

DIGITAL CURRENCIES: STABLE-COINS OR CBDCs? ¹

In a nutshell

The advent of digital currencies poses a challenge to the operation of today's financial system, to the way public policy objectives in the monetary and financial domain are reached and to how information is used to the benefit of society and the individual. This underscores the need to understand the implications of the latest proposed forms of digital currency for money creation, credit provision and the operation of retail and cross border payment systems. It also poses wider social and political questions relating to privacy and the legitimate use of data for commercial and public purposes.

We conclude that there is a need to

- regulate national and global private stable-coin platforms so that the potential benefits in the form of more efficient and inclusive payments arrangements are not overwhelmed by the adverse effects of market concentration and the abuse of the exorbitant privilege of accessing and exploiting data on digitalised monetary transactions;
- decide whether and in what form the issuance of central bank digital currency (CBDC) is warranted in the conditions that are now emerging.

Where we now stand

It is widely acknowledged that in today's system the cost of the transmission of money is too high both domestically and internationally. In that sense there is a market failure. Technology can now address this failure. It is less clear whether there is a market failure with respect to the issuance of what is used to make payments: ie 'money'.

Money itself conventionally has three bundled attributes: firstly, a unit of account or numeraire; secondly, a means of payment, and thirdly, a store of value. The trust in money to perform each of these functions needs to be unquestioned. In the last century a significant determinant of trust was the direct control of the state over the issuance of money and the oversight of payments systems.

Digital technology permits the unbundling and re-bundling of the various attributes of money.² Moreover, it makes it possible to combine the transmission of money with the extraction, storage and use of 'smart contract relevant' data from the instrument that is transmitted. This raises the question of how to maintain trust if these two features are joined up.

¹ Synopsis of themes discussed at a roundtable discussion on 20 November 2019. The views expressed do not necessarily reflect those of the participants. Roundtable discussions take place semi-annually. Participants have included Stefan Ingves, Jacques de Larosiere, Erkki Liikanen, Donald Kohn, Guillermo Ortiz, His Highness Mohammed Sanusi II, Andrew Sheng, Masaaki Shirakawa, Davide Talliente, Sir Paul Tucker, Sir David Walker and Dr Zeti Aziz. The discussions are moderated by Dr Gavin Bingham and Sir Andrew Large.

² See Brunnermeier, et al for a discussion of the impact of digitalization on the bundling, unbundling and re-bundling of the three traditional functions (https://scholar.princeton.edu/sites/default/files/markus/files/02c_digitalmoney.pdf ; accessed 20 January 2020).

Three main approaches are emerging to address the known failure:

- i. making improvements to the payments system on its own within the present fiat system;
- ii. bundling improvements in the payments system with the creation of digital private money such as stable-coin;
- iii. combining improvements in the payments system with the creation of digital public fiat money such as Central Bank Digital Currencies.

Two major uncertainties exist in the area of private digital currency:

- Will “the winner take all”, given the nature of the technology, the market and network effects? Or will the enforcement of interoperability permit appropriate control of network externalities?
- What can be done to ensure that the “exorbitant privilege” of issuing money and then mining and refining the rich vein of information embedded in its use will be exploited in a manner that society benefits and individual privacy is respected?

Although there are some special features relating to privately issued digital tokens, there is nothing new in the private issuance of money. Unfortunately the historical record is littered with examples of the abuse of trust. Sweden and France provide early examples. Banco Stockholm and Banque Generale/Banque Royale issued various forms of money backed in part by high-quality assets. Both institutions failed, with serious adverse economic and political consequences as the exorbitant privilege of issuing money created an incentive to mismatch the quality and maturity of assets backing the liabilities. The Bank of Amsterdam, which lasted nearly two hundred years, ultimately suffered the same fate. The current vestiges of private issuance of banknotes (the banknotes issued by Scottish and Hong Kong banks) underscore the importance of asset segregation and unquestioned full backing.

The near ubiquity of devices for storing and transmitting information, whether they be credit/debit cards, mobile phones, smart watches, tablets or laptops enhances the convenience of using digital currency to make payments. If ‘convenience will buy trust’, stable coins have the capacity to develop rapid take-up both nationally and internationally.

