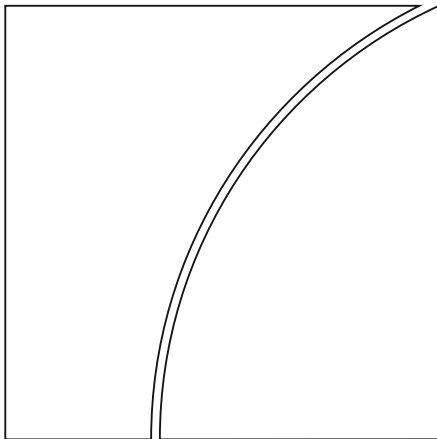




BANK FOR INTERNATIONAL SETTLEMENTS



BIS Papers

No 107

Impending arrival – a sequel to the survey on central bank digital currency

by Codruta Boar, Henry Holden and Amber Wadsworth

Monetary and Economic Department

January 2020

JEL classification: E42, E58, O33

Keywords: Central bank digital currencies, CBDC, digital innovation, money flow, cryptocurrencies, crypto-assets, financial inclusion, stablecoin

The views expressed are those of the authors and not necessarily the views of the BIS.

This publication is available on the BIS website (www.bis.org).

© *Bank for International Settlements 2020. All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.*

ISSN 1682-7651 (online)
ISBN 978-92-9259-330-8 (online)

Contents

Introduction.....	1
Central bank digital currencies.....	1
The survey	2
Geographical coverage	2
Questions.....	2
Results.....	3
Work under way.....	3
Motivations.....	4
General purpose CBDCs	4
Wholesale CBDC.....	5
Legal authority.....	6
Intentions.....	7
Other digital currencies	8
Conclusion.....	9
References	11
Annex 1: Central banks participating in the survey	12
Annex 2: Survey questions.....	13
Previous volumes in this series	15
Annex 1: Central banks participating in the survey	12
Annex 2: Survey questions.....	13
Past volumes in this series	15

Impending arrival – a sequel to the survey on central bank digital currency¹

Our survey shows that central banks are undertaking extensive work on central bank digital currencies. Globally, emerging market economies are moving from conceptual research to intensive practical development, driven by stronger motivations than those of advanced economy central banks. Central banks representing a fifth of the world's population say they are likely to issue the first CBDCs in the next few years.

Introduction

While cash is still king (Bech et al (2018)), innovations are pushing central banks to think about how new central bank digital currencies (CBDCs) could complement or replace traditional money (CPMI-MC (2018)). In 2018, the Bank for International Settlements (BIS) and the Committee on Payments and Market Infrastructures (CPMI) asked central banks about (i) their current work on CBDCs; (ii) what motivates that work; and (iii) how likely they are to issue a CBDC. The survey showed that the majority are researching CBDCs but that much of this research was conceptual (Barontini and Holden (2019)). Few thought it likely that they would issue a CBDC in the short or medium term.

One year on, the survey has been re-run.² Most central banks are still working to understand the implications for their jurisdiction and a significant minority representing a fifth of the world's population look likely to issue a CBDC very soon. This survey gives a global overview of work under way, showing that emerging market economies (EMEs) report stronger motivations and a higher likelihood that they will issue CBDCs. At the same time, so-called cryptocurrencies remain a niche means of payment.

Central bank digital currencies

CBDCs are new variants of central bank money different from physical cash or central bank reserve/settlement accounts (CPMI-MC (2018)). Money can be divided into its four different properties: (i) issuer (central bank or not); (ii) form (digital or physical); (iii) accessibility (wide or narrow); and (iv) technology (peer-to-peer tokens, or accounts) (Bech and Garratt (2017)). A CBDC is, by definition, a central bank-issued digital money. Different levels of accessibility demarcate two broad types of CBDC: *general purpose* and *wholesale*.

A "wholesale", "token-based" CBDC, is a restricted-access digital token for wholesale settlements (eg interbank payments, or securities settlement). Experiments

¹ We thank Morten Bech, Stijn Claessens, Jenny Hancock and Tara Rice for valuable comments. The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS.

² Another similar, but smaller-scale and unpublished, survey was conducted by the Committee on Payments and Market Infrastructures in 2017. Results are included where relevant.

in this field generally focus on replacing current technologies with the aim of realising efficiency gains.

A general purpose variant (ie a CBDC available to the general public) can be based on tokens or accounts.³ This would be widely available and primarily targeted at retail transactions (but would also be available for broader use). A token-based variant would resemble a type of “digital cash” which could be distributed to the general public in different ways to a more direct account-based variant.

