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# Making headway – Results of the 2022 BIS survey on central bank digital currencies and crypto

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# Making headway – Results of the 2022 BIS survey on central bank digital currencies and crypto<sup>1</sup>

*Over the course of 2022, the share of central banks engaged in some form of central bank digital currency (CBDC) work rose further, to 93%, and their uncertainty about short-term CBDC issuance is fading. Work on retail CBDC is more advanced than on wholesale CBDC: almost a quarter of central banks are piloting a retail CBDC. More than 80% of central banks see potential value in having both a retail CBDC and a fast payment system, mostly because a retail CBDC has specific properties and may offer additional features. The survey suggests that there could be 15 retail and nine wholesale CBDCs publicly circulating in 2030. More than nine out of 10 central banks engage with other stakeholders when designing proofs of concept, pilots or live CBDCs. The degree of that engagement and the type of entities involved differ between emerging market and developing economies (EMDEs) and advanced economies (AEs). They also differ by type of CBDC and the stage of work. The survey further shows that, to date, stablecoins and other cryptoassets are rarely used for payments outside the crypto ecosystem. Some 60% of surveyed central banks reported that they have stepped up their CBDC work in response to the emergence of cryptoassets.*

## Introduction

This paper presents the results of a survey of 86 central banks conducted in late 2022 about their involvement in CBDC work, as well as their motivations and intentions of potentially issuing one. The survey also asked about central banks' assessment of the use of stablecoins and other cryptoassets in their jurisdictions.

Over the course of 2022, work on CBDCs progressed further. There are currently four central banks that have issued a live retail CBDC: The Bahamas, the Eastern Caribbean, Jamaica and Nigeria.<sup>2</sup> Although no new retail CBDCs were launched in 2022, there are probably more to come: 18% of central banks indicated in the survey that they are likely to issue a retail CBDC in the near term. Various central banks published results of their CBDC experiments, including Sveriges Riksbank, the Federal Reserve Bank of New York, and the Reserve Bank of Australia, Central Bank of Malaysia, the Monetary Authority of Singapore and the South African Reserve Bank, in collaboration with the BIS Innovation Hub.<sup>3</sup> Moreover, in recent months, the Central Reserve Bank of Peru, the Hong Kong Monetary Authority, the Bank of England, the European Central Bank (ECB) and the Bank of Canada launched consultations or

<sup>1</sup> We thank Stijn Claessens, Jon Frost, Tirupam Goel and Tara Rice for their valuable comments and Anamaria Illes for excellent research assistance. The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS.

<sup>2</sup> Based on the updated data set on CBDC projects, speeches and search interest, as of 13 January 2023, from Auer et al (2020). For the latest status of CBDC projects, see CBDC tracker at [cbdctracker.org/](https://cbdctracker.org/) from Mikhalev et al (2021) and the CBDC Tracker from the Atlantic Council at [www.atlanticcouncil.org/cbdctracker/](https://www.atlanticcouncil.org/cbdctracker/).

<sup>3</sup> See Sveriges Riksbank (2022), Federal Reserve Bank of New York (2022) and the BISIH et al (2022).

published progress reports detailing various aspects of potential digital versions of their local currencies.<sup>4</sup>

In 2022 and early 2023, crypto markets were turbulent. In early May 2022, the crypto ecosystem was roiled by the failure of various cryptoasset providers, including TerraUSD, Terra's (unbacked) stablecoin, which was the third largest stablecoin at the time. The turmoil continued, and November saw the collapse of FTX, one of the largest crypto trading platforms. Nearly 60% of respondent central banks said that the emergence of cryptoassets and stablecoins has accelerated their work on CBDCs. Central banks and international standard-setting bodies have stepped up monitoring the implications of cryptoassets and are engaged in extensive international policy and standard-setting work to strengthen regulatory approaches to cryptoassets. In July 2022, the Bank for International Settlements' Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) published guidance on the application of the principles for financial market infrastructures (PFMIs) to stablecoins that are widely used for payments.<sup>5</sup> In October 2022, the Financial Stability Board (FSB) published a proposed framework for the international regulation of cryptoasset activities, and in December, the Basel Committee on Banking Supervision (BCBS) issued a prudential standard for the treatment of banks' exposures to cryptoassets.<sup>6</sup>

## What are central bank digital currencies?

A CBDC is a digital payment instrument, denominated in the national unit of account, which is a direct liability of the central bank.<sup>7</sup> If the CBDC is intended for use by households and firms for everyday transactions, it is referred to as a "general purpose" or "retail" CBDC.<sup>8</sup> A retail CBDC differs from existing forms of cashless payment instruments (ie credit transfers, direct debits, card payments and e-money), as it represents a direct claim on a central bank rather than the liability of a private financial institution.

In contrast to a retail CBDC, a wholesale CBDC targets a different group of end users. Wholesale CBDCs are meant for use for transactions between banks, central banks and other financial institutions. So wholesale CBDCs would serve a similar role as today's reserves or settlement balances held at central banks. However, wholesale CBDCs could allow financial institutions to access new functionalities enabled by tokenisation, such as composability and programmability.<sup>9</sup>

<sup>4</sup> For more details, see HKMA (2022), BoE (2023), ECB (2023), CRBP (2023) and the consultation on [www.bankofcanada.ca/digitaldollar/](http://www.bankofcanada.ca/digitaldollar/).

<sup>5</sup> For more details, see CPMI-IOSCO (2022).

<sup>6</sup> For more details on the FSB's proposed framework for the international regulation of cryptoasset activities and the new BCBS prudential standards, see [FSB proposes framework for the international regulation of crypto-asset activities – Financial Stability Board](#) and BCBS (2022), respectively.

<sup>7</sup> See BIS (2021).

<sup>8</sup> Throughout the paper, the terms "general purpose" and "retail" are used interchangeably.

<sup>9</sup> See BIS (2023).

## What are cryptoassets and stablecoins?

Cryptoassets were defined in this survey as a type of private sector-issued digital asset that depends primarily on cryptography and distributed ledger or similar technology.<sup>10</sup> In contrast to CBDCs, cryptoassets do not represent a claim on a central bank.

Stablecoins such as Tether and USD Coin are cryptoassets that aim to maintain a stable value by tying their value to a specified asset, or a pool or basket of assets.<sup>11</sup> At the end of 2022, with a market capitalisation of less than \$140 billion, stablecoins constituted a relatively small proportion of the overall sector, accounting for just over 15% of the value of all cryptoassets (Glowka et al (forthcoming)). Since they aim to maintain a stable value, stablecoins may have a higher potential than other, unbacked, cryptoassets to be used for payments or to store value when properly designed and regulated. Therefore, they have attracted considerable attention from central banks, regulatory authorities and international standard setters.

## Key features of the 2022 survey

### Questions

This survey on CBDCs and crypto was carried out in late 2022<sup>12</sup> – for the sixth consecutive year.<sup>13</sup> Most of the previous years' questions remained unchanged to ensure consistency.<sup>14</sup> The survey asked central banks whether they were working on a retail, wholesale or both types of CBDC, and if so, how advanced the work was. Motivations and current expectations for potentially issuing these two types of CBDC were queried again, as well as whether central banks have the legal authority to issue a CBDC. A few new questions were added to learn more about central banks' collaboration with and involvement of other entities and the differences between retail CBDCs and fast payment systems.

As in previous editions, the 2022 survey included questions about cryptoassets and stablecoins and their current use for payments other than in decentralised finance (DeFi) and crypto trading. In particular, central banks were asked about the use of cryptoassets for specific payment purposes, ranging from domestic wholesale payments to cross-border payments by consumers. The survey also gave respondents the opportunity to add clarifying comments. All questions are listed in Annex B.

<sup>10</sup> This definition is used by the FSB (FSB (2020)).

<sup>11</sup> This definition is used by the FSB (FSB (2020)).

<sup>12</sup> The survey was distributed in October 2022 and all responses were received by the end of December 2022.

<sup>13</sup> The first survey informed a CPMI and Markets Committee report on CBDCs published in March 2018, and the second, third, fourth and fifth surveys were published as BIS papers in 2019, 2020, 2021 and 2022, respectively (see CPMI-MC (2018), Barontini and Holden (2019), Boar et al (2020), Boar and Wehrli (2021), and Kosse and Mattei (2022)).

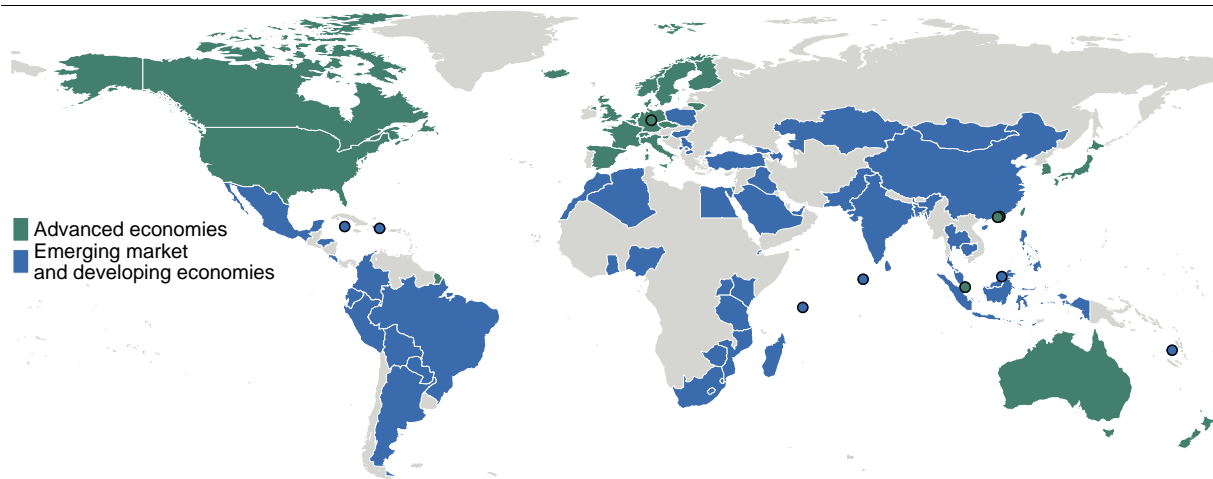
<sup>14</sup> Compared with previous publications, there are minor changes in the historical data due to revised calculations.

## Sample and geographical coverage

In 2022, a record 86 central banks replied to the survey (Annex A).<sup>15</sup> The jurisdictions of the responding central banks represent 82% of the world's population and 94% of global economic output. Twenty-eight respondents are in AEs and 58 are in EMDEs (Graph 1). Sixty-seven of these respondents had taken part in the 2021 survey and 38 have now replied for the fifth time, allowing us to assess how views on and the status of CBDC involvement have changed over time.