Beyond that, today’s technology permits the extraction of far more granular data from payments than ever before. When combined with data from other sources, they constitute an immensely valuable resource. Given the potential for abuse, robust safeguards must be put in place. The safeguards may involve a conscious public policy decision to provide some degree of anonymity, to segregate data pools and limit access, and to establish suitable standards for the governance of the use of such information.

Types of digital currencies

Three types of digital monies can be distinguished.

- **Algorithm-based digital tokens** (Bitcoin and its relatives). Privately issued and unregulated.
- **Stable-coins with** a backing of high-quality assets. Privately issued but with varying degrees of state oversight. In some ways deposits issued under control of the state by fractional reserves banks are similar to stable-coins. The difference is that the regulation and supervision of private issuers of stable-coins is undeveloped given the speed with which they have burst onto the scene.
- **Central bank digital currencies (CBDC)**. State-backed issuance through the central bank subject to control as in the case of banknotes.

Stable-coins are a form of privately-issued digital money that seeks to overcome the volatility in the value of algorithm-based digital currencies by promising to hold a reserve of safe assets. This is intended to permit stable-coins to serve as a store of value, which is often linked to a familiar numeraire such as the dollar or the renminbi.

Challenges for the Authorities

The speed at which the unbundling and re-combination of the traditional functions of money is taking place requires an urgent, fundamental rethink by the authorities of the implications for effective policy delivery. If the payments attribute of money is re-bundled with data services provided by big tech companies, there will be temptation to move away from full backing for stable-coins on the grounds that the risk management of the issuer is far superior to that of the banks, in view of a much larger data set and superior IT capabilities. If so, there could well be a move towards a payments-centric financial system and away from today's bank-centric one where bank liabilities that constitute money are issued under a tight, publicly-controlled set of regulations, coupled with supervision and severe penalties for infractions.

In these circumstances there may well be a significant impact on the banking system, on the way that regulation is carried out and on the ability of the Authorities to conduct monetary and financial stability policy. The rethink has to take place in each jurisdiction. But it also has to take place internationally, given the size, scope and geographical reach of the sponsors.

Where does Libra fit in?

The challenge presented by Libra is compounded by several well-known features of this particular potential global stable-coin.

- the enormous number of potential users constituted by Facebook's huge customer base
- its multicurrency feature designed to enhance its international usage
- its stated aim of fostering desirable social goals such as financial inclusion

The prospect for realising its potential differs across countries. Libra could be attractive in failed states and some emerging markets where there is a lack of trust in the store of value of incumbent money [Zimbabwe, etc]. However, extensive dollarization in these countries demonstrates that there are viable alternatives to a stable-coin substitute. Ubiquity and convenience would determine whether an existing substitute for domestic money or a new, digital one prevails.

The attractions of a global stable-coin are evident in countries that receive substantial volumes of remittances. The cost of remittances is high, and trust in the incumbent banks sometimes low. If Libra came to be widely accepted in these states, the costs of exchanging foreign currency could be foregone entirely. The users of stable-coins in these countries – remittance recipients and merchants – may have more trust in Facebook/Libra or other big tech firms than in their own governments.

In reserve currency countries, the main shortcoming in payments systems is the high cost of cross border payments. Libra will not be able to reduce these costs unless it becomes the dominant means of payment in these countries. This is unlikely. Even if the authorities permit it, most residents of these countries have access to increasingly competitive means of payments in their national currencies. Beyond that, central banks in these countries may decide that CBDCs have advantages over banknotes. The cost of cross-border payments could be reduced if central banks devised a digital cross-border clearing and settlement system for national CBDCs, but this cannot happen until CBDCs are widely used in these countries.

Issues that need to be addressed

Given the potentially profound changes in the financial landscape by changes in payments, a wide range of issues arises. Beyond the questions of the structure of the financial system, financial stability and monetary policy alluded to above, they include competition, market integrity, consumer and investor protection, data privacy, KYC/AML/CFT and taxation.³ Overarching concerns relate primarily to *anonymity, privacy and the appropriate use of information* imbedded in money and its use.