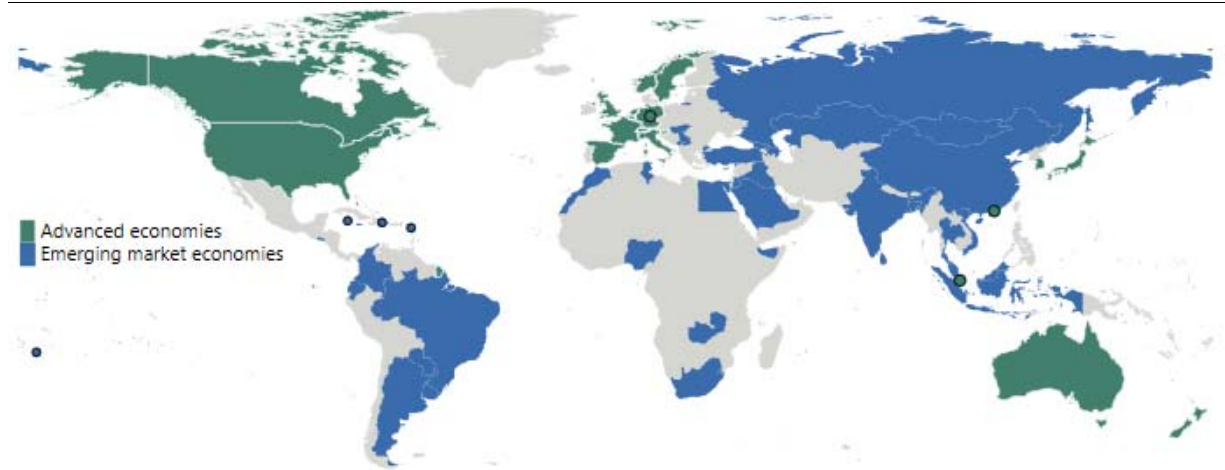
The survey

Geographical coverage

Some 66 central banks replied to the survey, with the vast majority taking part for the second time (63 central banks replied to the 2018 survey) (Graph 1 and Annex A). Respondents represent 21 advanced economies and 45 EMEs, covering 75% of the world’s population and 90% of its economic output.

Respondents to the survey

Graph 1



The black circles represent the Cayman Islands, the Dominican Republic, islands represented by the Eastern Caribbean Central Bank, the European Central Bank, Hong Kong SAR, Singapore and Tonga. “Advanced economies” and “Emerging market economies” as defined by the IMF *World Economic Outlook* country classification. The boundaries and names shown and the designations used in this map do not imply endorsement or acceptance by the BIS.

Questions

The survey was carried out in the latter part of 2019, reused the 2018 definitions and only changed a small number of questions. It starts by asking central banks if they work on CBDCs or not and, if they do, it further enquires about the type of CBDC and how advanced the work is. Motivations and current expectations for potentially issuing a CBDC are queried, as well as whether central banks have legal authority to

³ In payment economics, a key difference between tokens and accounts is in their verification: a person receiving a token will verify that the token is genuine, whereas an intermediary verifies the identity of an account holder (Green (2008) and Kahn and Roberds (2009)). “Token-based” is also referred to as “value-based” in some CBDC discussions (eg Sveriges Riksbank (2018)).

issue. In this survey, some additional questions asking about cash use in a jurisdiction were added for the first time.

Questions about “private digital tokens” and their use for payments were also included. Private digital tokens encompass the wide variety of digital tokens not issued by central banks. The survey differentiated between so-called cryptocurrencies and other private digital tokens (eg “stablecoins”). All questions are listed in Annex 2.

Results

The survey corroborates the findings from last year’s exercise, especially that a wide variety of motivations drives extensive central bank research and experimentation on CBDCs. Only a few EME central banks have progressed to intensive development (eg developing the operational arrangements for a CBDC and/or amending laws to allow the central bank to issue one) or pilot projects and have firm intentions to issue a CBDC soon. Nonetheless, their plans appear to be accelerating compared with earlier expectations.

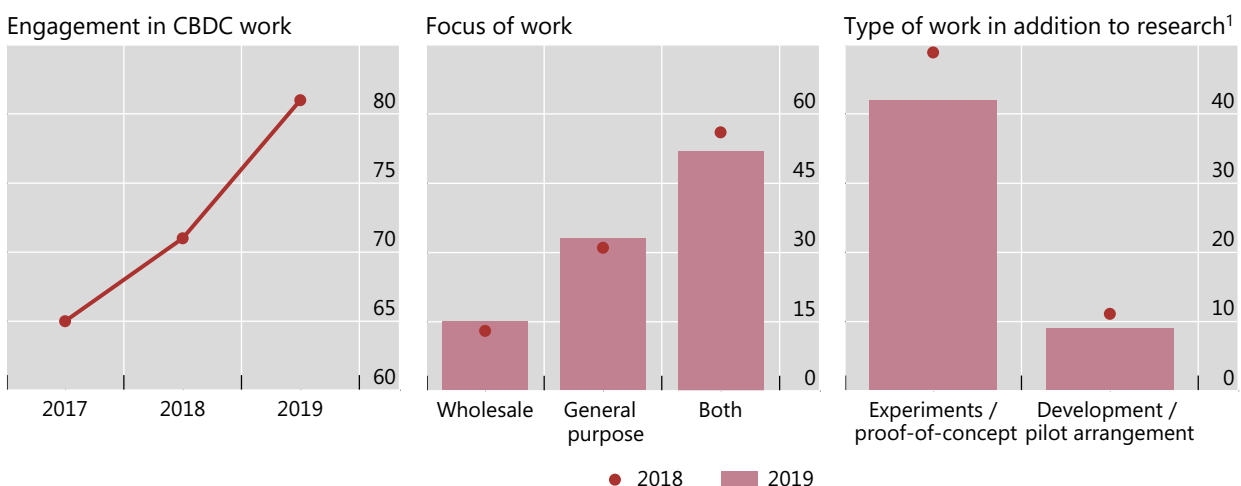
Work under way

Ever more central banks are currently (or will soon be) engaged in CBDC work. Some 80% of central banks (up from 70%) are engaging in some sort of work (Graph 2, left-hand panel), with half looking at both wholesale and general purpose CBDCs (Graph 2, centre panel). Some 40% of central banks have progressed from conceptual research to experiments, or proofs-of-concept; and another 10% have developed pilot projects (Graph 2, right-hand panel). Every central bank that has progressed to development or a pilot project is an EME institution.

