Act) to 'have due regard' to equality considerations, comprising the need to: (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic under the Equality Act and persons who do not share it; and (c) foster good relations between persons who share a relevant



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protected characteristic and persons who do not share it (the Public Sector Equality Duty or PSED). As part of the policy development process, the Bank will have due regard to the equality considerations set out in the PSED.

# Annexes

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## Annex 1: Glossary

**Backing assets** – Assets held by the issuer of a stablecoin as the mechanism through which the stablecoin aims to maintain a stable value against fiat currencies.

**Blockchain** – A particular type of distributed ledger technology (DLT), which refers to a specific way of structuring data on a DLT platform by cryptographically linking groups of records ('blocks') in an ever-growing 'chain'.

**Central bank digital currency or CBDC** – Digital money issued by a central bank.

**Cryptoasset** – A cryptographically secured digital representation of value or contractual rights that:

- can be transferred, stored or traded electronically; and
- uses technology supporting the recording or storage of data (which may include distributed ledger technology).

**Custodial wallet** – A wallet service where an entity safeguards the coinholders' private keys and/or stablecoins on their behalf.

**Digital settlement asset (DSA)** – A digital representation of value or rights, whether or not cryptographically secured, that:

- can be used for the settlement of payment obligations;
- can be transferred, stored or traded electronically; and
- uses technology supporting the recording and storage of data (which may include distributed ledger technology).

**Distributed ledger technology (DLT)** – A type of technology that enables the sharing and updating of records in a distributed and decentralised way. There are many different types of DLT platforms but they usually combine elements of four common features:

- Data distribution: many participants can keep a copy of the same ledger, and are able to read and access the data;
- Decentralisation of control: many participants can update the ledger, subject to agreed processes and controls;
- Use of cryptography: cryptography may be used to identify and authenticate approved participants, confirm data records, and facilitate consensus with regard to ledger

alterations. The use of this technology is not unique to DLT;

- **Programmability:** computer-coded automation (such as smart contracts) can automatically execute transactions when certain, pre-agreed conditions are met, such as triggering periodical interest payments on a bond.

**Non-custodial or unhosted wallet** – A wallet service where coinholders safeguard their private keys and/or stablecoins themselves.

**Payment system** – Arrangement, or proposed arrangement, designed to facilitate or control the transfer of money or digital settlement assets. This does not include arrangements for the physical movement of cash.

**Payment system operator, recognised payment system operator** – An entity responsible for managing or operating a payment system. A recognised payment system operator refers to the operator of a payment system that has been recognised by HMT as systemic.

**Permissioned ledger** – Permissioned ledgers restrict the participation in the network to only identifiable parties. In permissioned ledgers a closed group is entitled with specific rights to validate and authenticate transactions.

**Permissionless ledger** – A permissionless ledger is a type of ledger that allows any unidentifiable party to validate and authenticate transactions, and add new blocks to the chain.

**Private key** – String of alphanumeric characters – similar to a password – which is used to perform functions such as signing and authorising a cryptoasset transaction.

**Service provider** – An entity that provides services in, or to, the payment chain, including entities such as issuers, wallet providers and exchanges, which is subject to regulation by the Bank. In relation to DSAs, a service provider could be recognised by HMT as (i) systemic in its own right or (ii) systemic because it provides essential services to a systemic payment system using stablecoins or to a systemic service provider.

**Stablecoin** – These are a form of digital assets that purport to maintain a stable value relative to a fiat currency by holding assets (which may be of variable value) as backing.

**Stablecoin payment chain** – A set of activities/entities organised to facilitate payments through a payment system that uses stablecoins (which may include entities that are not regulated by the Bank).

**Systemic payment system using stablecoins** – A payment system that uses a stablecoin as the DSA and that is recognised by HMT as systemic.

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**Systemic payment stablecoin or systemic stablecoin** – A stablecoin that is used as the DSA by a payment system that is recognised by HMT as systemic.

**Tokenised deposit** – Deposit claims represented on programmable ledgers that enable novel techniques such as atomic settlement and smart contracts.

**Wallet** – A gateway providing the information and technological means that coinholders need to access their stablecoins and interact with a ledger.

## Annex 2: Definitions of main terms

**Stablecoin** – These are a form of digital assets that purport to maintain a stable value relative to a fiat currency by holding assets (which may be of variable value) as backing.

**Digital settlement asset (DSA)** – A digital representation of value or rights, whether or not cryptographically secured, that:

- can be used for the settlement of payment obligations;
- can be transferred, stored or traded electronically; or
- uses technology supporting the recording and storage of data.

**Service provider** – An entity that provides services in, or to, the payment chain, including entities such as issuers, wallet providers and exchanges, which is subject to regulation by the Bank. In relation to DSAs, a service provider could be recognised by HMT as (i) systemic in its own right or (ii) systemic because it provides essential services to a systemic payment system using stablecoins or to a systemic service provider.

**Stablecoin payment chain** – A set of activities/entities organised to facilitate payments through a payment system that uses stablecoins (which may include entities that are not regulated by the Bank).

