UK FINANCE

RETAIL CBDC

A THREAT OR OPPORTUNITY FOR THE PAYMENTS INDUSTRY?

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The transition to electronic money continues at pace and has been accelerated by Covid-19. The Bank of England (the Bank) reports that around 95 per cent of the funds that people hold to make payments are now held as bank deposits rather than cash.[1] Add to this the rise of cryptocurrency as an increasingly possible mainstream form of payment, and the path to a digital currency future looks ever more likely.

In April 2021, the chancellor announced a new Taskforce between HM Treasury (HMT) and the Bank to explore a UK Central Bank Digital Currency (CBDC), or "Britcoin". The Bank released its consultation paper on Monday 7 June looking closely at the opportunities and risks of new forms of digital money, including a UK CBDC.

Consideration of CBDCs has already been on the agenda of UK regulators and government over the last few years, driven by competition and the ambition to remain a hub of innovation. This is a complex and evolving topic, with new perspectives, technologies and thoughts being aired on a regular basis. Many feel that in just a few years the UK could have a fully digitalised central bank currency, which could revolutionise payments.

But what the payments system looks like, as digitalisation continues, is a question troubling central banks around the world. In China the driver has been the need to navigate through competition against the dominant US and local payment providers - as well as gaining full visibility of the financial system, allowing the central bank to have better supervisory controls. In Sweden, the e-krona was motivated by falling use of cash and declining central bank influence on the payments system. The UK Taskforce will need to look at the specific conditions in the domestic market, with one eye on what is working well elsewhere.

We also expect the global payments industry to closely observe developments in the UK.

To help further this debate, this paper explores what a CBDC is, how it could impact the UK payments system and what issues UK banks should consider. We also consider the opportunities and risks for the Bank, the government, and the commercial market, as well as the possible impact on consumers.

While much of the conversation to date has focused on the technology behind cryptocurrencies, or privacy concerns, less has been discussed about key impacts across financial crime, monetary policy, regulation, international interoperability, tax, and sustainability. These are important areas which should also be key considerations, as they could have a material impact on how CBDCs are deployed and how truly beneficial they are to the real economy.

While there has been more focus on the usage of such digital currency technology on wholesale market infrastructure to date, we feel it is just as important to examine the impact on the real economy. In this article we look through the lens of retail CBDCs, which are open to all businesses and individuals to hold and use as a form of digital cash.

1. This is based on the amount of cash held by the public as a share of total cash and sight deposits. See Part V of '**A millennium of macroeconomic data**', Research dataset, Bank of England.

CHARACTERISTIC OF A RETAIL CBDC AND POTENTIAL BENEFITS AND RISKS

A CBDC is effectively electronic money, issued by a central bank, available to all households and businesses. This would allow everyone to make electronic payments in central bank money, in the same way we all currently use physical cash issued through the central bank.

CBDCs have the potential to significantly change the payments landscape. Supporters argue that CBDCs allow faster, cheaper, and more secure transactions, and also boost financial inclusion, as individuals may not need a bank account to hold digital currency. CBDCs also offer real-time insights on the economy that could help central banks when forming monetary policy.

Another attractive benefit is the potential to combat illegal activities, such as fraud. Finally, given the current lack of oversight of private digital currencies,[2] central banks may feel they need a domestic, government-backed digital currency, which would be easier to manage and regulate.

There are also risks. Many are worried about loss of privacy, given that central banks may gain much more detailed insight into individual spending patterns and potentially more control via programmability ('smart contracts') on how money is spent. There are also additional risks for central banks, especially around payment failures due to technology failure or cyber-attacks giving rise to country-wide systemic risk. Clearly, there is also a risk of flight of money from bank deposits to CBDCs, which could mean higher wholesale funding costs for banks and higher borrowing costs for the real economy. The Bank's consultation on new forms of digital money provides a useful analysis of the potential impact of this flight.

Whatever the future holds, domestic-based banks and payment providers will have an important role to play in shaping future development in the UK. Before we explore some of the impacts that will need to be considered at, it is important to look at the characteristics of a CBDC against the spectrum of other currency options (Table 1).