Central banks continue to work on CBDC

Share of respondents

Graph 2



¹ Share of respondents conducting work on CBDC.

Source: Central bank survey on CBDCs.

As in the previous survey, central banks currently not looking at CBDCs are typically from smaller jurisdictions and/or report that they face more pressing

priorities. Nonetheless, many central banks continue to rely on research conducted by international organisations (in particular the BIS and the IMF) or regional networks.

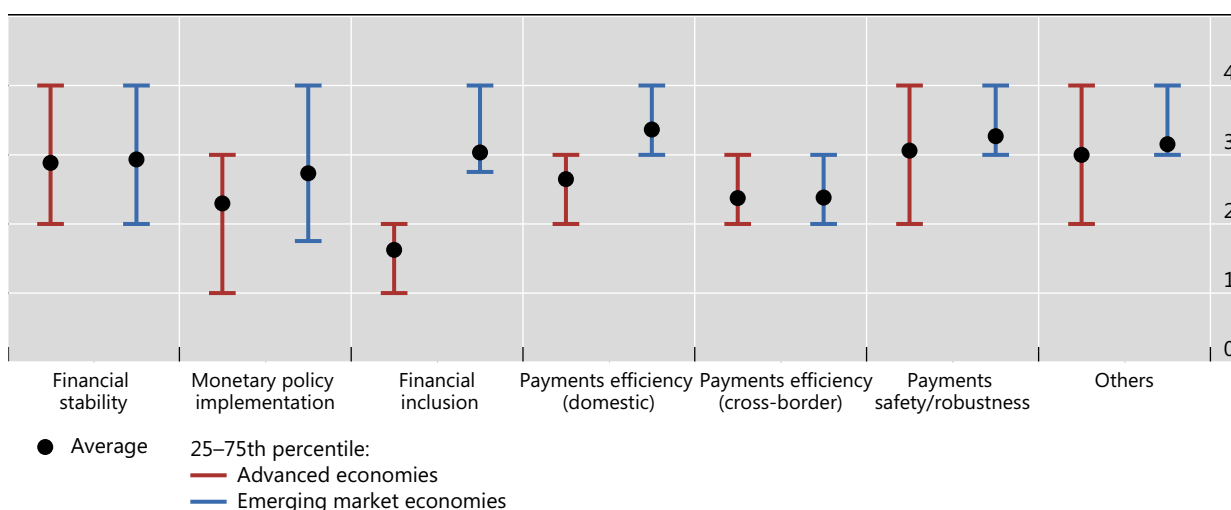
Motivations

There are a large and diverse number of potential reasons why central banks are investigating CBDCs. To understand these motivations, central banks were asked to rank predefined potential factors from “not so important” to “very important” for work on general purpose and wholesale CBDCs. The same factors were used in last year’s survey and the results were broadly comparable. However, EMEs have generally stronger motivations than advanced economies (Graphs 3 and 5), especially when a CBDC is being designed as a complement or replacement for cash.

Motivations for issuing a general purpose CBDC¹

Distribution¹

Graph 3



¹ Not so important” (1); “Somewhat important” (2); “Important” (3); and “Very important” (4).

Source: Central bank survey on CBDCs.

General purpose CBDCs

EMEs have generally stronger motivations than advanced economies to work on general purpose CBDCs (which can act as a substitute or complement to bank notes). Domestic payments efficiency, payments safety and financial inclusion were, on average, all considered “very important” in this respect for EMEs. For advanced economies, the only motivation ranked as very important was payments safety (Graph 3).

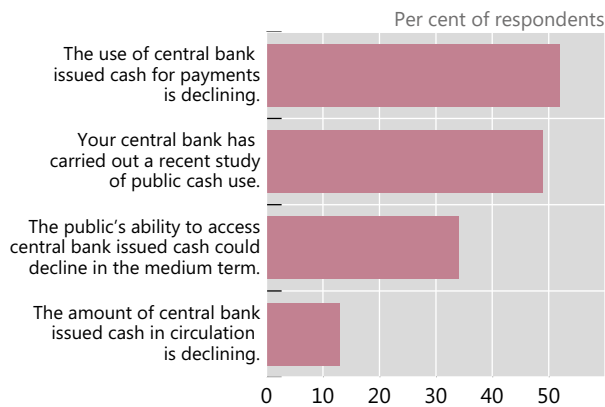
Cash-related challenges differ by central bank. Some central banks reported a high reliance on cash and are motivated by reducing costs and improving know-your-customer and countering-the-financing-of-terrorism (“KYC/CFT”) arrangements. Other central banks have the opposite challenge: a low or declining use of cash for payments motivates research into a CBDC that would maintain public access to central bank money. New survey questions on cash use shed further light on this trend. Our survey shows that just under half of the world’s central banks are investigating the public’s use of cash and a third are concerned that access to cash

could decline in the medium term (Graph 4, left-hand panel). This corroborates other studies that show cash in circulation is increasing (eg Bech et al (2017)) but that much of this is in high-denomination notes used as a store of value rather than as a means of payment (Bech and Boar (2019)) (Graph 4, right-hand panel).