**Systemic payment stablecoin or systemic stablecoin** – A stablecoin that is used as the DSA by a payment system that is recognised by HMT as systemic.

**Systemic payment system using stablecoins** – A payment system that uses a stablecoin as the DSA and that is recognised by HMT as systemic.

## Annex 3: List of acronyms

**AML** – Anti-money laundering.

**Bank** – Bank of England.

**BIS** – Bank for International Settlements.

**CBDC** – Central bank digital currency.

**CPMI** – Committee on Payments and Market Infrastructure.

**DeFi** – Decentralised finance.

**DLT** – Distributed ledger technology.

**DSA** – Digital settlement asset.

**DvP** – Delivery versus payment.

**FATF** – Financial Action Taskforce.

**FCA** – Financial Conduct Authority.

**FMI** – Financial market infrastructure.

**FPC** – Financial Policy Committee.

**FSB** – Financial Stability Board.

**FSCS** – Financial services compensation scheme.

**FSMA** – Financial Services and Markets Act.

**Government** – Government of the United Kingdom.

**GSC** – Global stablecoin.

**HMT** or **HM Treasury** – His Majesty's Treasury.

**HQLA** – High-quality liquid assets.

**IOSCO** – International Organisation of Securities Commissions.

**MLRs** – The Money Laundering Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations 2017.

**MoU** – Memorandum of understanding.

**MREL** – Minimum requirement for own funds and eligible liabilities.

**PFMI** – Principles for financial market infrastructure.

**PRA** – Prudential Regulatory Authority.

**PSR** – Payment Systems Regulator.







**PvP** – Payment versus payment.



**RTGS** – Real-time gross settlement.

**SA** – Stablecoin arrangement.


**SAR** – Special administration regime.

**SVB** – Silicon Valley Bank.

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1. The Bank's remit for systemic payment systems using stablecoins includes recognised operators of Digital Settlement Assets (DSA) payment systems, recognised DSA service providers and related service providers. See Section 2 for more details.
  2. [Key facts about the UK as an international financial centre 2022](#)  provides an accessible overview of the UK financial system.
  3. See Glossary for a detailed description of these and other terms used throughout the discussion paper.
  4. [Future of Finance](#) provides an overview of changes taking place in payments provision.
  5. [New forms of digital money](#).
  6. [Financial Services and Markets Act 2023 \(legislation.gov.uk\)](#)  and [Financial Services and Markets Act 2023 \(legislation.gov.uk\)](#) .
  7. Fiat-backed stablecoins are referred to by HMT as 'a cryptoasset that seeks or purports to maintain a stable value by reference to a fiat currency and by holding fiat currency, in whole or in part, as backing'. See HMT's [Update on plans for the regulation of fiat-backed stablecoins](#) .
  8. As specified in the [New forms of digital money 2021 discussion paper](#), 'retail payments' are usually those everyday payments by households and businesses.
  9. As specified in [The digital pound: a new form of money for households and businesses](#) , a consultation paper published in 2023, 'wholesale payments' are commonly high-value transactions, typically between financial institutions.
  10. In her speech that accompanied the 2021 discussion paper, Christina Segal-Knowles also looked at [how stablecoins could be regulated, if they are used as a form of payment](#).
  11. [Financial Services and Markets Act 2023](#) 

12. The FPC also agreed a set of principles as to how prudential regulation and supervision should adjust to fast-moving developments in payments activities in order to promote financial stability. These principles are that regulation and supervision should:
  - reflect the financial stability risk, rather than the legal form, of payment activities;
  - ensure end-to-end operational and financial resilience across payment chains that are critical for the smooth functioning of the economy; and
  - ensure that sufficient information is available to monitor payment activities so that emerging risks to financial stability can be identified and addressed appropriately.
13. The full paper is available at [New forms of digital money](#).
14. In principle, banks could choose to replace deposit funding instead with cheaper debt that has a maturity of less than a year. In that case, they would face additional requirements under Basel III liquidity regulations to guard against the possibility that such funding may be difficult to replace during a prolonged stress. This risk crystallised during the global financial crisis.
15. The illustrative scenario assumed that around 20% of commercial bank retail deposits migrated to new forms of digital money, with the result that bank lending rates were estimated to rise by around 20 basis points in steady state. There was considerable uncertainty around this estimate, and under other assumptions the increase in lending rates might be around 80 basis points.
16. Section 182(4A) of the Act.
17. The definition of a DSA also includes a right to, or interest in, a DSA (section 182(4B) of the Act).
18. Sections 184 and 184A of the Act.
19. The Bank notes HMT's intention to apply an accountability framework to its rulemaking powers when its remit has been expanded in line with the proposals set out in HMT's [response](#)  to Payments Regulation and the Systemic Perimeter and will consider the implications for its rule-making.
20. Section 185A of the Act.
21. [Financial Stability in Focus](#).
22. See HMT's [Update on plans for the regulation of fiat-backed stablecoins](#) .
23. For instance, HM Treasury has emphasised that integrated business models can result in complex and sometimes reinforcing risk profiles.
24. In particular Recommendation 9 on the Comprehensive regulation of crypto-asset service providers with multiple functions.
25. IOSCO Policy Recommendations for Crypto and Digital Asset Markets Consultation Report (2023) link, in particular Recommendation 2 ('Organizational Governance') and Recommendation 7 ('Management of Primary Markets Conflicts').
26. Considerations 3.2.5 and 3.2.6 of the PFMI.
27. Future financial services regulatory regime for cryptoassets - Consultation and call for evidence.
28. Payments Regulation and the Systemic Perimeter: Consultation and Call for Evidence.
29. Payments Regulation and the Systemic Perimeter: Consultation and Call for Evidence.