### Respondents to the survey

Graph 1



The black circles represent Brunei, the Cayman Islands, the Dominican Republic, the European Central Bank, Fiji, Hong Kong SAR, Macao SAR, the Maldives, Seychelles and Singapore. The categorisation of jurisdictions into advanced economies (AEs) and emerging market and developing economies (EMDEs) is based on the World Economic Outlook (WEO) classification of the International Monetary Fund (IMF).

The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area.

Source: 2022 BIS central bank survey on CBDCs and crypto.

## CBDC experiments and pilots are well under way

Over the course of 2022, the share of central banks engaged in some form of CBDC work rose to 93% (Graph 2.A). As in 2021, these central banks either focus on retail CBDC only or are involved in both retail and wholesale CBDC work (Graph 2.B).

Importantly, central banks' CBDC work has made further progress.<sup>16</sup> More than half of central banks are conducting concrete experiments or working on a CBDC pilot (Graph 2.C). Multiple central banks completed retail or wholesale CBDC experiments in 2022. Sveriges Riksbank, for example, tested the technical solution for a potential

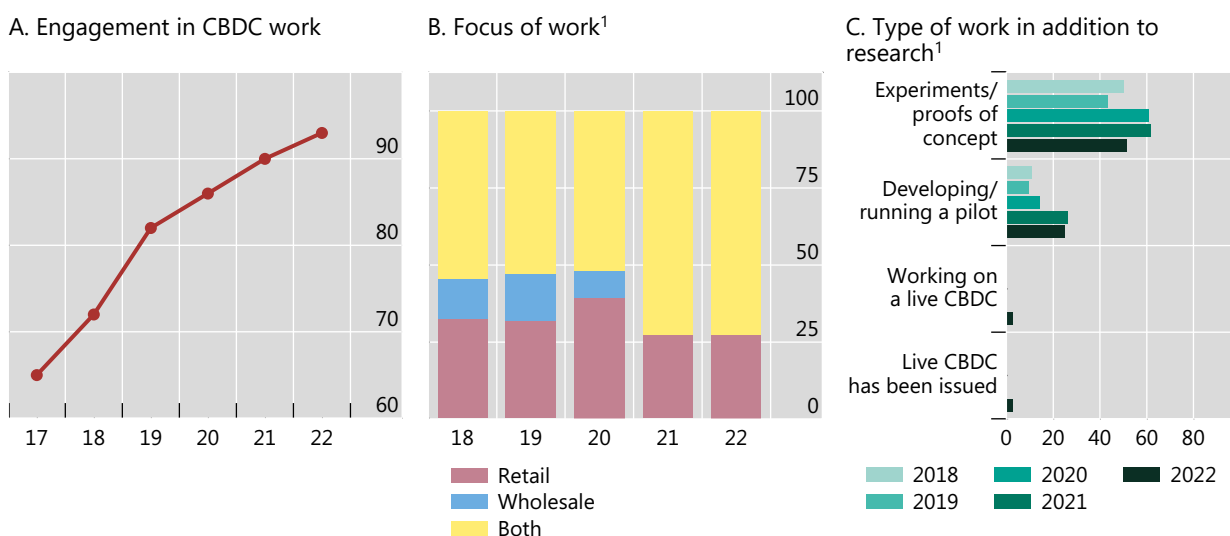
<sup>15</sup> The number of central banks replying to the survey in previous years was 81 (2021), 65 (2020), 66 (2019), 63 (2018) and 52 (2017).

<sup>16</sup> The survey distinguished between the following stages: "Research/study" (exploratory work, eg to explore use cases, impact and feasibility, without any technical development), "Experiments/proofs of concept" (early testing of one or a small number of selected aspects of the CBDC in a controlled and internal environment), "Developing or running a pilot" (developing or testing a prototype in the real world among a restricted number of external participants), and "Live" (CBDC issued for widespread use).

## Central bank involvement in CBDC work advances further

As a percentage of respondents

Graph 2



<sup>1</sup> Share of respondents conducting work on CBDCs.

Sources: BIS central bank surveys on CBDCs and crypto, 2017–22.

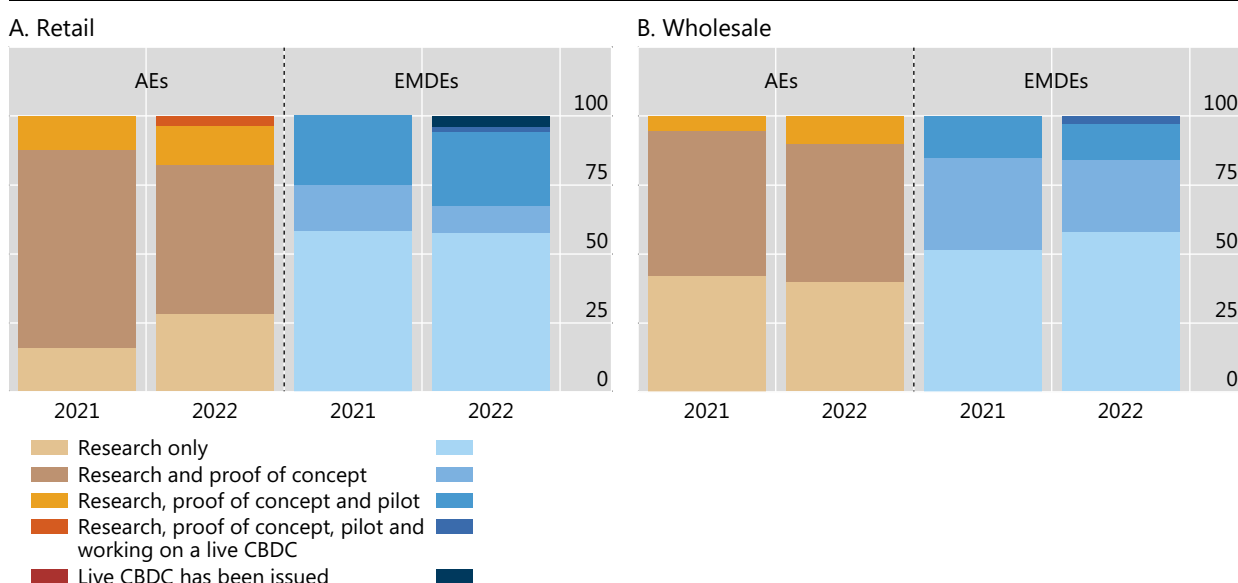
e-krona and the Federal Reserve Bank of New York published research demonstrating how a wholesale central bank digital currency could significantly speed up cross-border transactions.<sup>17</sup>

The work on retail CBDCs is most advanced: almost a quarter of central banks are piloting a retail CBDC, ie twice the share of central banks building or running a

## Type of CBDC work by country group

As a percentage of respondents conducting work on CBDCs

Graph 3



Sources: BIS central bank surveys on CBDCs and crypto, 2021–22.

<sup>17</sup> See Sveriges Riksbank (2022) and Federal Reserve Bank of New York (2022).

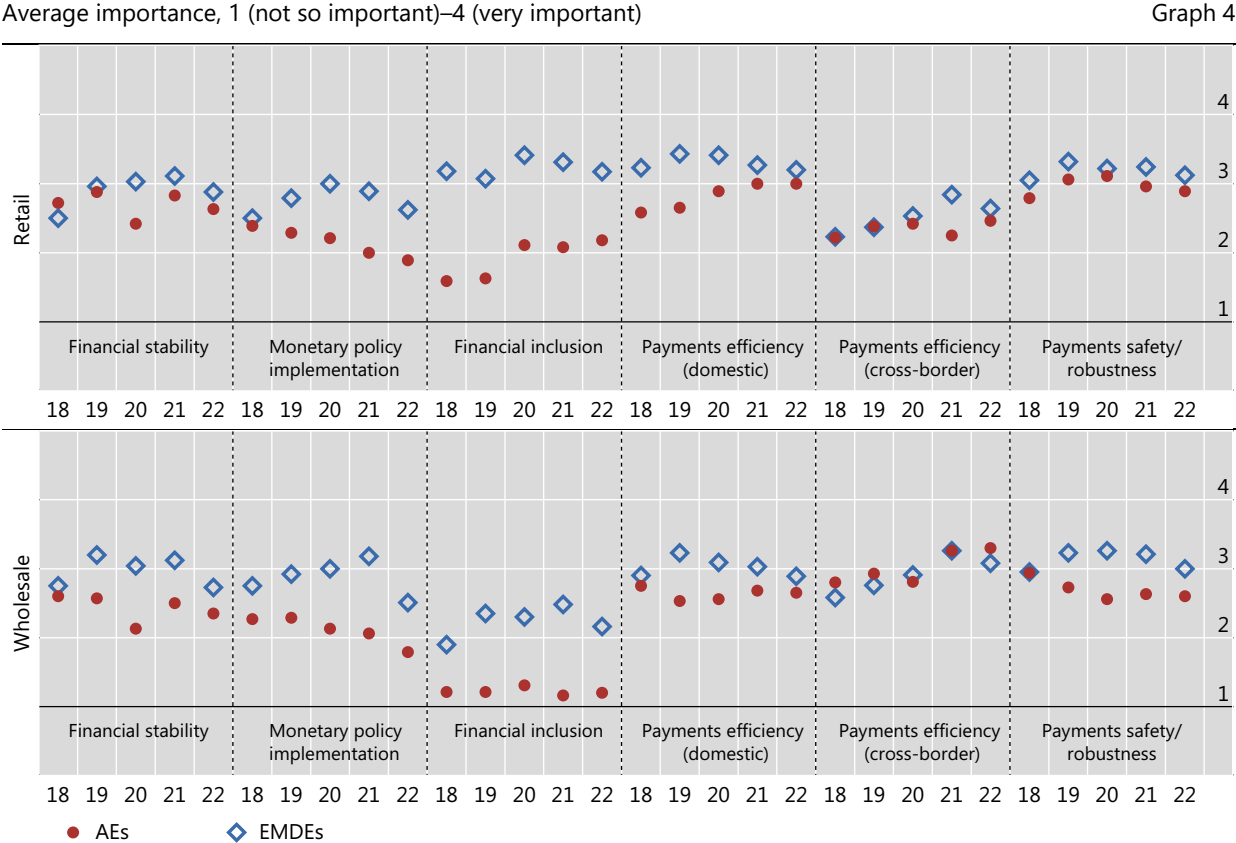
wholesale CBDC pilot. Moreover, there are more retail CBDCs live or in the making than wholesale CBDCs: two of the responding central banks are working on a live retail CBDC and another two have already issued one, while one is working on a live wholesale CBDC.

The results also indicate that EMDEs are more advanced in their CBDC work than AEs: all the current live CBDCs are issued in EMDE jurisdictions. Moreover, the share of EMDE central banks piloting a retail (29%) and wholesale (16%) CBDC is almost twice as high as in AEs (18% and 10%, respectively) (Graph 3).