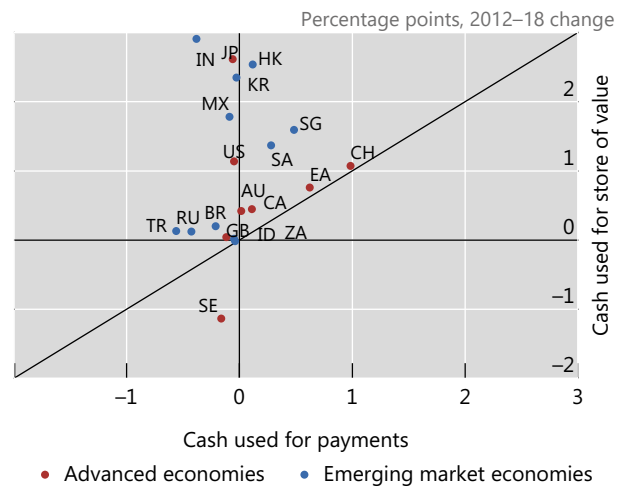
Cash use for payments is declining

Graph 4

Survey statements



Cash use for payments and store of value¹



¹ Graph based on CPMI Red Book data. “Cash used for store of value” is the two largest-denomination notes for each jurisdiction. “Cash used for payments” is the rest of the notes and coins in circulation. Banknotes no longer issued are not included in the calculations.

Sources: CPMI Red Book and Central bank survey on CBDCs.

Wholesale CBDC

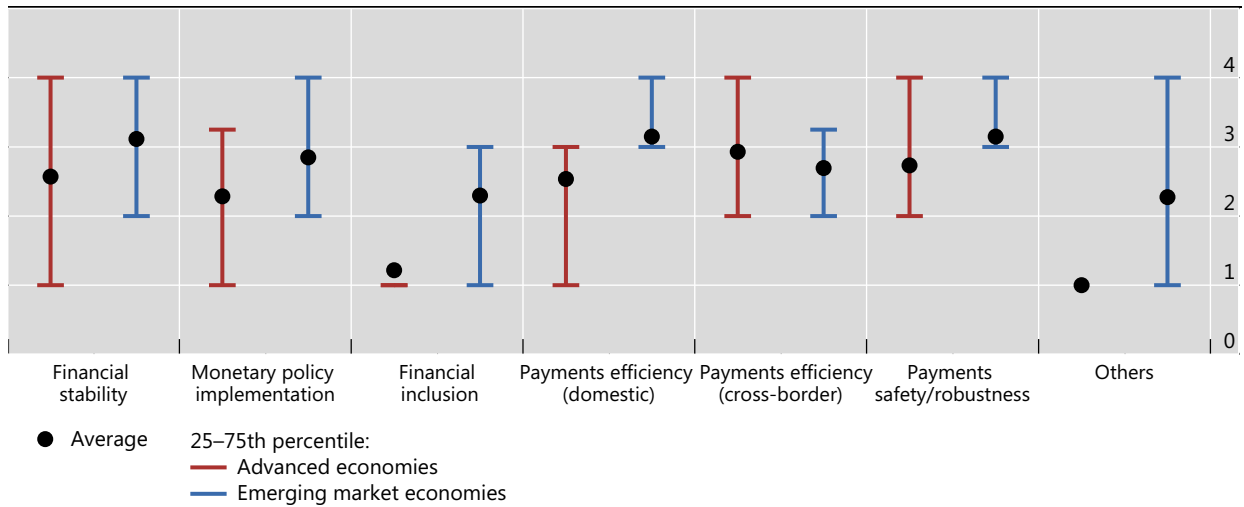
Motivations for researching wholesale CBDCs are generally weaker than those for general purpose CBDCs. Nonetheless, EMEs again have stronger motivations than their advanced economy peers (Graph 5). In particular, motivations to improve domestic payments efficiency, payments safety and financial stability are all very important to EMEs. This potentially reflects the fact that some of the smaller respondents have no wholesale, real-time gross settlement system for their currencies.

For advanced economies, increased efficiency for cross-border payments is the most important motivation, consistent with international work (FSB (2019)) and recently published experiments (eg a joint project by the Bank of Canada, the Monetary Authority of Singapore and the Bank of England (2018)).

Motivations for issuing a wholesale CBDC¹

Distribution

Graph 5



¹ Not so important" (1); "Somewhat important" (2); "Important" (3); and "Very important" (4).

Source: Central bank survey on CBDCs.