30. As noted in Section 1, this regulatory regime is only intended for sterling-denominated stablecoins used in systemic payment systems in the UK. The Bank would need to consider further the approach for any non-sterling-denominated stablecoin that was used in a systemic payment system in the UK.
31. CPMI-IOSCO – Responsibility E: A compilation of authorities' experience with co-operation.
32. Section 204(1) of the Act.
33. Section 195(1) of the Act.
34. Section 193 of the Act.
35. Section 188 of the Act.
36. Section 189 of the Act.
37. Section 190 of the Act.
38. Section 191 of the Act.
39. In the **2021 discussion paper** the Bank also outlined a fourth model for stablecoins issued by banks, where the stablecoin issuer would be subject to the current banking regime.
40. **Bank of England Market Operations Guide: Our tools**.
41. In March 2022 the FPC judged that, at a systemic scale, the deposit-backed model would introduce significant financial stability risks.
42. This assumed that backing assets were interest-earning, with the interest being passed on to coinholders.
43. In particular, Principle 9 on money settlement.
44. In particular, Recommendation 9 on 'redemption rights, stabilisation, and prudential requirement'.
45. This is a proposal at this stage and would be subject to consultation.
46. The 'dash for cash' led to a rapid deterioration in functioning of even advanced-economy government bond markets, which are typically among the deepest and most liquid in the world. Gilt market bid-offer spreads across the yield curve were around four times their normal levels, widening faster and higher than in the global financial crisis. Likewise, the announcement of the growth plan and the prospect of a large surge in government borrowing caused a sharp rise in the yields of long-term maturity gilts.
47. As set out in the recent **consultation paper** , the digital pound – if one were introduced – is not proposed to offer remuneration to its holders.
48. Beyond ensuring the issuer complies with the broader regulatory framework, such as Anti Money Laundering and Know Your Customer laws.
49. The Bank's proposed requirement for a timely redemption could not apply in the same way in case of insolvency where the timeframes of payout will depend on the administration process.
50. In particular, Recommendation 9 on 'redemption rights, stabilisation, and prudential requirement'.
51. In particular, Principle 9 on money settlement.
52. With the exception of insolvency practitioners' fees and expenses and excluded proprietary interests in assets held by the issuer (for example, trust interests, legal mortgages or fixed charges).
53. The Bank (as resolution authority) has a number of 'stabilisation powers' under the Act to ensure the continuity of service provided by banks. One of these powers is 'bail-in'. This is the preferred resolution strategy applied to the largest or most complex banks – who are required to maintain a minimum required amount of equity and subordinated

debt (MREL) in addition to their capital requirements – to support an effective resolution. Bail-in enables the Bank to impose losses on shareholders and unsecured creditors – by cancelling or reducing the value of their claims – and enabling the failed bank to be recapitalised (by using its MREL) so that it can continue to offer its services as normal.

54. The Bank (as resolution authority) has a number of 'stabilisation powers' under FSMA 2023 to ensure the continuity of service provided by recognised central counterparties.
55. If a bank fails, the FSCS will automatically pay out retail customers up to £85,000 as soon as reasonably practicable, **which in most cases is within seven days** [↗](#) ([The Deposit Guarantee Scheme Regulations 2015](#) [↗](#)).
56. Transition happens when new forms of digital money emerge, and deposits begin to migrate away from the banking system.
57. For example, in the case of new recognised payment systems that are applicants to the Omnibus Account Policy, these entities have to demonstrate a track record of successful operation. For those applicants that are in the early stages of their operations, the Bank may introduce temporary balance limits, to allow the account holder to demonstrate their safe and robust operation of the system ([Omnibus Accounts Access Policy](#) [↗](#)).
58. In particular, the FSB recommends that custody service providers should be regulated 'to address operational, reputational, financial and market protection risks that may arise, including from the safeguarding of customer assets and private keys, and from the other activities that these entities could perform' with requirements notably relating to adequate safeguarding of customer assets and private keys, and adequate protection of users' ownership rights, 'including through prudent segregation and record-keeping requirements'. IOSCO's consultation proposes a range of measures to address custody risks, including that assets should be adequately protected at all times to minimise the risk of loss or misuse, and that these assets should be segregated.
59. As amended by the Money Laundering and Terrorist Financing (Amendment) (No. 2) Regulations 2022) - <https://www.legislation.gov.uk/id/uksi/2022/860> [↗](#).