**Retail CBDCs to improve financial inclusion and payments efficiency**

The motives of AE and EMDE central banks for considering the issuance of a retail CBDC are converging (Graph 4, top panel). Over the years, domestic payments efficiency and payments safety have become nearly equally important as motivations in both AEs and EMDEs. AE and EMDE central banks also attach about the same weight to the financial stability and cross-border payments efficiency reasons.<sup>18</sup>

Motivations for issuing a retail and wholesale CBDC



Sources: BIS central bank surveys on CBDCs and crypto, 2018–22.

<sup>18</sup> This trend is also visible when only looking at the subsample of respondents who participated in all previous years.



Yet, there are two key differences between AEs and EMDEs: the retail CBDC work in EMDEs is more often driven by financial inclusion-related motivations,<sup>19</sup> and compared with AEs, EMDEs assign a higher weight to monetary policy implementation as a reason to explore or develop a CBDC. Note, however, that the difference between AEs and EMDEs regarding their monetary policy-related motivation has become smaller since 2021.

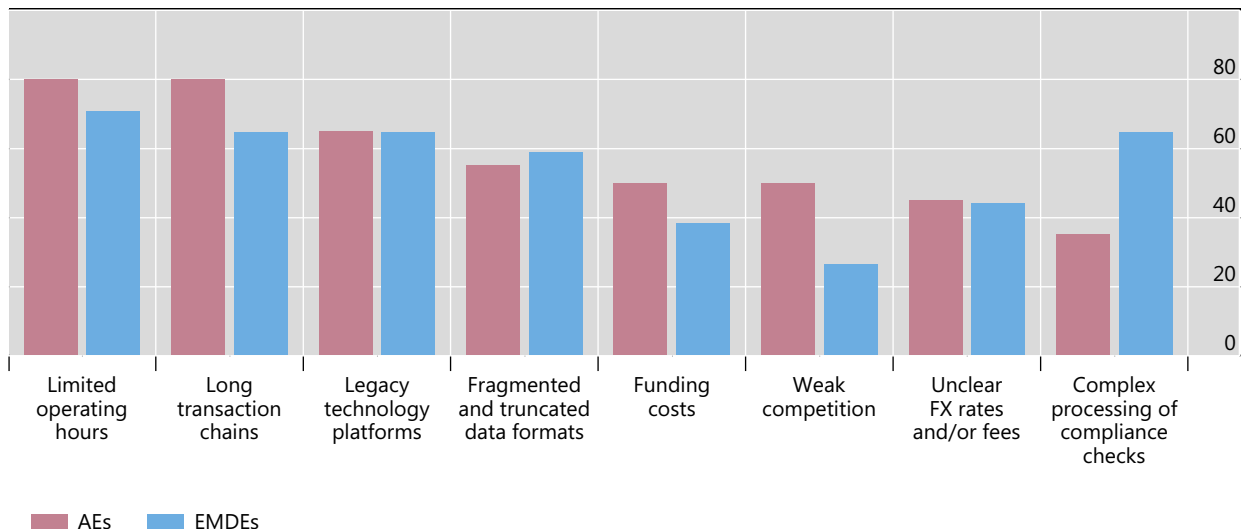
### Wholesale CBDCs to enhance cross-border payments

As in previous years, central banks' engagement in wholesale CBDC work is driven by different motivations from those that apply to their retail CBDC work (Graph 4, bottom panel). Contrary to retail CBDCs, financial inclusion is the least important driver for central banks' work on wholesale CBDCs. Instead, work on wholesale CBDC is driven mainly by the desire to enhance cross-border payments, both in AEs and in EMDEs.<sup>20</sup> One example of a cross-border wholesale CBDC project is Project Dunbar, the results of which were published in 2022. This joint project by the Reserve Bank of Australia, the Central Bank of Malaysia, the Monetary Authority of Singapore, the South African Reserve Bank and the BIS Innovation Hub explored how a common platform for multi-CBDCs could enable cheaper, faster and safer cross-border payments.<sup>21</sup>

#### Cross-border frictions that a wholesale CBDC could address

As a percentage of respondents conducting work on CBDCs, 2022<sup>1</sup>

Graph 5



<sup>1</sup> The sample includes jurisdictions that consider efficiency in cross-border payments as a somewhat important, important, and very important driver of their CBDC engagement.

Source: 2022 BIS central bank survey on CBDCs and crypto.

Among the key pain points that central banks consider could be alleviated with a wholesale CBDC are the limited operating hours of current payment systems, the

<sup>19</sup> See Auer et al (2022) and ADB (2023) for a discussion of how CBDCs can play a role in financial inclusion.

<sup>20</sup> These conclusions also hold when looking only at the subsample of respondents that participated in all previous years.

<sup>21</sup> For further information, see BISIH et al (2022).

length of existing transaction chains, and the complex processing of compliance checks (Graph 5). Indeed, if CBDC infrastructures were to be made available 24/7, this would address mismatches of operating hours between jurisdictions.<sup>22</sup> Also, depending on its design and the access policy of the issuing central bank, a wholesale CBDC is seen as capable of reducing the number of intermediaries, thus shortening transaction chains, and enhancing efficiency of payment processing and compliance protocols.<sup>23</sup> Interestingly, the complexity of compliance checks as a friction that could be addressed by a wholesale CBDC is particularly mentioned by EMDEs but less so by AEs.

### CBDCs and fast payment systems are mostly seen as complements

Over the last two decades, fast payment systems (FPS) have spread around the world.<sup>24</sup> More than 70% of jurisdictions covered in the survey have an FPS and 18% plan to launch one. The current availability of FPS is higher in AEs (84%) than in EMDEs (70%), but EMDEs are more likely to have plans to launch one (Graph 6.A).

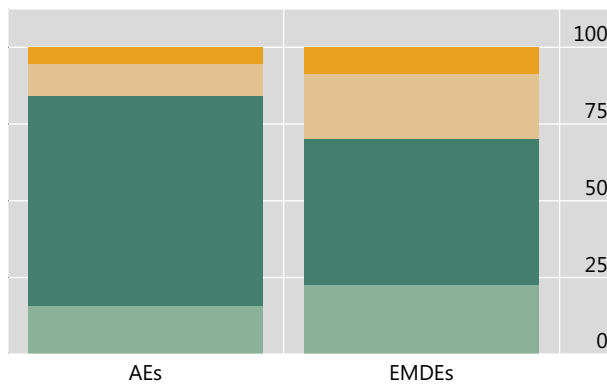
Owned and operated by central banks, private sector entities or a combination of these, FPS process small-value account-based transactions such that the funds are

### Most central banks see value in having both a retail CBDC and a fast payment system (FPS)<sup>1</sup>

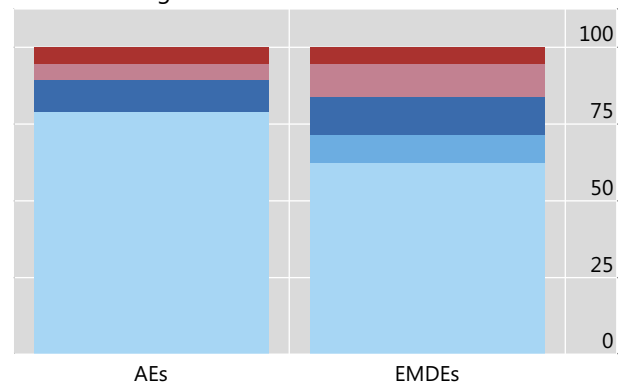
As a percentage of respondents, 2022

Graph 6

A. Applicable statements



B. Central banks' assessment of whether there may be value in having both an FPS and a retail CBDC<sup>2</sup>



The jurisdiction has an FPS and is:  
■ not (yet) planning to add more features  
■ planning to add more features  
The jurisdiction does not have an FPS:  
■ but is planning to launch one  
■ and is not planning to launch one

There is value in having both, because:  
■ a retail CBDC may offer unique features  
■ an FPS may offer unique features  
■ of other reasons  
There is no value in having both, because:  
■ they could provide (broadly) similar features  
■ of other reasons

<sup>1</sup> Euro area included as an aggregate figure. See Annex B for the exact wording of the question and answer options. <sup>2</sup> Central banks were asked to answer the question regardless of the design of the existing or planned CBDC and/or FPS (if any).

Source: 2022 BIS central bank survey on CBDCs and crypto.

<sup>22</sup> See CPMI (2022) for a discussion on extending operating hours to enhance cross-border payments.

<sup>23</sup> See CPMI et al (2022) for a discussion on and implications of the options for access to and interoperability of CBDCs for cross-border payments.

<sup>24</sup> See CPMI (2021) for a discussion of developments in retail fast payments.

made available to the payee in real or near real time and on a 24/7 basis (or close to it). In addition to providing users with high speeds and 24/7 availability, FPS can provide value-added services, such as request-to-pay functionalities or the possibility to initiate payments using a mobile number or an e-mail address, so-called proxy identifiers or aliases, instead of a bank account number.<sup>25</sup> Seven out of 10 jurisdictions that already have an FPS plan to upgrade it with additional functionalities (Graph 6.A).

Depending on their design, FPS and retail CBDCs can achieve similar objectives, such as enhancing financial inclusion and promoting faster and more efficient domestic and cross-border payments. In addition, they both enable broader innovation and enhanced competition, which can increase the availability and accessibility of cheaper payment products and services. More diversity and competition can also lead to a more resilient payments ecosystem. Yet, FPS and CBDCs are fundamentally different in that CBDCs are central bank money, while FPS involve commercial bank money.

More than 80% of central banks think that, in principle, there may be value in having both an FPS and a CBDC (Graph 6.B). This is mainly because they believe that a CBDC has specific properties and may offer additional features, such as being a riskless form of digital money and allowing access to a wider set of financial institutions and the unbanked population. Also, programmability and offline payments were mentioned as features that an FPS may not provide. About 9% of central banks that see value in having both an FPS and a retail CBDC believe that this could benefit the efficiency and resilience of the payments market. Depending on the design of each, several central banks believe that an FPS could also complement a CBDC, for example when targeting different use cases or offering additional services.

### More live CBDCs to be expected in the foreseeable future

The share of central banks that are likely to issue a retail CBDC within the next three years grew from 15% last year to 18% (Graph 7.A). At the same time, slightly more central banks indicated that they would be unlikely to issue a retail CBDC any time soon (68% compared with 64% last year). This is also observed when looking at the subsample of 67 central banks that participated in both 2021 and 2022. It suggests that central banks are becoming more definitive about their short-term CBDC plans (reflected by the decline of “possible”).<sup>26</sup> As in previous years, the likelihood of issuing a retail CBDC is generally higher for EMDE central banks than for AE central banks.

