

Why do banks oppose digital currency

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INTRODUCTION

- The digitalisation of economies has far-reaching implications for many areas of economic inquiry, not least for monetary economics and the concept of money itself. With the massive volumes of data that digital activities generate come new opportunities and challenges for societies and the monetary system.
- A tradition in monetary economics is to view money as a coordination device that serves as a substitute for the complete list of economic transactions – ie as society’s “memory” of all economic transactions (eg, Kocherlakota (1998)). Yet this abstract definition of money leaves open its institutional underpinnings, upon which the welfare consequences of the institution of money may crucially depend. In particular, due to the inherent network effects in payments (Rochet and Tirole (2006)) and the potential for the proprietary use of data, digital forms of money pose substantial challenges for competition, privacy and integrity. It is in this context that an important public debate has arisen on the issuance of new, digital forms of central bank money and how they will affect the architecture of the monetary system.

BREIF HISTORY

- Over the centuries, various forms of money have emerged to meet the economic needs of the time. Coins, banknotes, cheques and credit cards were each innovations in their own day (Giannini (2011)). In recent decades, new payment technologies have been added to this list, from phone-based mobile money to smartphone-based payment apps, and from stablecoins to a new form of central bank-issued money in the form of CBDCs.
- CBDCs can be seen as a digital extension of the existing forms of central bank money, namely cash (bills and coins) and central bank settlement accounts. As a digital liability of the central bank, wholesale CBDCs could become a new instrument for settlement between financial institutions. Retail (or general 4 CBDCs: motives, economic implications, and the research frontier purpose) CBDCs would be a central bank liability, a form of “digital cash” accessible to all. 5 Graph 1 gives a schematic overview that compares retail CBDC with cash and a consumer’s bank deposits.

BREIF HISTORY

- The idea of extending central bank money in digital form to the public is not new. For instance, Tobin (1987) proposed the idea of “deposited currency”, or “a medium with the convenience of deposits and the safety of currency”, to enhance payments and reduce the reliance on deposit insurance.
- Over the past several years, a number of central banks have started internal projects to better understand the technology of cryptocurrencies and more broadly the potential application of distributed ledger technology (DLT) to government-issued digital currencies.⁶ Starting in 2015, central banks in eg Canada, the Netherlands, Singapore and the United Kingdom ran internal experiments. These generally concluded that DLT was not yet mature enough for use in major central bank payment systems.
- From 2016 onward, a number of central banks launched research projects on digital currencies for wholesale purposes. Several focused on DLT for the settlement of high-value interbank payments.⁷ Some involved cooperation between central banks on wholesale CBDCs for cross-border payments

RESEARCH & DEVELOPMENT

- Motivations for retail CBDC research and development are driven by global trends, but also by country- specific circumstances. Broadly, CBDCs should be seen in the context of the digitalisation of economies and the growing centrality of data – particularly personal data – both in the economy and the monetary system. The growing role of data brings many opportunities to reduce information asymmetries, cut costs and enable new forms of money.¹⁰ Yet data also lead to new challenges for competition, privacy and integrity – issues that the economics literature is only beginning to grapple with. Due to the network effects inherent to money, new private players may quickly dominate the monetary system, leading to serious competition concerns and working against the public interest.
- These issues have been underscored by four developments. The first was the rapid rise in interest in Bitcoin and other cryptocurrencies that compete with traditional forms of money (see Carstens (2019)). However, cryptocurrencies are speculative assets rather than money. They are extremely volatile, making it difficult to use them as a means of payment. In many cases, they are used to facilitate money laundering, ransomware attacks and other financial crimes (Foley et al (2019), Paquet-Clouston et al (2019)). Bitcoin in particular has few redeeming public interest attributes when its wasteful energy consumption is taken into account. For instance, it is estimated that the Bitcoin network currently uses as much electricity as the Netherlands (BIS (2021)).

RESEARCH & DEVELOPMENT

- A third development is the entry of big tech into payments, and more generally the disruption that platform-based business models and big data bring to the financial system. The huge volume of personal data that is collected and processed as an input into big tech business activity presents several challenges for central banks (BIS (2020)). The first is that network effects make the payment system prone to concentration and enable the formation of data silos that entrench the market power of firms that have exclusive use of the data. The second is data privacy and governance. However, both the competition and data governance imperatives need to be met while ensuring a third imperative: that of ensuring the safety and integrity of the payment system against money laundering, ransomware attacks and other illicit activities. Thus, digital innovation implies a “triple imperative” for the central bank in its role at the centre of the monetary system: competition, data privacy and the integrity of the payment system (Shin (2021)).

RESEARCH & DEVELOPMENT

- Finally, the Covid-19 pandemic has accelerated the adoption of digital payment technologies – a trend that recalls previous epidemics (Saka et al (2021)). With that shift, it has also accelerated central banks’ work on CBDCs in some jurisdictions. In the United States, early versions of Congressional proposals for the pandemic-related fiscal stimulus included references to a “digital dollar” as a means of quickly executing government-to-person payments, as an alternative to credit transfers and slow and costly cheques (Brett (2020)).