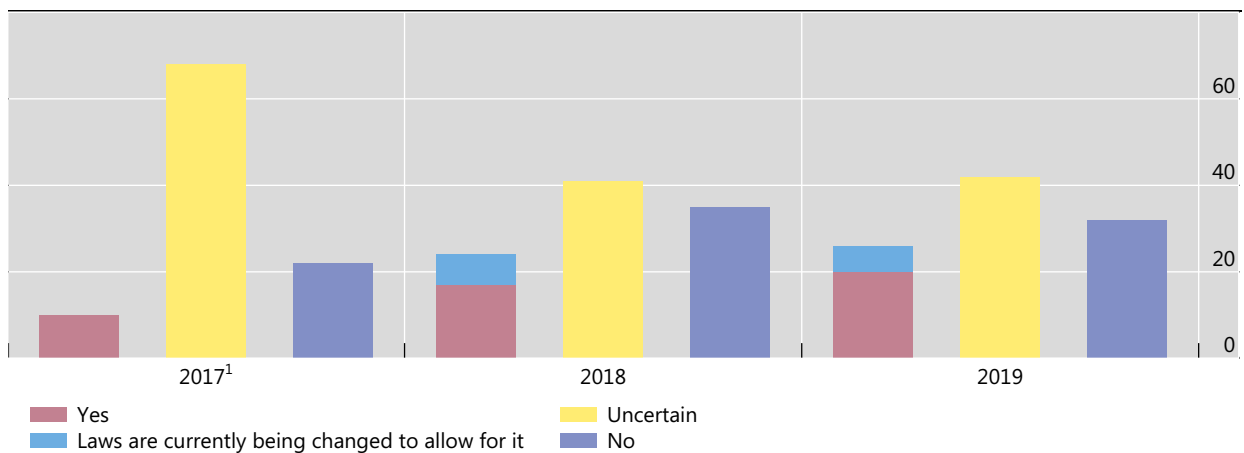
Legal authority

A central bank issuing a CBDC needs the legal authority to do so which, as in the previous survey, about a quarter of central banks have, or will soon have, such authority. A third do not have authority and about 40% remain unsure (Graph 6). The continued high level of uncertainty is not surprising, given that most central bank mandates predate many forms of electronic money. Additionally, in the absence of any plans to issue a CBDC, central banks may not be able to prioritise a clarification of their mandates.

Legal authority to issue a CBDC remains uncertain

Share of respondents

Graph 6



¹ There was no option for "laws are currently being changed to allow for it" in the 2017 survey.

Source: Central bank survey on CBDCs.

Intentions

For most people around the world, a general purpose or wholesale CBDC is still unlikely in their jurisdiction in the medium term. The survey measured this likelihood by asking central banks to predict the possibility of issuing a general-purpose and wholesale CBDC over the short (up to three years) and medium (up to six years) term on a five point scale. That scale ran from “very likely” to “very unlikely”.

Compared with the previous survey, the likelihood of issuing any type of CBDC has increased but is still low (Graph 7). About 70% of central banks still see themselves as unlikely to issue any type of CBDC in the foreseeable future. At the same time, the number of central banks choosing “possible” (ie neither “likely” nor “unlikely”) is falling, potentially indicating that research and experiments is helping to clarify a firmer stance on issuing a CBDC in the near term.

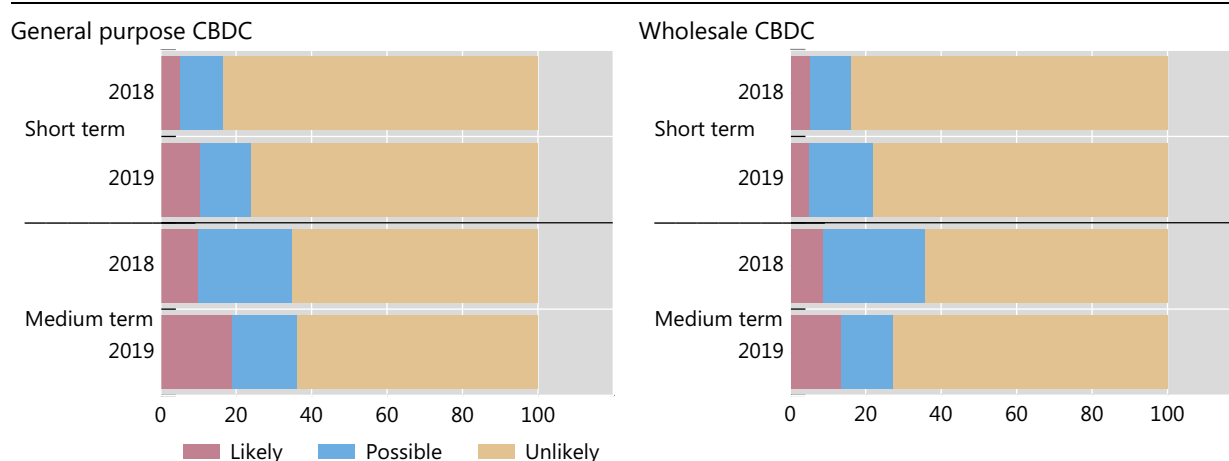
Nonetheless, 10% of central banks say they are likely to issue a general purpose CBDC in the short term (twice as many as last year) and 20% in the medium term (Graph 7). In global population terms, the larger impact is likely to be in the short term. Central banks collectively representing a fifth of the world’s population are likely to issue a general purpose CBDC in the next three years. Although they equal them in number, central banks that are likely to issue in the medium term represent only 2% of the world’s population.

Fewer central banks plan to issue wholesale CBDCs, in either the short or medium term (Graph 7). This could be down to a revision of central banks’ plans; half the central banks that said in 2018 they were likely to issue a wholesale CBDC in the short term said they were less likely to do so in 2019. This is consistent with published experiments that show distributed ledger technology still faces steep challenges if it is to improve on current arrangements (eg Bank of Canada (2018) and Bank of Thailand (2019)).

The likelihood of issuing a CBDC is increasing

Share of respondents

Graph 7



Short term: 1–3 years and medium term: 1–6 years. “Likely” combines “very likely” and “somewhat likely”. “Unlikely” combines “very unlikely” and “somewhat unlikely”.

Source: Central bank survey on CBDCs.