The likelihood of issuing a wholesale CBDC in the short term also increased compared with last year: 16% of central banks consider it likely that they will have a wholesale CBDC within the next three years, ie twice as much as last year’s 8%. Moreover, 58% are likely or possible to issue one in the medium term (up from 54% last year) (Graph 7.B).<sup>27</sup> The likelihood of issuing a wholesale CBDC is also generally larger in EMDEs than in AEs.

<sup>25</sup> For more information about the use of proxy identifiers or aliases, see World Bank (2021).

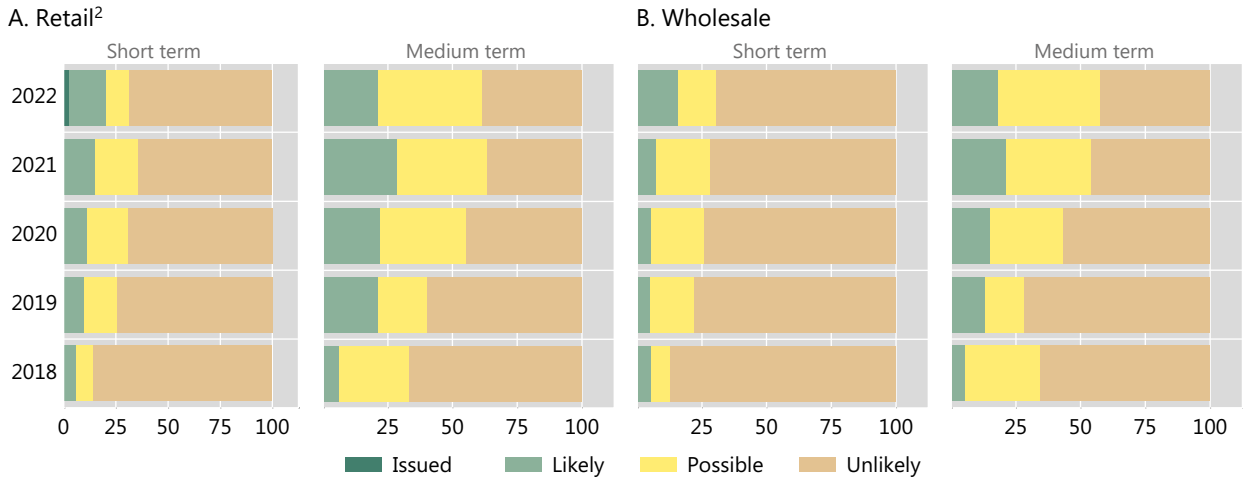
<sup>26</sup> Note that the drop in the likelihood of medium-term issuance of a retail CBDC from 29% to 21% is driven by changes in the sample composition, as this is not observed when considering only those central banks that also participated in 2021.

<sup>27</sup> The conclusion regarding short-term issuance also holds when looking only at the subsample of 67 central banks that participated both in 2021 and 2022. The drop in the likelihood of medium-term issuance is driven by changes in the sample composition: the medium-term likelihood of issuing a wholesale CBDC among those central banks that also participated in 2021 increased from 20% to 22%.

## Likelihood of issuing a CBDC in the foreseeable future<sup>1</sup>

As a percentage of respondents

Graph 7



<sup>1</sup> Short term: 1–3 years; Medium term: 1–6 years. “Likely” combines “very likely” and “somewhat likely”. “Unlikely” combines “very unlikely” and “somewhat unlikely”. <sup>2</sup> Euro area included as an aggregate figure.

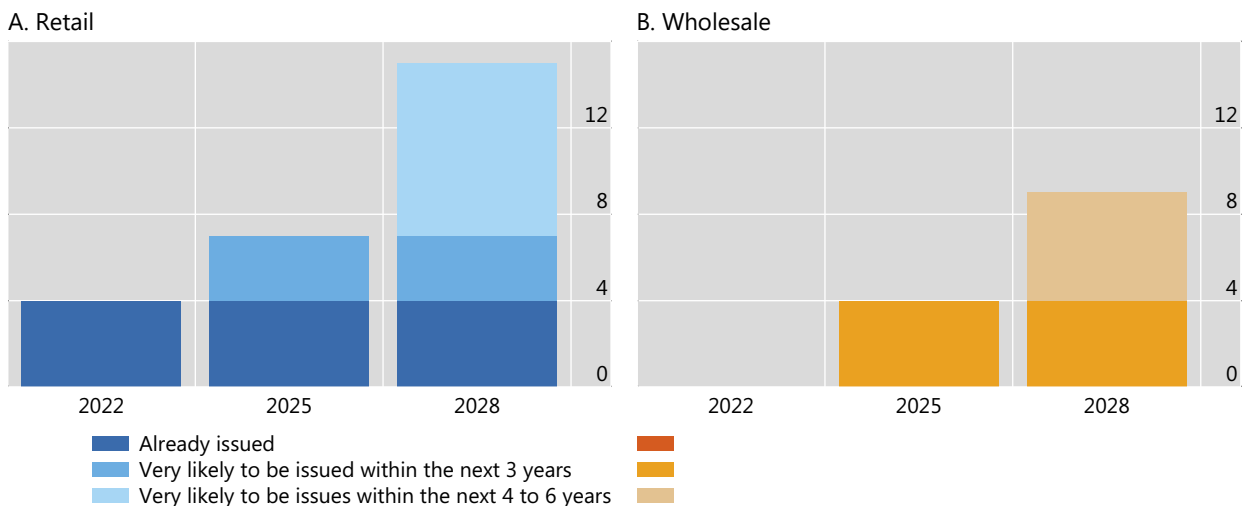
Sources: BIS central bank surveys on CBDCs and crypto, 2018–22.

There are currently four live retail CBDCs in the world – in The Bahamas, the Eastern Caribbean, Jamaica and Nigeria.<sup>28</sup> Based on the number of central banks that indicated that they would be very likely to issue a CBDC over the next few years, it may be that there will be 15 retail and nine wholesale CBDCs publicly circulating towards the end of this decade (Graph 8).

## The number of live CBDCs may grow in the next few years<sup>1</sup>

Count

Graph 8



<sup>1</sup> The number of CBDCs already issued is based on Auer et al (2020). The estimated number of CBDCs in 2025 and 2028 is determined based on the number of central banks indicating that the issuance of a retail or wholesale CBDC was very likely.

Sources: Auer et al (2020); 2022 BIS central bank survey on CBDCs and crypto.

<sup>28</sup> Based on updated data set on CBDC projects, speeches and search interest, as of 13 January 2023, from Auer et al (2020). For the latest status of CBDC projects, see CBDC tracker at [cbdctracker.org/](https://cbdctracker.org/) from Mikhalev et al (2021) and the CBDC Tracker from the Atlantic Council at [www.atlanticcouncil.org/cbdctracker/](https://www.atlanticcouncil.org/cbdctracker/).

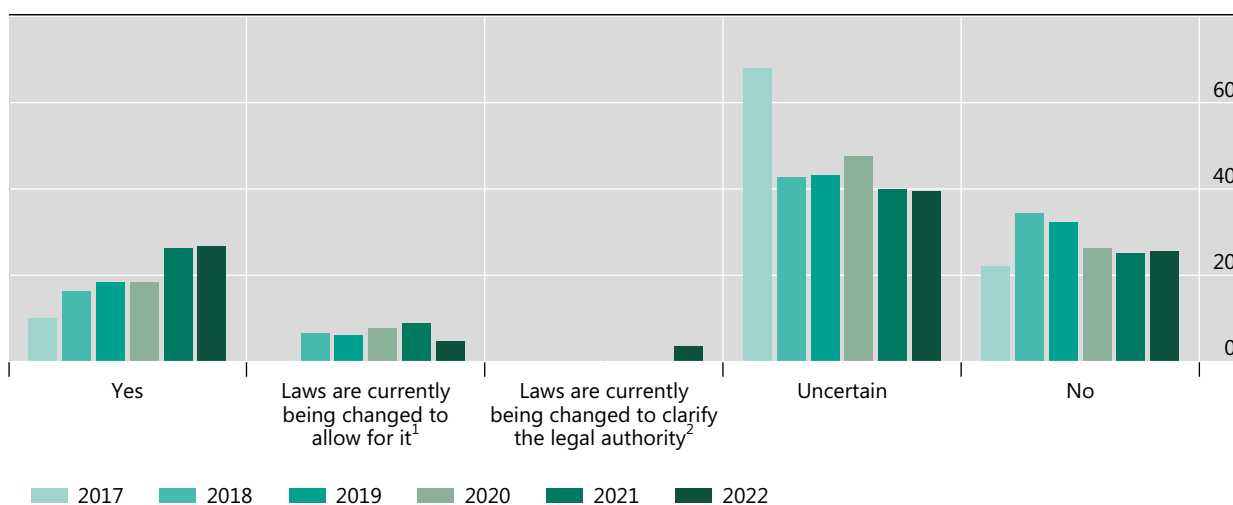
## Uncertainty about the legal basis for issuing a CBDC

The issuance of a CBDC requires a legal framework that provides central banks with the authority to do so. Compared with last year, the share of central banks with such a legal authority slightly increased from 26% to 27% (Graph 9). In addition, about 8% of jurisdictions are currently changing their laws or to clarify the legal authority to allow for it. For example, the European Commission plans to propose a regulation to establish a digital euro in the second quarter of 2023 (ECB (2023)). Still, a quarter of central banks lack the required legal foundation and about 40% are unsure.

### Legal authority of central banks to issue a CBDC

As a percentage of respondents

Graph 9



<sup>1</sup> This answer option was introduced in 2018. <sup>2</sup> This answer option was introduced in 2022.

Sources: BIS central bank surveys on CBDCs and crypto, 2017–22.