MICROECONOMIC CONSIDERATIONS

- Central bank motivations for issuing CBDCs are primarily of a microeconomic nature. They aim to enhance payments inclusion and efficiency, as well as ensure competition, data privacy and the integrity of their payment system. What does this imply for the optimal CBDC design and how such designs would affect consumer welfare?¹⁵ This raises important issues pertaining to CBDC operational architecture, the associated public-private sector cooperation and the welfare implications for consumers, also in the context of data privacy considerations. In these cases, the literature has already helped to inform the design of actual CBDC research and development, and to shed light on how CBDCs may affect consumers. This section considers these issues in turn.

DATA PRIVACY AND INTEGRITY

- A third consideration centres on CBDCs and data privacy. The digitisation of payments is increasingly generating a “data trail” of information on individual transactions, which can be easily transferred across counterparties and used for a wide variety of purposes. For instance, transactions data from any digital payment service can be used to determine individuals’ willingness to pay for goods and services and thus to price-discriminate; individuals’ creditworthiness, ie ability to repay a loan; and – when combined with other data sources – to give deep insights into individuals’ behaviour, beliefs and habits. A growing strand of literature in economics assesses concerns around data privacy (Acquisti et al (2016)), which are highly context-dependent. Digital applications generate troves of data but also severe information asymmetries for users, who do not always know whether and where data are being collected and for what purpose. As is already known in the literature on payments, cash has value to consumers because it is by nature anonymous, thus protecting individuals’ privacy (Kahn and Roberds (2009)). Yet what happens as cash use declines, and households are left only with private digital alternatives?

DATA PRIVACY AND INTEGRITY

- Importantly, design features can help mitigate such trade-offs, as privacy does not need to be synonymous with anonymity. In this area, too, research is helping to inform actual CBDC design. Darbha and Arora (2020) outline the range of choices around the type of information to keep private and who to keep it private from, as well as the cryptographic techniques and operational arrangements that can support such decisions. Central banks can engineer systems to have greater privacy than private sector systems, but there are costs involved, and adequate designs require public review and oversight. Gross et al (2021) develop a proposal for cash-like privacy for users while addressing regulatory constraints, using zero-knowledge proofs in a software-based CBDC system. Moreover, application programming interfaces (APIs) in a CBDC system can constrict data exchange to only the necessary information for any given transaction and give users greater control over the data that they generate (BIS (2021)).

IMPLICATIONS OF BANKS

- Alongside a fast-changing and intense policy debate on CBDC technology and privacy, a growing academic literature has emerged on the macroeconomic implications of CBDC introduction. This academic literature centres around three main themes. First is the effect of CBDC issuance on commercial banks and aggregate lending or investment. Second are the effects of introducing CBDCs on financial stability, ie the ability of the financial system to absorb shocks and thus the likelihood of financial crises. The third theme concerns CBDCs as a new monetary policy tool. In this section, we review the academic literature according to these three themes.

CONCLUSION

- CBDCs are an idea whose time has come. If properly designed, they present an opportunity to improve payments with a technologically advanced representation of central bank money, one which preserves the core features of finality, liquidity and integrity that only the central bank can provide. They could form the backbone of a highly efficient new digital payment system by enabling broad access, and they may also help to provide strong data governance and privacy standards.
- Yet in order to achieve the potential benefits for public welfare while preserving financial stability and public-private sector cooperation, further exploration on CBDC design choices and their macro- financial implications is essential. Adam Smith defined money by the three main roles it plays in society: as a unit of account, the yardstick of economic activity; a means of exchange to make payments; and as a store of value to transfer purchasing power over time. With CBDCs, central banks' main goal is to provide a universal means of exchange for the digital economy. They do not, however, intend to disintermediate the financial sector by offering a universal store of value.

CONCLUSION

- In this context, research is helping to understand how the usefulness of CBDCs as a means of payments can be maximised, while limiting the overall inflows to central bank balance sheets. Beyond this, various important and complex questions are still to be further analysed, for instance as regards the interoperability between existing and new infrastructures, the access to and control of central bank money, the distinction between wholesale and retail CBDCs and especially the cross-border implications of CBDCs.
- To further push the frontier in the cross-border dimension, researchers will have to grapple with the specifics of cross-border payments. While CBDCs have unique features, enhancements in existing payment systems and arrangements, such as aligning regulatory, supervisory and oversight frameworks for cross-border payments, AML/CFT consistency, PvP adoption and payment system access will also be critical for cross-border CBDC use. Moreover, the eventual international adoption of CBDCs is likely to proceed at different speeds in different jurisdictions, calling for interoperability with legacy payment arrangements. Hence, the analysis of interoperability with non-CBDC payment arrangements calls for further work. Answering these open questions will be crucial for a correct design of CBDCs as a new form of money in the digital era.

THANK YOU