Consistent with their stronger motivations, EME central banks consider themselves more likely to issue a CBDC than do their advanced economy peers. For general purpose CBDCs, every central bank reportedly very likely or likely to issue in the short term is an EME institution. Over the medium term, 90% are in EMEs. The difference is also stark for wholesale CBDCs, where all advanced economy central banks consider issuance unlikely or very unlikely over the short and medium term.

Other digital currencies

As well as questions on CBDC, the survey asked central banks about private digital tokens, encompassing the wide variety of digital tokens not issued by central banks. “Cryptocurrencies” are defined in the survey as decentralised digital tokens without an issuer that are not representative of any underlying asset or liability. Central banks were asked about the use of cryptocurrencies for domestic and cross-border payments, their judgment on whether that use would rise or fall, and if they were analysing the impact of other private digital tokens.

For cryptocurrencies, the results are almost exactly the same as in the 2018 survey: no central banks reported any significant or wider public use of cryptocurrencies for either domestic or cross-border payments; and the usage of cryptocurrencies is considered either minimal (“trivial/no use”) or concentrated in niche groups. The one difference to highlight is that, in 2019, one central bank that did not contribute in 2018 and whose jurisdiction is facing serious civil unrest, considered cryptocurrency use significant domestically and saw wider public use for cross-border payments.

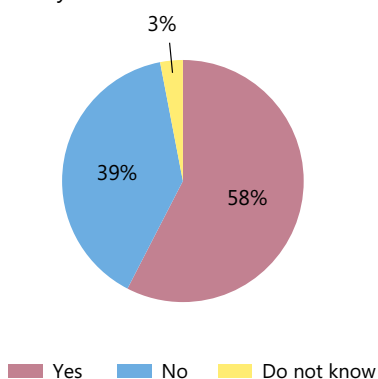
Beyond cryptocurrencies, the survey found that only about 60% of central banks are considering the impact of monetary and financial stability of “stablecoins” (Graph 8, left-hand panel). The survey defined these tokens as those with an identifiable issuer or that represent a claim and/or underlying asset (unlike a cryptocurrency). These tokens pose a number of risks, especially when available globally (G7 (2019)). Central banks not considering their impact almost entirely represent EME jurisdictions (Graph 8, centre panel). For the majority of those jurisdictions, remittances represent a significant proportion of GDP. Yet despite this, the majority are also engaged in work on CBDCs, some of which is very advanced (Graph 8, right-hand panel). Globally, only a handful of central banks responded that concern about cryptocurrencies or other private digital tokens was motivating work on CBDCs.

Many central banks are not yet analysing the impact of private digital tokens

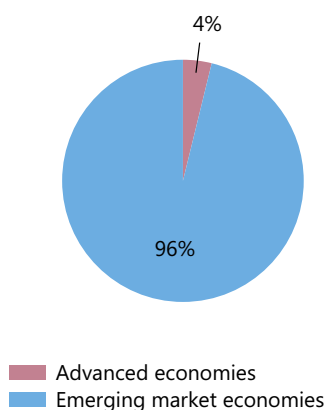
In per cent of respondents

Graph 8

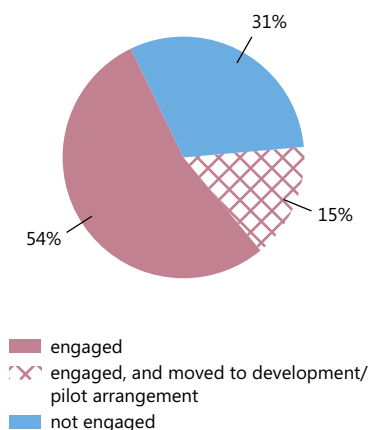
Are you analysing the potential impact on monetary and financial stability of stablecoins?



Central banks that responded "no"



Central banks that responded "no" (engagement in CBDC work)



Source: Central bank survey on CBDCs.

Conclusion

Central banks are continuing to research CBDCs. Yet there is no evidence of a widespread or general move to expand this research into experimentation and pilot arrangements. However, a few central banks with sufficient motivation are proceeding to pilot various designs (Box A).

Motivations for CBDC research continue to be diverse. Cash use is the key to driving many central banks' plans, with EME central banks aiming to reduce reliance on cash, and advanced economies acting to pre-empt any issues that might be faced by the general public in accessing central bank money.

Although motivations are fairly stable, central banks with firmer plans to issue CBDC are now imminently close to doing so. Some 10% of the central banks surveyed are likely to issue a CBDC for the general public in the short term, representing 20% of the world's population. Cross-border spillover effects are possible (CPMI-MC (2018)). Collaboration through international vehicles such as the BIS Innovation Hub will be necessary to avoid any unforeseen international consequences.

Finally, collaboration on understanding the impact of private digital tokens may also need to intensify. Stablecoins could find widespread adoption where cryptocurrencies have failed. Our survey shows that more central banks could be looking at the risks outside the financial system while also exploring ways to improve the system with CBDCs.

Caribbean central bank digital currencies

The island nations of the Caribbean have a long history of monetary innovation and diversity (Bulmer-Thomas (2012)). Living on relatively small islands presents a challenge for their citizens, many of whom face issues accessing financial services despite broad access to digital technology (CEMLA (2015)). To improve financial inclusion, and explore benefits such as a lower cost of cash and improved know-your-customer (KYC) controls, central banks in The Bahamas and the Eastern Caribbean (among others) are engaged in central bank digital currency (CBDC) projects (Central Bank of the Bahamas (2019) and Eastern Caribbean Central Bank (2019)).