## A rising number of central banks consider distributing a potential retail CBDC via the private sector

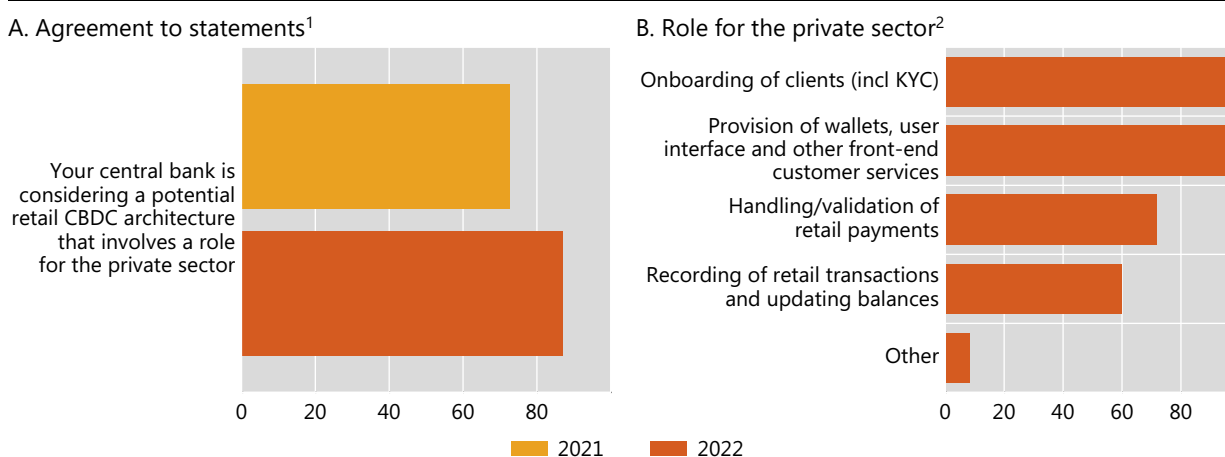
Most central banks are considering a retail CBDC architecture that involves the private sector. As discussed in Auer and Boehme (2020), central banks can distribute a CBDC to the public either via private sector intermediaries or directly. The survey shows that 87% of central banks engaged in some form of CBDC work are considering using private intermediaries (Graph 10.A). For example, the Bank of England, the ECB and the Reserve Bank of India recently proposed that a potential digital pound, euro and rupee could be distributed via the private sector.<sup>29</sup> Where most central banks see a role for the private sector is in the onboarding of clients, including the execution of know-your-customer (KYC) and anti-money laundering/combating the financing of terrorism (AML/CFT) procedures, and the provision of wallets, user interfaces and other front-end customer services. About 60% of central banks also think that the recording of retail transactions and updating retail balances could be left to the private sector (Graph 10.B).

<sup>29</sup> For more details, see BoE (2023), ECB (2023) and RBI (2022).

## A growing number of central banks are considering a public-private partnership for a potential retail CBDC

As a percentage of respondents

Graph 10



<sup>1</sup> The panel shows the share of respondents who agreed to the statement after removing those for whom the statement was not applicable. <sup>2</sup> The question could be answered only by central banks that are considering a potential retail CBDC architecture which involves a role for the private sector.

Sources: BIS central bank surveys on CBDCs and crypto, 2021–22.

## Central banks involve various stakeholders to inform design choices

The implications and adoption of a potential CBDC depends strongly on its specific properties, for example in terms of technology used and the type of use case it would support. Nearly 93% of central banks that are developing or running a proof of concept, pilot or live CBDC are or have been collaborating or have a dialogue with other stakeholders to inform design choices. The engagement of stakeholders is generally larger in AEs than in EMDEs and more common for retail CBDC than for wholesale CBDC (Graph 11).

The kind of entities with which central banks are collaborating varies with the type of CBDC. For retail CBDCs, central banks are engaging or working mainly with their governments and/or other public authorities, external technology providers and other private sector entities, such as commercial banks (Graph 11, top panel). The Hong Kong Monetary Authority, for example, recently announced that a CBDC Expert Group would be established to facilitate collaboration between the government, industry and academia on CBDC research.<sup>30</sup> To date, around one out of five AE central banks and one out of 10 EMDE central banks involve end users in their retail CBDC work. Examples include the public consultations by the Bank of Canada, the Bank of England and the Central Reserve Bank of Peru, and the focus group study conducted by the ECB.<sup>31</sup>

A notable finding is that central banks less often involve public authorities in their wholesale CBDC work than in their retail CBDC work (Graph 11, bottom panel). Also,

<sup>30</sup> For more information, see [www.hkma.gov.hk/eng/news-and-media/press-releases/2023/05/20230518-4/](https://www.hkma.gov.hk/eng/news-and-media/press-releases/2023/05/20230518-4/).

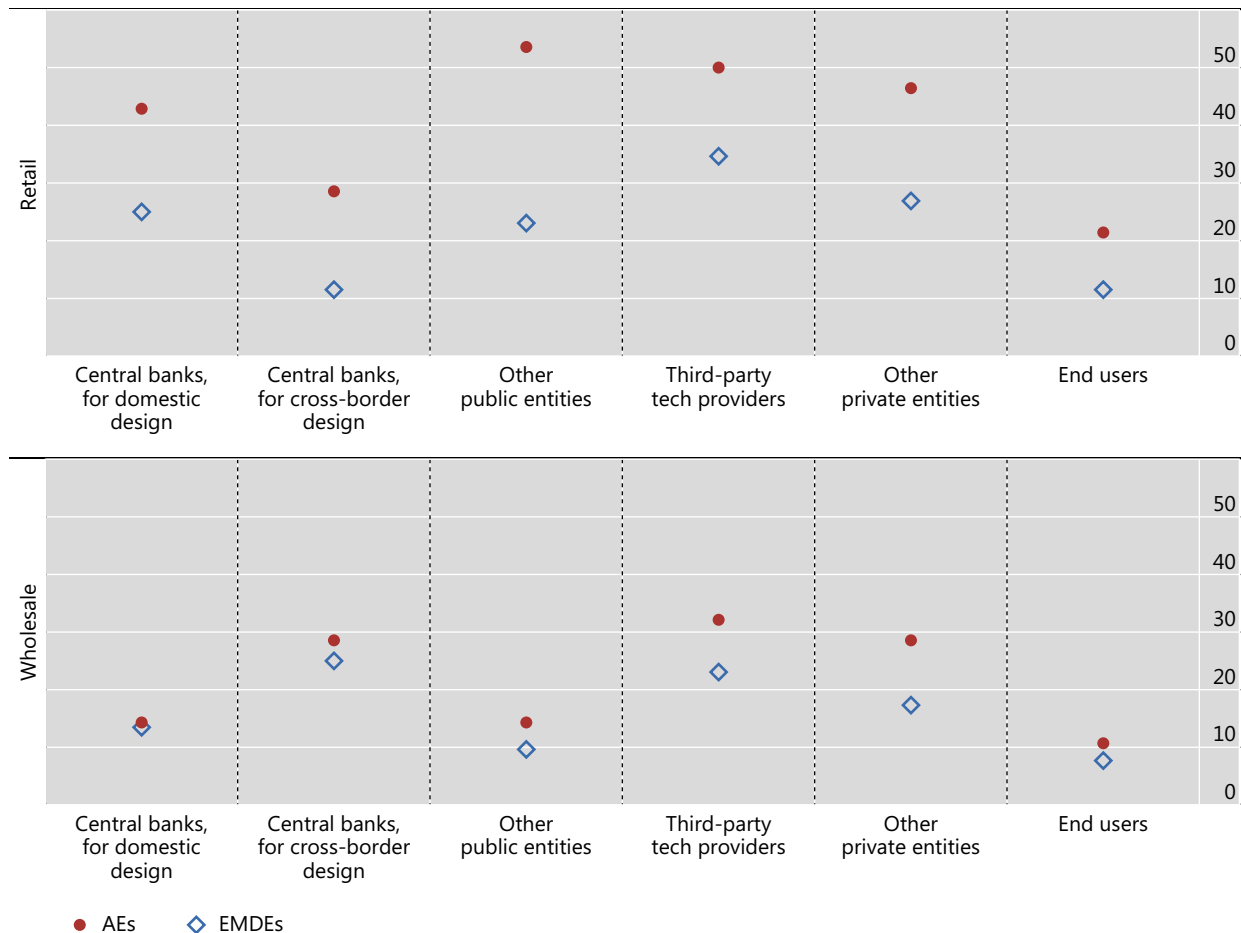
<sup>31</sup> For more information, see BoE (2023), ECB (2023), CRBP (2023) and the consultation at [www.bankofcanada.ca/digitaldollar/](https://www.bankofcanada.ca/digitaldollar/).

for wholesale CBDCs, cooperation and dialogues with other central banks more often concern cross-border than domestic design choices. The degree and type of engagement also differ according to the stage of the CBDC work. Most central banks start their stakeholder outreach, and in particular the involvement of the private sector, only when moving from the research to the proof-of-concept stage.

### Entities involved by central banks to inform CBDC design choices<sup>1</sup>

As a percentage of respondents, 2022

Graph 11



<sup>1</sup> See Annex B for the exact wording of the question and answer options.

Source: 2022 BIS central bank survey on CBDCs and crypto.

## Crypto developments have intensified CBDC work, regulatory efforts and research

The year 2022 and the beginning of 2023 were characterised by strong turbulence in the crypto market. In the first half of May 2022, the crypto ecosystem was shaken up by the failure of various cryptoassets, including that of TerraUSD, Terra's (unbacked) stablecoin, the third largest stablecoin at the time. A few months later, in November, the centralised crypto exchange FTX collapsed and in March 2023 Silvergate Bank, Signature Bank and Silicon Valley Bank, which served many crypto service providers, filed for bankruptcy. Although these developments had no discernible impact on traditional financial markets, they did lead to sell-offs in multiple cryptoassets. Between April 2022 and end of March 2023, total crypto market capitalisation shrunk

by 46% to \$1.2 trillion (from its peak value of more than \$3 trillion in November 2021). In addition, the turmoil brought the growth of the stablecoin market to a halt and almost completely eradicated unbacked stablecoins.<sup>32</sup>

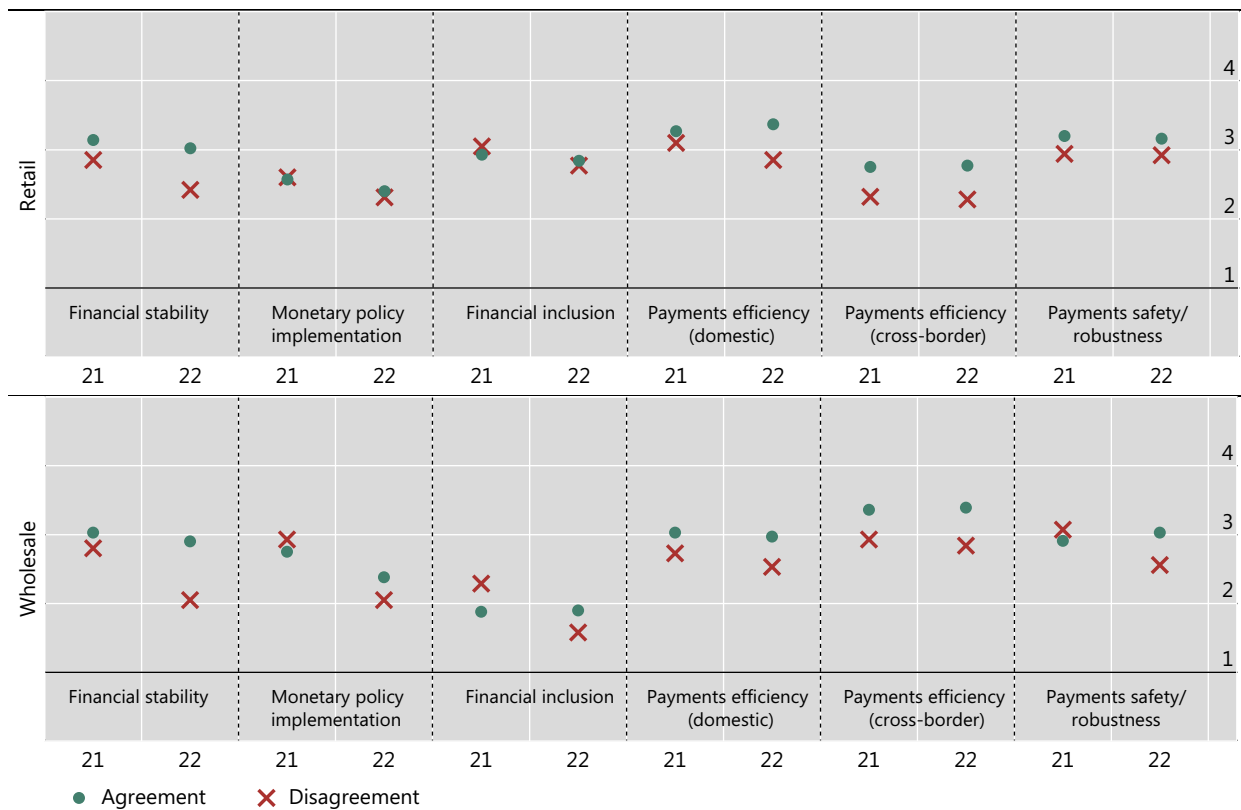
If widely used for payments, cryptoassets including stablecoins may constitute a threat to financial stability.<sup>33</sup> To strengthen and coordinate regulatory approaches to contain their risks to the financial system, the CPMI, IOSCO, FSB and BCBS published updated or new guidance and standards for stablecoins or crypto activities and markets more broadly.<sup>34</sup> In addition, 60% of central banks said that the emergence of stablecoins and other cryptoassets has accelerated their work on CBDCs. These central banks generally attach more weight to a broader set of motivations for issuing a CBDC (Graph 12). In particular, their retail and wholesale CBDC work is driven more often by financial stability and payments efficiency reasons.