Table 1. CBDCs combine attributes of traditional "fiat" currencies and cryptio-currencies

Traditional fiat ⟵⟶ Traditional crypto

Attribute	Central Bank Notes (Cash)	Central Bank Reserves	Deposits	CBDC	USDC (Stablecoin)	Diem (Stablecoin)	Bitcoin	Ether
Central bank liability	✓	✓	✗	✓	✗	✗	✗	✗
Legal tender	✓	✓	✗	✓	✗	✗	✗	✗
Convertible at par to reserves/bank notes	✓	✓	✓	✓	✓	~	✗	✗
Interest bearing	✗	✓	✓	Depends	✗	✗	✗	✗
Electronic	✗	✗	✓		✓	✓	✓	✓
Universally accessible (e.g., anyone with digital signature can access)	✓	✗	✓	Depends	✓	✓	✓	✓
Token (ownership tied to digital signature) or account-based (ownership tied to identity)	Token	Account	Account	Depends	Token	Token	Token	Token

✓ Fit ~ Partial fit ✗ Not a fit

Sources: Fung, Ben & Engert, Walter, (2017), Central Bank Digital Currency: Motivations and Implications; AlphaSense; BIS, EY analysis

** Table 1 - Legal tender: bank deposits are liabilities of the commercial bank and are usually covered to a limit under national deposit guarantee schemes*

2. A key consideration of recent consultations from the Bank and HMT look at how private stablecoin ecosystems may be brought into the regulatory perimeter. See HMT **UK regulatory approach to cryptoassets and stablecoins** and the Bank **New forms of digital money**.

KEY AREAS OF IMPACT ON THE UK FINANCIAL SYSTEM

There are many critical factors to consider in order to realise the opportunity and manage the risk around CBDC. The Bank and HM Treasury (HMT) have set out to look at a range of issues including the use cases for CBDC, functional needs of CBDC users, financial and digital inclusion, and data, cyber and privacy implications. Globally, there has already been a focus on the right technology needed.

Below we examine a few key areas that we believe are important to highlight and explore as critical to the development of retail CBDCs. We have focused on financial crime, monetary policy, regulation and international interoperability, as areas where the path ahead is not clear, and which are important to the payments industry. We also examine the implications of CBDC on tax and sustainability. All these issues have had less emphasis in industry discussions to date yet will be critical in any future rollout.

FINANCIAL CRIME

The ability to combat illegal activities through introducing a CBDC is a key prize for central banks and governments across the globe. Yet there remain many unanswered questions over the best way to achieve this and what it means for the interaction of central and commercial banks in fighting financial crime.

Points to consider:

- If banks are not involved as an intermediary in the issuance of CBDC, there is a question over where the responsibility sits for ensuring that CBDC is not used for money laundering or to finance other financial crimes. Who will validate the individual's identity when a retail CBDC wallet is created?
- Regulators are ultimately responsible for making sure that the financial system is set up such that there are appropriate controls to manage financial crime risk. This means that a robust financial crime control environment will need to be put in place. This control environment will need to include identifying individuals who are obtaining CBDC and then monitoring the transactions in CBDC. How will this be balanced with the individual's need for privacy?
- If there was any lapse in financial crime controls, or CBDC was used for illicit purposes, this would have a negative impact on the reputation of the central bank which could affect public confidence in the further use of the CBDC.

Key question for the payments industry:

How could the UK payments industry agree an appropriate sharing of risk with the central bank in any CBDC?

MONETARY POLICY AND FINANCIAL STABILITY

The threat from private digital currency combined with the ever-decreasing role for cash are powerful drivers for central banks to look at a CBDC. There are several significant possible implications to consider, for both the payments industry and the scope of central bank powers.

Points to consider:

- Perhaps the most significant driver of CBDC lies in the ability for a central bank to transmit interest rates through returns; this would be impossible with cash and could apply to both positive and negative rates.
- Transmission could be further enhanced if anyone could hold unlimited CBDC; it would create a market where lending would not happen at less than the CBDC rate.
- A successful CBDC would also be expected to lead to some level of disintermediation of the commercial banking sector. As a result, banks might need to pay higher interest rates to maintain their deposit funding or seek alternative sources, which may raise costs of funding and increase the cost of credit.
- This could be mitigated by providing greater access to the bank's balance sheet for funding, particularly in times of stress where the CBDC would be considered a haven, or by limiting CBDC holdings.
- Monetary policy might also be challenged in the absence of a CBDC. If use of an alternative currency or stablecoin(s) became widespread, a CBDC might provide a defence against such a substitution.