Bahamas – a central bank account

The Bahamas are chain of more than 700 islands, cays and islets spread over nearly 14,000 km² but with a population of fewer than 400,000. The Bahamian dollar is pegged one-to-one to the US dollar. Banking and offshore financial services make up about 15–20% of GDP, yet many citizens on some Bahamian islands lack access to traditional financial services.

The Central Bank of The Bahamas' "Project Sand Dollar" is the pilot for a general purpose, account-based CBDC for domestic use only. A digital currency holder would have a direct claim on the central bank, legally equivalent to an account. The pilot will run for six months in 2020, with regulation and legislation for a potentially wider rollout potentially following at a later stage.

Remote communities who rely on cash and need to meet KYC requirements could benefit from a safe digital currency, especially since an estimated 93% of the population owns a mobile phone. To improve wider non-discriminatory access to financial services and domestic payment efficiency, the central bank is also sponsoring a centralised KYC register, supporting a public education strategy and maintaining a ledger of all currency held. To avoid disintermediating the banking system, limits will be placed on the amount of digital currency that citizens and businesses can hold, and no interest will be paid.

Eastern Caribbean – a token on a distributed ledger

The Eastern Caribbean Central Bank is the monetary authority for a currency union comprising the island economies of Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Anguilla and Montserrat. The islands have a combined population of around 620,000 people, served by 21 licensed commercial banks, 17 of which are locally incorporated. The Eastern Caribbean dollar is pegged 2.70 to one US dollar.

The central bank is running a pilot of its general purpose, token-based CBDC through 2019 and 2020. The central bank issues, redeems and verifies all tokens through established financial institutions, which provide services directly to wallet-holders and to non-banks, which can also offer wallet services. Tokens are treated as digital cash, and represent a claim on the central bank. The distributed ledger on which tokens are recorded and transferred is permissioned and private, and all parties are identifiable.

Motivations driving the pilot include payment efficiencies, financial inclusion and the promotion of innovation and inclusive business growth. Motivations and design choices are similar to those of the Central Bank of the Bahamas in reducing cash use and its associated costs. Improving KYC and anti-money laundering controls are additional anticipated benefits. As in the Central Bank of the Bahamas project, limits on the amount of non-interest bearing digital currency will be in place, to avoid substituting for savings or deposits.

Design in context

Sweden's and Uruguay's central banks are also currently developing or running similar pilot projects for a general purpose CBDC motivated by complementing cash (Barontini and Holden (2019)). Each of the pilots have similar policy choices and are trialling (or anticipate trialling) non-interest bearing, non-anonymous CBDCs that are available 24/7 with restrictions on the values that can be held and distributed through intermediaries. Yet their technology differs. The Bahamas are opting for an interoperable account-based model, while the Eastern Caribbean is exploring distributed ledger technology, and Sweden and Uruguay are employing different technologies.

References

- Bank of Canada (2018): *Jasper phase 3 – securities settlement using distributed ledger technology*, October.
- Bank of Canada, Monetary Authority of Singapore and Bank of England (2018): *Cross-border interbank payments and settlements: emerging opportunities for digital transformation*, November.
- Bank of Thailand (2019): *Project Inthanon Phase II*, July.
- Barontini, C and H Holden (2019): "Proceeding with caution: a survey on central bank digital currency", *BIS Papers*, no 101, January.
- Bech, M and C Boar (2019): "Shaping the future of payments", *Analysis of the 2018 Red Book Statistics*, November.
- Bech, M and R Garratt (2017): "Central bank cryptocurrencies", *BIS Quarterly Review*, September, pp 55–70.
- Bech, M, U Faruqui, F Ougaard and C Picillo (2018): "Payments are a-changin' – but cash still rules", *BIS Quarterly Review*, March, pp 67–80.
- Bulmer-Thomas, V (2012): *The Economic History of the Caribbean since the Napoleonic Wars*.
- Central Bank of the Bahamas (2019): *Project Sand Dollar: A Bahamian Payments System Modernization Initiative*, December.
- Committee on Payments and Market Infrastructures and Markets Committee (2018): "Central bank digital currencies", *CPMI Papers*, no 174, March.
- Eastern Caribbean Central Bank (2019): *Press release: ECCB to Issue World's First Blockchain-based Digital Currency*, March.
- Financial Stability Board (2019): *FSB work programme for 2020*, December.
- G7 Working Group on Stablecoins (2019): *Investigating the impact of global stablecoins*, October.
- Green, E, (2008): "Some challenges for research in payment systems" in A Haldane, S Millard and V Saporta (eds), *The Future of Payment Systems*, Routledge.
- Kahn, C and W Roberds (2009): "Why pay? An introduction to payments economics", *Journal of Financial Intermediation*, vol 18, no 3, January, pp 1–23.
- Roa, M J (2015): "Financial inclusion in Latin America and the Caribbean: Access, Usage and Quality", *Center for Latin American Monetary Studies (CEMLA) Research Papers*, no 19, April.
- Sveriges Riksbank (2018): *The Riksbank's e-krona project – Report 2*, October.