On top of stepped-up efforts in the areas of crypto regulation and CBDCs, central banks continued to analyse the implications of stablecoins and other cryptoassets. As in previous years, about 70% of central banks are looking into the monetary and

### Motivations for issuing a CBDC vary with whether the emergence of cryptoassets has intensified central banks' CBDC work<sup>1</sup>

Average importance, 1 (not so important)–4 (very important)

Graph 12



<sup>1</sup> Based on the statement: “The emergence of cryptoassets, including stablecoins, has accelerated CBDC developments”.

Sources: BIS central bank surveys on CBDCs and crypto, 2021–22.

<sup>32</sup> See Glowka et al (forthcoming).

<sup>33</sup> See for example Arner et al (2020) and FSB (2022).

<sup>34</sup> For more details, see CPMI-IOSCO (2022), BCBS (2022) and the FSB’s website: [FSB proposes framework for the international regulation of crypto-asset activities – Financial Stability Board](#).

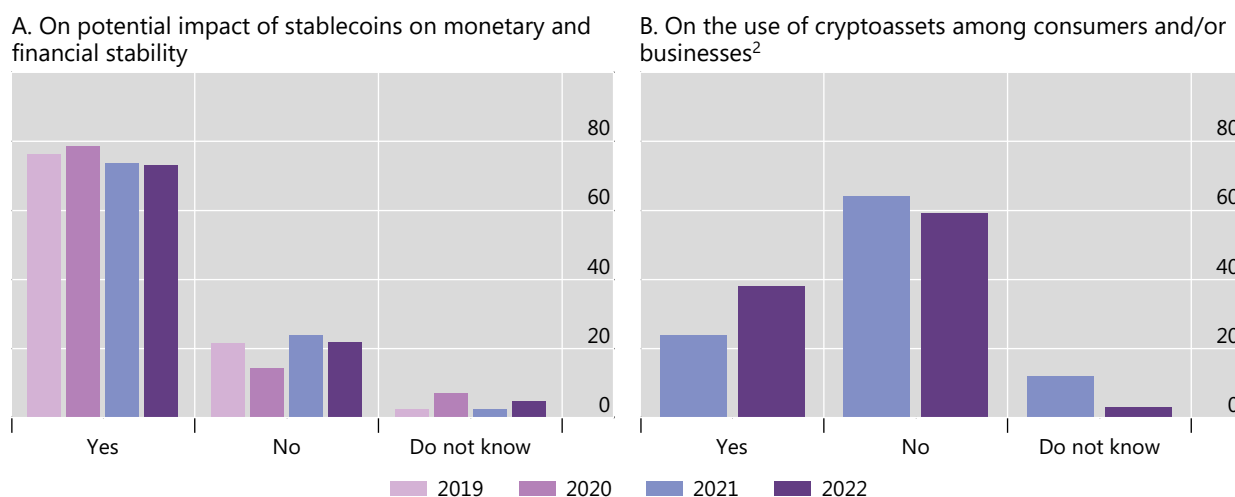


financial stability implications of stablecoins (Graph 13.A). In addition, almost 40% of respondents indicated that their central bank or other institutions in their jurisdiction recently carried out a study on the usage of stablecoins and other cryptoassets among consumers or businesses (Graph 13.B). Efforts like these might help regulators and policymakers to monitor the size of cryptoasset markets and their potential implications for the stability of the financial system.

## A rising number of central banks monitor the public use of cryptoassets<sup>1</sup>

As a percentage of respondents

Graph 13



<sup>1</sup> The sample only includes central banks that replied to the survey since 2019. <sup>2</sup> This question was introduced in 2021.

Sources: BIS central bank surveys on CBDCs and crypto, 2019–22.

## Stablecoins are hardly used for payments outside the crypto market

Apart from being used in decentralised finance (DeFi) and crypto trading, stablecoins are hardly used for payments outside the crypto ecosystem. Where they are used in this way, this is mainly for remittances and retail payments (Graph 14.A and 14.B). Nearly 30% of central banks indicated that stablecoins are used in their jurisdiction by niche groups for remittances, followed at a distance by consumer payments of goods and services and gifts and donations by consumers.<sup>35</sup> Only 7% and 5% of central banks indicated a use by niche groups for domestic and cross-border wholesale payments, respectively.<sup>36</sup>

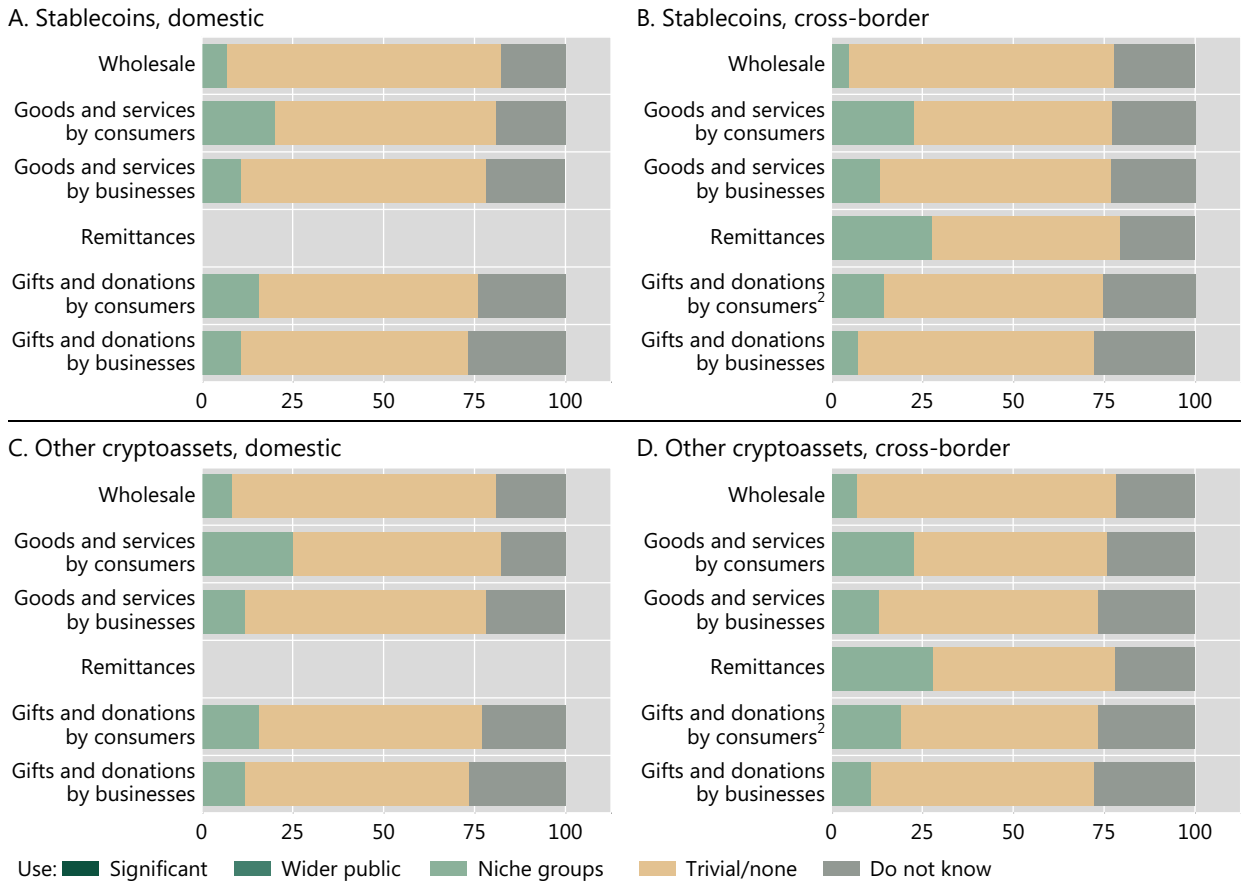
<sup>35</sup> The survey used the following usage classifications: trivial/no use (hardly used by anyone, and those who do use it only for a tiny fraction of their total payments made for a particular payment purpose), used by niche groups (used mainly by a particular group of consumers/businesses and for a small share of their total payments made for a particular payment purpose), wider public use (used by different groups of consumers/businesses but still for a small share of their total payments made for a particular payment purpose) and significant use (used by different groups of consumers/businesses and for a significant share of their total payments made for a particular payment purpose).

<sup>36</sup> Since jurisdiction-specific data on the use of cryptoassets for payments may be scarce, the survey asked for impressions based on respondents' expert judgment. The results presented in this section should therefore be interpreted as central banks' perceptions on a best-efforts basis. Yet, additional analyses showed that central banks' perceptions did not vary significantly when jurisdictional studies on the use of stablecoins and crypto were available.

# Current use of cryptoassets for payment purposes<sup>1</sup>

As a percentage of respondents, 2022

Graph 14



Significant use = used by different groups of consumers/businesses and for a significant share of their total payments made for a particular payment purpose; wider public use = used by different groups of consumers/businesses but still for a small share of their total payments made for a particular payment purpose; used by niche groups = used mainly by a particular group of consumers/businesses and for a small share of their total payments made for a particular payment purpose; trivial/no use = hardly used by anyone, and those who do, use it only for a tiny fraction of their total payments made for a particular payment purpose.