  Alternatively, regulated stablecoins could provide a mechanism for central banks to spread the systemic risk arising from cyber as well as assist with the transmission of monetary policy via the prudential requirements placed on the stablecoins issued.
- Retail banks often act as a buffer between consumers and the central bank. As such, issuing CBDCs directly to citizens to use as cash could compromise the central banks' role and stability.

Key question for the payments industry:

Will the design of the CBDC be leaning more towards wholesale or retail?

All the above considerations will depend on the final structure of the CBDC, particularly whether it is remunerated and how such remuneration is structured, and whether there were any limits on how much CDBC could be held.

REGULATION

It is clear that a CBDC will add another level of regulatory complexity that will require a coordinated and cohesive global regulatory response.

Points to consider:

- The regulation of a CBDC would need to be carefully calibrated with the ongoing regulation of other digital assets – such as cryptocurrencies and stablecoins. Any regulatory arbitrage could lead to unintended distortions in the market.
- There are a range of broad regulatory issues around digital assets and payments that would need careful harmonising, such as anti-money laundering (AML)/ terrorist financing or investment advice/suitability around cryptocurrency investing.
- There is a danger that a siloed approach by the authorities could undermine progress towards a CBDC.
- Regulators will need to carefully think through the practical impacts of a CBDC as current regulations may be ill-equipped to deal with the new forms of money.
- There may also be significant regulatory issues around the role of commercial and central banks post CBDC implementation – the exact nature of those challenges will very much depend on the final design.

Key question for the payments industry:

What are the key steps needed to ensure a level playing field between the industry, private sector currency and any CBDC?

INTERNATIONAL INTEROPERABILITY AND CROSS BORDER PAYMENTS

The current landscape allows users to transact in different fiat currencies internationally and cross border – though limited by inefficiencies, risks and high costs within the ecosystems. However, many feel that through innovation and technology, cross border payments and interoperability could revolutionise the payments industry. One of the methods of achieving this is believed to be through CBDCs that are 'linked'.

Points to consider:

- Based on the public announcements issued, the benefits for the payments industry through CBDC would not be achieved unless different governing bodies work together from inception. This includes sharing design/architecture principles that will allow interoperability between different ecosystems. An obvious benefit will be the re-engineering of some traditional products end to end - for example trade finance, where the settlement mechanism between different counterparties could be instantaneous.
- Even though this field is in its early stage, there are already different theoretical methods being discussed on the best way to interlink digital currencies in the future. For example, the Bank of International Settlements (BIS) recently published a conceptual document which outlines three models for CBDC interoperability – 1) compatible CBDC systems 2) interlinked CBDC systems and 3) a single system for multi-CBDC. (**https://www.bis.org/publ/bppdf/bispap115.pdf**)

Key question for the payments industry:

With different governments announcing their plans to advance the topic of CBDC, what steps should be taken to ensure legacy issues are resolved through joint collaboration?

TAX

The impact on the tax system may not have been central to the debate so far, but a CBDC in the UK could have some significant impacts, both domestically and globally.

Points to consider:

- HMT will need to be aware that whilst it can set the UK tax treatment of gains or income (if any) in relation to the CBDC, differing tax treatment of the holding of CBDC in other jurisdictions could be problematic – for example, jurisdictions where the treatment of cryptocurrency gains/losses may compare unfavourably with foreign exchange gains/losses.
- There will need to be careful interaction with global reporting initiatives such as the EU and the Organisation for Economic Co-operation and Development's intention to bring cryptocurrency within the scope of the Common Reporting Standard, particularly where the currency is held by non-UK resident individuals and companies.
- A CBDC could play an important role in tackling tax evasion, including HMT's efforts to address the hidden economy, and could usefully be aligned to the Making Tax Digital agenda.
- There may be a large number of consequential tax changes to consider: HM Revenue and Customs may look at the VAT treatment of intermediary services (e.g. that a wallet is potentially in scope) and whether this would be an area for derogation from general principles, while other tax considerations may include the treatment of CBDC for bank levy purposes, or the ability to hold CBDC in ISA and pensions accounts.

Key question for the payments industry:

How does HMT balance the needs of privacy versus tax collection? The products that banks offer to clients underpinned by a CBDC will dictate whether there are particular issues – will banks, for example, offer custody or wrapped accounts holding the CBDC?