Early forms of electronic money (Bitcoin et al) raised the spectre of fraud and money laundering. A stable-coin system can be designed to provide information on transactions and, used with other technology such as electronic ID systems, meet KYC and AML/CTF standards. The question then becomes how would the data that become available be used. The business model of the platforms depends critically on extracting information from data on individual users. This makes it difficult to address legitimate concerns about data privacy. Similar questions arise with respect to publicly provided digital currencies if the information is used for mass digital surveillance or incorporated in a social credit system similar to China's. Should anybody (including the state) be given unlimited capacity to mine, smelt and refine data in a digital currency?

Trust in the money depends on how new units are produced, and whether there is a credible backstop in the event of failure. One approach in the case of stable-coins would be to adopt of the types of measures used by the Bank of England to ensure that the value of the banknotes issued by Scottish banks is identical to the value of Sterling fiat currency issued by the Bank of England itself. If stable-coin issuers were permitted to depart from full backing, it would be essential to apply the panoply of controls placed on banks permitted to create money by issuing deposits.

Should central banks issue CBDCs?

It is clear that any form of private money will require regulation. An alternative or complement to regulation is the issuance of a similar product, a CBDC. To decide whether to issue a CBDC, Authorities will need to consider:

- Continued provision of essential services beyond that of payments, including credit provision
- The implications of re-bundling money with other platform-based services
- Whether the existence of a digital safe haven will make bank runs more likely
- Policy with respect to financial inclusion, digital literacy or other social policy
- Stability and reliability of the tax base and tax receipts
- Stability of the financial system
- Policy with respect to personal data privacy and usage
- Competition policy and the implications of network effects, as well as policy with respect to interoperability and connectivity

In making such judgements, Authorities will need to

- understand the implications of disintermediation of the banking system for credit provision, maturity transformation and risk management
- address the questions of the type and amount of data to be embedded in stable-coins, who should have access and how the data are used.

³ The G7 report of the Working Group on Stablecoins contains an analysis of these issues. (<https://www.bis.org/cpmi/publ/d187.pdf>) accessed 20 January 2020.

Before Libra, the interest of the authorities in CBDCs was patchy. In Sweden, the growing reluctance of the public to use cash prompted the Riksbank to evaluate the need for an eKrona. In the Bahamas, the cost and uncertainties of transporting cash between the islands made the authorities give the matter thought. In Bermuda, the desire to make the jurisdiction a breeding ground for IT innovation led the authorities to examine CBDCs. Today most central banks are assessing the advisability of issuing CBDCs, with some moving into a pilot phase.⁴

In preparing for the introduction of CBDCs central banks will need to consider the following:

- The ability to make retail payments domestically 365/24/7 at super-low cost
- The capacity to make cross-currency payments 365/24/7
- Legal tender status
- Effective mechanisms to address KYC and data privacy issues
- Contingency plans in case the system breaks down (e.g. the capacity to issue and circulate bank notes)

A global CBDC?

Facebook has suggested that Libra could serve as a global stable-coin currency, backed by a basket of existing fiat currencies. It is uncertain whether a multicurrency basis would make Libra attractive to those who use the dollar or euro as a numeraire and a store of value. Using a global stable-coin would expose them to exchange rate risk. In the past 50 years, there have been attempts to issue bonds or other debt instruments in a basket of currencies such as Special Drawing Rights (SDR). Take up has been very poor and issuance in a single currency remains the norm.

On top of this a global private stable-coin would require coordination among the regulators and legislators in the jurisdictions where the stable-coin is issued and used, covering such matters as the provision of lender of last resort assistance and resolution arrangements in the event of failure.

A global CBDC would be an alternative to a privately issued global stable-coin. There is little immediate prospect that one will emerge. A national CBDC could play this role, if universally accepted. However, experience with existing national currencies suggests that acceptance would be confined to failed or failing states. A multilateral CBDC based on the SDR is conceivable. However, the IMF's Articles do not permit private holding of Fund-issued SDRs, and it is unlikely that SDR-linked claims issued by others would be accorded adequate trust.

One modest step in the direction of a global CBDC would be the digitalisation of the swap network between central banks, perhaps using digital tokens issued by the BIS and backed by central bank deposits there. This would permit the speed required in the event of a crisis in a world of instantaneous digital payments involving privately issued stable-coins or national CBDCs.

⁴ See <https://www.bis.org/publ/bppdf/bispap107.pdf>