<sup>1</sup> Apart from potentially being used in decentralised finance (DeFi). <sup>2</sup> Excluding remittances.

Source: 2022 BIS central bank survey on CBDCs and crypto.

The survey results suggest the use of other cryptoassets for payments is similar to that of stablecoins: trivial or limited to niche groups, and mainly for remittances (Graph 14.C and 14.D). Also, other than for remittances, the results indicate a similar use of cryptoassets for domestic versus cross-border payments.

Notable differences in use exist between AEs and EMDEs. Stablecoins seem to play a relatively larger role in remittances in AEs (36%) than in EMDEs (24%). Also, AE central banks (7%) reported a larger use of stablecoins for cross-border wholesale in their jurisdictions than did EMDE central banks (4%).

## Conclusion

Global work on CBDCs has made further progress: 93% of surveyed central banks are engaged in some form of CBDC work and more than half are running concrete experiments or working on pilots. As work on CBDC advances, central banks' uncertainty about short-term issuance of a CBDC is fading. A clear divergence has emerged: compared to last year, some central banks have become more likely to issue a retail CBDC within the next three years, while others indicated to be less likely to do so. The share of central banks likely to have a wholesale CBDC in the short term more than doubled. The survey suggests that there could be 15 retail and nine wholesale CBDCs circulating among the public towards the end of this decade.

If issued, retail CBDCs can be expected to complement and coexist with other domestic payment methods: most jurisdictions either have or plan to launch an FPS and believe that there may be value in having both an FPS and a retail CBDC. This underlines the importance of ensuring interoperability with existing payment systems to be sure that payers and payees can seamlessly make and receive payments, regardless of the payment method or service provider.<sup>37</sup>

Enhancing cross-border payments is among the key drivers of central banks' work on wholesale CBDCs. To achieve this objective, the interoperability of CBDCs should go beyond jurisdictional boundaries. The CPMI, BIS Innovation Hub, IMF and World Bank published a joint report in July 2022 in which they identified and analysed different options for access to and interoperability of CBDCs to facilitate cross-border payments. It highlights how central banks worldwide would need to collaborate in the early stages of CBDC design to fully harness the potential of both wholesale and retail CBDCs for enhancing cross-border payments.<sup>38</sup>

Over the years, issuers of cryptoassets and in particular stablecoins have gradually expanded the scope of the potential use cases for their assets and stablecoins: while initially offered to serve as a means of speculation or store of value, cryptoassets are increasingly promoted as a potential means of payment.<sup>39</sup> The survey results show that, to date, stablecoins and other cryptoassets are seldom used for payments outside the crypto ecosystem. Nonetheless, the turbulence in the crypto market in 2022 and beginning of 2023 has shown that cryptoassets pose risks when not properly designed and regulated. Continued monitoring will help central banks to identify emerging risks and promptly address such risks with effective standards, oversight and policies.

<sup>37</sup> See Boar et al (2021) for a discussion of payment system interoperability.

<sup>38</sup> See CPMI et al (2022).

<sup>39</sup> For example, Binance users can book flight tickets with crypto ([www.binance.com/en/blog/payment/book-affordable-flight-tickets-with-crypto-air-tickets-via-the-binance-marketplace-6052046411036996307](https://www.binance.com/en/blog/payment/book-affordable-flight-tickets-with-crypto-air-tickets-via-the-binance-marketplace-6052046411036996307)) and Visa announced that it would explore stablecoin payments ([cointelegraph.com/news/stablecoin-payments-visa-shares-plans-for-ambitious-crypto-product](https://cointelegraph.com/news/stablecoin-payments-visa-shares-plans-for-ambitious-crypto-product)).

## References

Arner, D, R Auer and J Frost (2020): "Stablecoins: risks, potential and regulation", *BIS Working Papers*, no 905, November.

Asian Development Bank (ADB) (2023): "The role of central bank digital currencies in financial inclusion: Asia-Pacific Financial Inclusion Forum 2022", March.

Auer, R and R Boehme (2020): "The technology of retail central bank digital currency", *BIS Quarterly Review*, March.

Auer, R, G Cornelli and J Frost (2020): "Rise of the central bank digital currencies: drivers, approaches and technologies", *BIS Working Papers*, no 880, August.

Auer, R, N Boakye-Adjei, H Banka, A Faragallah, J Frost, H Natarajan and J Prenio (2022): "Central bank digital currencies: a new tool in the financial inclusion toolkit?", *FSI Insights Paper*, no 41, April.

Basel Committee on Banking Supervision (BCBS) (2022): "Prudential treatment of cryptoasset exposures", December.

Bank for International Settlements (BIS) (2021): "CBDCs: an opportunity for the monetary system", *Annual Economic Report 2021*, June, Chapter III.

——— (2023): "Blueprint for the future monetary system: improving the old, enabling the new", *Annual Economic Report 2023*, June, Chapter III.

Bank of England and HM Treasury (BoE) (2023): "The digital pound: a new form of money for households and businesses?", *Consultation Paper*, February.

Barontini, C and H Holden (2019): "Proceeding with caution – a survey on central bank digital currency", *BIS Papers*, no 101, February.

BIS Innovation Hub (BISIH), Reserve Bank of Australia, Central Bank of Malaysia, the Monetary Authority of Singapore and the South African Reserve Bank (2022): "Project Dunbar, International Settlements using multi-CBDCs", March.

Boar, C and A Wehrli (2021): "Ready, steady, go? – Results of the third BIS survey on central bank digital currency", *BIS Papers*, no 114, January.

Boar, C, H Holden and A Wadsworth (2020): "Impending arrival: a sequel to the survey on central bank digital currency", *BIS Papers*, no 107, January.

Boar, C, S Claessens, A Kosse, R Leckow and T Rice (2021): "Interoperability between payment systems across borders", *BIS Bulletin*, no 49, December.

Central Reserve Bank of Peru (CRBP) (2023): "CBDC: Promoting digital payments in Peru", March.

Committee on Payments and Market Infrastructures (CPMI) (2021): *Developments in retail fast payments and implications for RTGS systems*, December.

——— (2022): "Extending and aligning payment system operating hours for cross-border payments", final report, May.

Committee on Payments and Market Infrastructures (CPMI), BIS Innovation Hub, International Monetary Fund (IMF) and World Bank (2022): "Options for access to and interoperability of CBDCs for cross-border payments", *Report to the G20*, July.

Committee on Payments and Market Infrastructures and Markets Committee (CPMI-MC) (2018): "Central bank digital currencies", March.

Committee on Payments and Market Infrastructures and the Board of the International Organization of Securities Commissions (CPMI-IOSCO) (2022): "Application of the Principles for Financial Market Infrastructures to stablecoin arrangements", July.

European Central Bank (ECB) (2023): "Progress on the investigation phase of a digital euro – third report", April.

Federal Reserve Bank of New York (2022): "Project Cedar", Phase One Report, November.

Financial Stability Board (FSB) (2020): "Regulation, Supervision and Oversight of 'Global Stablecoin' Arrangements, Final Report and High-Level Recommendations", October.

— (2022): "Assessment of Risks to Financial Stability from Crypto-assets", February.

Glowka, M, A Kosse, I Mattei and T Rice (2023): "A primer on stablecoins", *BIS Papers*, forthcoming.

Hong Kong Monetary Authority (HKMA) (2022): "e-HKD – Charting the Next Steps", *Position Paper*, September.

Kosse, A and I Mattei (2022): "Gaining momentum – Results of the 2021 BIS survey on central bank digital currencies", May.

Mikhalev, I, K Burchardi, I Struchkov, B Song and J Gross (2021): "CBDC Tracker", January.

Reserve Bank of India (RBI) (2022): "Concept Note on Central Bank Digital Currency", October.

Sveriges Riksbank (2022): "E-krona pilot Phase 2", *E-krona report*, April.

World Bank (2021): "Proxy identifiers and databases in payments", *Focus note*, September.

## Annex A: Central banks participating in the survey

Jurisdictions of the 86 central banks that participated in the 2022 survey<sup>1</sup>

Table A1

Jurisdiction	AE/EMDE	Jurisdiction	AE/EMDE	Jurisdiction	AE/EMDE
Algeria <sup>2</sup>	EMDE	Haiti	EMDE	North Macedonia <sup>2</sup>	EMDE
Argentina	EMDE	Honduras	EMDE	Norway	AE
Australia	AE	Hong Kong SAR	AE	Pakistan	EMDE
Azerbaijan	EMDE	Hungary	EMDE	Paraguay	EMDE
Bangladesh	EMDE	Iceland <sup>2</sup>	AE	Peru	EMDE
Belgium	AE	India	EMDE	Philippines (the)	EMDE
Bolivia	EMDE	Indonesia	EMDE	Poland	EMDE
Brazil	EMDE	Iraq	EMDE	Saudi Arabia	EMDE
Brunei	EMDE	Israel	AE	Serbia	EMDE
Cambodia	EMDE	Italy	AE	Seychelles	EMDE
Canada	AE	Japan	AE	Singapore	AE
Cayman Islands (the)	EMDE	Kazakhstan	EMDE	Slovenia	AE
China	EMDE	Kenya <sup>2</sup>	EMDE	South Africa	EMDE
Chinese Taipei	AE	Kosovo	EMDE	South Korea	AE
Colombia	EMDE	Lesotho	EMDE	Spain	AE
Costa Rica	EMDE	Lithuania	AE	Sri Lanka	EMDE
Czechia	AE	Macao SAR <sup>2</sup>	AE	Swaziland	EMDE
Denmark	AE	Madagascar	EMDE	Sweden	AE
Djibouti <sup>2</sup>	EMDE	Malaysia	EMDE	Switzerland	AE
Dominican Republic (the)	EMDE	Maldives (the)	EMDE	Tanzania	EMDE
Ecuador	EMDE	Mauritius	EMDE	Thailand	EMDE
Egypt	EMDE	Mexico	EMDE	The Bahamas	EMDE
Euro area	AE	Mongolia	EMDE	Türkiye	EMDE
Fiji	EMDE	Montenegro	EMDE	Uganda <sup>2</sup>	EMDE
Finland <sup>2</sup>	AE	Morocco	EMDE	United Arab Emirates (the)	EMDE
France	AE	Mozambique	EMDE	United Kingdom (the)	AE
Georgia	EMDE	Netherlands (the)	AE	United States (the)	AE
Germany	AE	New Zealand	AE	Zimbabwe	EMDE
Ghana <sup>2</sup>	EMDE	Nigeria	EMDE		EMDE

<sup>1</sup> The survey was distributed in October 2022 and all responses were received by the end of December 2022. <sup>2</sup> First-time participant in the survey.