Annex 1: Central banks participating in the survey

66 central banks participated in the survey from the following jurisdictions:

- | | | |
|----------------------|-----------------|----------------------|
| - Argentina | - Georgia | - Norway |
| - Australia | - Germany | - Paraguay* |
| - Azerbaijan | - Hong Kong SAR | - Russian Federation |
| - Bahamas* | - Hungary | - Saudi Arabia |
| - Bahrain* | - India | - Serbia |
| - Bangladesh | - Indonesia | - Singapore |
| - Belgium | - Iraq | - Slovenia |
| - Brazil | - Israel | - South Africa |
| - Brunei Darussalam* | - Italy | - South Korea |
| - Canada | - Jamaica | - Spain |
| - Cape Verde | - Japan | - Sri Lanka* |
| - Cayman Islands | - Jordan | - Sweden, |
| - China | - Kazakhstan | - Switzerland |
| - Colombia | - Kosovo | - Thailand |
| - Dominican Republic | - Kuwait* | - Tonga |
| - Eastern Caribbean* | - Malaysia | - Tunisia* |
| - Ecuador | - Mongolia* | - Turkey |
| - Egypt | - Montenegro | - United Kingdom |
| - El Salvador | - Morocco | - United States |
| - Eswatini* | - Netherlands | - Uruguay |
| - Euro area (ECB) | - New Zealand | - Vietnam |
| - France | - Nigeria | - Zambia |

* not a participant in the 2018 survey

Annex 2: Survey questions

1. Has your central bank engaged, or will engage, in any kind of research, experiments or development work related to the development and use of CBDC? [*Yes / No*]

2. Is your work related to:

- *wholesale CBDC:*
- *general purpose CBDC*
- *both*

3. What type of work is being, or will be, conducted? Please check all that apply.

- research/ study
- experiments / proof-of-concept
- development / pilot arrangement

4. How important are the following aspects to your motivations in issuing a:

- General purpose CBDC
- Wholesale CBDC

The following aspects were proposed:

- o financial stability
- o monetary policy implementation
- o financial inclusion
- o payments efficiency (domestic)
- o payments efficiency (cross-border)
- o payments safety / robustness
- o others (please specify below)

For each: *very important / important / somewhat important / not so important*

5. How likely is it that your central bank will issue a CBDC in the:

- General purpose CBDC
- Wholesale CBDC

For both, two time horizons were proposed:

- o short term (within the next three years)
- o medium term (four to six years)

For each: *very likely / somewhat likely / possible / somewhat unlikely / very unlikely*

6. Does your central bank have the legal authority to issue a CBDC?

- *Yes / no / uncertain / laws are currently being changed to allow for it*

7. Please provide any other details about CBDC and the thoughts and work in your jurisdiction, including your key motivations.

8. For your jurisdiction, please tick "True" or "False" for the following statements:

- The amount of central bank issued cash in circulation is declining.
- The use of central bank issued cash for payments is declining.
- The public's ability to access central bank issued cash could decline in the medium term (within 6 years), assuming no action is taken by the central bank or public authorities.

- Your central bank has carried out a recent study of public cash use (eg a payments diary).
 - o If "true", please provide a link.

9. In your jurisdiction, how significant do you think consumer use of cryptocurrencies or crypto-assets for payments is?

- For domestic payments
- For cross-border payments

For each: *significant use / wider public use / use by niche groups / trivial or no use / do not know*

10. In your jurisdiction, do you think consumer use of cryptocurrencies or crypto-assets for payments is increasing or decreasing?

- For domestic payments
- For cross-border payments

For each: *increasing / staying the same / decreasing / do not know*

11. In your jurisdiction, are you analysing the potential impact on monetary and financial stability of private digital tokens that are not cryptocurrencies (ie those tokens that have an identifiable issuer or represent a claim and/or underlying assets, sometimes referred to as "stablecoins")? [*Yes / no / don't know*]

Previous volumes in this series

No	Title	Issue date
BIS Papers No 106	The design of digital financial infrastructure: lessons from India	December 2019
BIS Papers No 105	Foreign exchange reserves in Africa: benefits, costs and political economy considerations	October 2019
BIS Papers No 104	Reserve management and FX intervention	October 2019
BIS Papers No 103	Ten years after the Great Financial Crisis: what has changed?	June 2019
BIS Papers No 102	Asia-Pacific fixed income markets: evolving structure, participation and pricing	April 2019
BIS Papers No 101	Proceeding with caution – a survey on central bank digital currency	January 2019
BIS Papers No 100	Globalisation and deglobalisation	December 2018
BIS Papers No 99	Central banks and debt: emerging risks to the effectiveness of monetary policy in Africa?	October 2018
BIS Papers No 98	Low for long or turning point?	July 2018
BIS Papers No 97	Financial spillovers, spillbacks, and the scope for international macroprudential policy coordination	April 2018
BIS Papers No 96	The price, real and financial effects of exchange rates	March 2018
BIS Papers No 95	Frontiers of macrofinancial linkages	January 2018
BIS Papers No 94	Macroprudential frameworks, implementation and relationship with other policies	December 2017
BIS Papers No 93	Building Resilience to Global Risks: Challenges for African Central Banks	August 2017
BIS Papers No 92	Long-term issues for central banks	August 2017
BIS Papers No 91	Financial systems and the real economy	March 2017
BIS Papers No 90	Foreign exchange liquidity in the Americas	March 2017
BIS Papers No 89	Inflation mechanisms, expectations and monetary policy	November 2016

All volumes are available on the BIS website (www.bis.org).