SUSTAINABILITY

It is well documented that some cryptocurrencies use massive amounts of energy. We have heard much less on the possible positive considerations around the sustainable impact of CBDC.

Points to consider:

- Not all currencies consume such large amounts of energy and alternative technology is now maturing so that the level of power consumption, and therefore environmental impact, is not a requirement of delivering CBDC.
- CBDC could mean the things that you can do and the way you can do them allows the financial system to become inherently more energy efficient. For example, by reducing the need for large reconciliation hubs.
- CBDCs could also mean that it is easier for firms to manage their supply chains to ensure that they have full visibility on suppliers to ensure they mitigate any sustainability risks.

Key question for the payments industry:

What infrastructure mechanism would be seen as more sustainable, and therefore more attractive to users?

PRIVATE V PUBLIC CBDC MERITS NEED EXAMINING

There is a live debate over whether a CBDC or a privacy-based cryptocurrency option would be more beneficial. Depending on the design choices made, a central bank may find itself holding a large amount of individual spending data. In addition, there are also complexities around how one would be permitted to use CBDC 'offline'. Therefore, central banks will need to consider these to determine how they could be implemented such that CBDC will be a catalyst for delivering benefits.

Point to consider:

- How CBDC will continue to meet the requirement of GDPR to ensure rights of individuals are protected.

Key question for the payments industry:

A core premise of a cryptocurrency is that it is decentralised and not privately managed by one organisation. Will similar objectives be pursued for CBDCs and will any loss of anonymity prove to be a turn-off for consumers and businesses? It is something for central banks to explore – we expect that for some anonymity is key, and they would continue to see this as an important feature of any new form of digital money.

CONCLUSION

There are a range of significant issues beyond technology that central banks will have to grapple with. Some will be technical and need cross-border alignment, such as tax and meeting the cross-border challenges that may arise. We expect sustainability to be a key consideration, both around the use of energy of some cryptocurrencies, but also the potential power of CBDC to boost greener behaviour. The ripples this creates will need careful attention – especially given the City's prominence as a financial centre that embraces technology.

CBDCs are likely to be the next milestone in the evolution of currency. If implemented thoughtfully, they offer the stability, convenience and speed of physical cash and the security of cryptocurrency. It is right and timely that the UK is examining CBDCs and setting out its evaluation criteria. It is of strategic importance – both a necessary step to stay relevant but also to utilise the benefits presented by new technology including Distributed Ledger Technology (DLT). It needs to be assessed against the needs of the real economy, consumers and its real economic impact.

The deployment of a CBDC is expected to be done in a way that means a level of continuity with the current means of payment, but with the added advantages and features of a CBDC such as programmability. The UK Taskforce, and indeed central banks globally, need to strike the right balance in introducing the richness of function of a CBDC without making it feel too disruptive or different to consumers from the current payment systems or increasing the cyber threat landscape of the UK. For most consumers, their current needs are met and so demand for any change to the status quo may be low, unless the additional benefits of a CBDC are clearly communicated.

What do UK banks and payment firms need to do now? We are at an inflection point where there are potential risks and opportunities for UK banks, including the risk that they lose out to both central bank and 'Big Tech' digital coins. It is unlikely that the Bank of England would want to return to retail banking so there is also a clear opportunity to be part of the new ecosystem, as the authorities look to create a platform that is still likely to be very dependent on banks. Given the diverse landscape of e-money firms, banks, credit card issuers and payment service providers we currently have in the UK, it is not inconceivable for this rich landscape to be joined by stablecoins offering different characteristics and features operating alongside a sterling CBDC.

Firms should actively engage in this debate now. The Taskforce has made clear it is there to listen to a range of stakeholders and the Bank discussion paper frames the key issues. Internally firms should work across divisions to ensure a coordinated approach, given the pervasive impact across various divisions such as finance, retail and commercial banking, sustainability and compliance to name just a few.

Many global jurisdictions will look at the City and the UK to see how the debate evolves here – given our history as the cutting edge of technological change in payments. It is vital that UK banks participate in the upcoming consultations, as their experience and insights will be important to improving the design and application of any future CBDC.

UK Finance will be engaging its members and through its membership on the Taskforce helping to provide the industry view to this ongoing discussion.