Source: 2022 BIS central bank survey on CBDCs and crypto.

## Annex B: Survey questions

### Questions on central bank digital currencies

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:

- General purpose CBDC
- Wholesale CBDC
- Both

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

---

**Research/study:** *exploratory work, eg to explore use cases, impact and feasibility, without any technical development.*

**Experiments/proof of concept:** *early testing of one or a small number of selected aspects of the CBDC in a controlled and internal environment.*

**Developing or running a pilot:** *developing or testing a prototype in the real world among a restricted number of external participants.*

**Live:** *CBDC issued for widespread use.*

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#### General purpose CBDC

- Research/study
- Experiments/proof of concept
- Developing or running a pilot
- Working on a live CBDC
- Live CBDC has been issued

Please provide links (eg to websites, publications, official communications) about your project(s): *[Enter text here]*

#### Wholesale CBDC

- Research/study
- Experiments/proof of concept
- Developing or running a pilot
- Working on a live CBDC
- Live CBDC has been issued

Please provide links (eg to websites, publications, official communications) about your project(s): *[Enter text here]*

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

General purpose CBDC

	Very important	Important	Somewhat important	Not so important
Financial stability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monetary policy implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial inclusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payments efficiency (domestic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payments efficiency (cross-border)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payments safety/robustness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others (please specify below)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Others: *[Enter text here]*

Please provide any comments on your motivations for any aspects you considered as very important or important (eg if you chose "financial stability" as an important motivation, how do you see CBDC aiding this?). *[Enter text here]*

Wholesale CBDC

	Very important	Important	Somewhat important	Not so important
Financial stability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monetary policy implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial inclusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payments efficiency (domestic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payments efficiency (cross-border)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payments safety/robustness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others (please specify below)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Others: *[Enter text here]*

Please provide any comments on your motivations for any aspects you considered as very important or important (eg if you chose "financial stability" as an important motivation, how do you see CBDC aiding this?). *[Enter text here]*



If you consider efficiency in cross-border payments as (very/somewhat) important, which frictions would the (potential) issuance of a CBDC address? Please select all that apply:

	General purpose CBDC	Wholesale CBDC
Fragmented and truncated data formats	<input type="checkbox"/>	<input type="checkbox"/>
Complex processing of compliance checks	<input type="checkbox"/>	<input type="checkbox"/>
Limited operating hours	<input type="checkbox"/>	<input type="checkbox"/>
Unclear FX rates and/or fees	<input type="checkbox"/>	<input type="checkbox"/>
Legacy technology platforms	<input type="checkbox"/>	<input type="checkbox"/>
Long transaction chains	<input type="checkbox"/>	<input type="checkbox"/>
Funding costs	<input type="checkbox"/>	<input type="checkbox"/>
Weak competition	<input type="checkbox"/>	<input type="checkbox"/>
Others (please specify below)	<input type="checkbox"/>	<input type="checkbox"/>

Others: *[Enter text here]*

**5.** If you are developing (or have developed) a proof-of-concept, pilot or a live CBDC, are (were) you collaborating or having a dialogue with other entities to inform your design choices? Please select all that apply.

General purpose CBDC

- No
- Yes, with other central banks, to inform domestic design choices
- Yes, with other central banks, to inform cross-border design choices
- Yes, with the government and/or other relevant public authorities, namely: *[Enter text here]*
- Yes, with third-party developers/technology providers
- Yes, with other private sector entities, namely: *[Enter text here]*
- Yes, with end users/end user groups
- Yes, with others, namely: *[Enter text here]*

For each of the “yes” boxes that you selected above, please provide more details on the **form** (eg bilateral, multilateral, public consultation, surveys, case study) and **frequency** (eg ad hoc, one-off, periodically) of this collaboration and/or dialogue. *[Enter text here]*

Please provide the link to public engagement/consultations document(s), if available: *[Enter text here]*

Wholesale CBDC

- No
- Yes, with other central banks, to inform domestic design choices
- Yes, with other central banks, to inform cross-border design choices
- Yes, with the government and/or other relevant public authorities, namely:  
[Enter text here]
- Yes, with third-party developers/technology providers
- Yes, with other private sector entities, namely: [Enter text here]
- Yes, with end users/end user groups
- Yes, with others, namely: [Enter text here]

For each of the “yes” boxes that you selected above, please provide more details on the **form** (eg bilateral, multilateral, public consultation, surveys, case study) and **frequency** (eg ad hoc, one-off, periodically) of this collaboration and/or dialogue.  
[Enter text here]

Please provide the link to public engagement/consultations document(s), if available:  
[Enter text here]

**6a.** How likely is it that your central bank will issue a CBDC in the:

General purpose CBDC

	Very likely	Somewhat likely	Possible	Somewhat unlikely	Very unlikely	NA – already issues
<b>Short term</b> (within the next 3 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Medium term</b> (4 to 6 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wholesale CBDC

	Very likely	Somewhat likely	Possible	Somewhat unlikely	Very unlikely	NA – already issues
<b>Short term</b> (within the next 3 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Medium term</b> (4 to 6 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6b.** Does your central bank have the legal authority to issue a CBDC? Please select only one option.

- Yes
- No
- Uncertain
- Laws are currently being changed to allow for it
- Laws are currently being changed to clarify the legal authority

Please provide any comments or clarifications: *[Enter text here]*

**7.** If your central bank has issued a live **general purpose CBDC**, how would you assess its current and expected future use?

---

**Trivial/no use:** *hardly used by anyone, and those who do, only use it for a tiny fraction of their total payments.*

**Used by niche groups:** *mainly used by a particular group of users and for a small share of their total payments.*

**Wider public use:** *used by different types of users, but still for a small share of their total payments.*

**Significant use:** *used by different types of users and for a significant share of their total payments.*

---

	Trivial/ no use	Used by niche groups	Wider public use	Significant use	Do not know
Current use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expected future use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide a link to public studies or documents that provide insight into the current/expected future use, if available: *[Enter text here]*

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

	True	False	Not applicable	Do not know
The amount of central bank issued cash in circulation is declining.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The use of central bank issued cash for payments is declining.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your central bank has carried out a recent study of public cash use (eg a payments diary). If "True", please provide a link to publications if any: <i>[Enter text here]</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The emergence of cryptocurrencies, incl stablecoins, has accelerated your CBDC work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your central bank is considering a potential retail CBDC architecture that involves a role for the private sector.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integration with (an) existing payment system(s) is one of the CBDC architectures your central bank is (planning to) exploring.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Covid-19 pandemic accelerated the decline in cash payments, and this shift in payment behaviour has persisted since then.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If your central bank is considering a potential CBDC architecture that involves a role for the private sector, which tasks do you believe the private sector could potentially take on? Please select all that apply.

- Onboarding of clients (incl KYC)
- Provision of wallets, user interface and other front-end customer services
- Handling/validation of retail payments
- Recording of retail transactions and updating balances
- Other (please specify)

Others: *[Enter text here]*

Please provide any comments or clarifications: *[Enter text here]*

A fast payment systems (FPS) is defined in this survey as an infrastructure that clears and/or settles **retail** payments in which the transmission of the payment message and the availability of “final” funds to the payee occur in real time or near-real time and on as near to a 24-hour and seven-day (24/7) basis as possible. This survey does not distinguish FPS owned/operated by central banks from those owned/operated by private sector entities.

**9a.** Please select the statement that applies to your jurisdiction:

- Your jurisdiction has an FPS and is not (yet) planning to upgrade it with additional features. Please provide the name of the FPS: *[Enter text here]*
- Your jurisdiction has an FPS and is planning to upgrade it with additional features. Please provide the name of the FPS: *[Enter text here]*
- Your jurisdiction does not have an FPS but is planning to launch one. Please provide the name of the FPS, if already available: *[Enter text here]*
- Your jurisdiction does not have an FPS and is not planning to launch one.

**9b.** Regardless of the design of fyour existing or planned CBDC and/or FPS (if any), does your central bank think that **in principle** there may be value in having both an FPS and a **general purpose CBDC**? Please select only one option.

- Yes – because a general purpose CBDC has specific properties and may offer certain features that an FPS cannot provide. Please explain: *[Enter text here]*
- Yes – because an FPS has specific properties and may offer certain features that a general purpose CBDC cannot provide. Please explain: *[Enter text here]*
- Yes – because of other reasons. Please explain: *[Enter text here]*
- No – because an FPS and a general purpose CBDC could provide (broadly) similar features. Please explain: *[Enter text here]*
- No – because of other reasons: *[Enter text here]*

**10.** Please provide any other details about CBDC and the thoughts and work in your jurisdiction. *[Enter text here]*

## Questions on cryptoassets

**11. Currently**, in your jurisdiction, apart from (potentially) being used in decentralised finance (DeFi) and crypto trading, how significant do you think the use of stablecoins and other cryptoassets is for the following purposes?

**Trivial/no use:** *hardly used by anyone, and those who do, only use it for a tiny fraction of their total payments made for this purpose.*

**Used by niche groups:** *mainly used by a particular group of consumers/businesses and for a small share of their total payments made for this purpose.*

**Wider public use:** *used by different groups of consumers/businesses but still for a small share of their total payments made for this purpose.*

**Significant use:** *used by different groups of consumers/businesses and for a significant share of their total payments made for this purpose.*

### Stablecoins

	Trivial/ no use	Used by niche groups	Wider public use	Significant use	Do not know
Domestic wholesale payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for goods and services by consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for goods and services by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for gifts and donations by consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for gifts and donations by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other domestic payments. Please explain: <i>[Enter text here]</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border wholesale payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for goods and services by consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for goods and services by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remittances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for gifts and donations by consumers (excl remittances)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for gifts and donations by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other cross-border payments. Please explain: <i>[Enter text here]</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Other cryptoassets

	Trivial/ no use	Used by niche groups	Wider public use	Significant use	Do not know
Domestic wholesale payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for goods and services by consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for goods and services by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for gifts and donations by consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Domestic payments for gifts and donations by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other domestic payments. Please explain: <i>[Enter text here]</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border wholesale payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for goods and services by consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for goods and services by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remittances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for gifts and donations by consumers (excl remittances)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross-border payments for gifts and donations by businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other cross-border payments. Please explain: <i>[Enter text here]</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide any comments or clarifications: *[Enter text here]*

**12.** In your jurisdiction, are you analysing the potential impact of stablecoins on monetary and financial stability?

- Yes
- No
- Do not know

If yes, please provide any details (eg links): *[Enter text here]*

**13.** Has your central bank or (an)other institution(s) in your jurisdiction carried out a recent study on the usage of cryptocurrency and/or stablecoins among consumers and/or businesses?

- Yes
- No
- Do not know

If yes, please provide any details (eg links): *[Enter text here]*

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