



## Payments System Research Briefing

# Assessing the Case for Retail CBDCs: Central Banks' Considerations

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Many central banks around the world have been researching, experimenting, or developing central bank digital currencies (CBDCs). Although central banks in several emerging markets and developing economies have implemented or plan to implement a general-purpose, or retail, CBDC to promote financial inclusion and improve their payment systems, central banks in many advanced economies have not yet found a compelling case for a retail CBDC.

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In recent years, interest in central bank digital currencies (CBDCs) has been increasing around the globe. Although only a few central banks have thus far implemented a retail CBDC, many banks have been assessing the need within their economies. According to the Bank for International Settlements, the share of central banks that have been researching, experimenting, or developing CBDCs grew from about 70 percent in 2018 to over 85 percent in 2020 (Boar and Wehrli 2021). The vast majority of these banks have focused on retail (or general-purpose) CBDCs.<sup>[1]</sup>

In this *Briefing*, we examine what motivations, if any, central banks have identified for retail CBDCs. In general, we find that central banks in emerging markets and developing economies (EMDEs), such as China, Mexico, and Nigeria, tend to be more enthusiastic about retail CBDCs and have clearer motivations for their issuance relative to central banks in advanced economies, such as Canada, Japan, and Singapore.<sup>[2]</sup> Indeed, several central banks in EMDEs have made progress in developing or implementing a retail CBDC; in contrast, many central banks in advanced economies have only undertaken technical research on a retail CBDC, and most have not developed plans to implement one.

### Retail CBDCs in emerging markets and developing economies (EMDEs)

Central banks in many EMDEs view a retail CBDC as a viable solution to problems in their economies and payment systems. Table 1 shows that central banks in seven EMDEs have implemented or plan to implement a retail CBDC: the Bahamas, China, the Eastern Caribbean Currency Union (ECCU), India, Jamaica, Mexico, and Nigeria.

Although policy goals for a retail CBDC vary by country, Table 1 shows a few common motivations include promoting financial inclusion; enhancing payment system efficiency, competition, security, or resiliency; and improving cross-border payments. These motivations are consistent with unique challenges of EMDEs relative to advanced economies. In EMDEs, many consumers lack access to financial services, rely heavily on cash, and tend not to use electronic payment systems, which are often less developed.

All central banks except the Reserve Bank of India have explicitly identified financial inclusion as one of their main policy goals for a retail CBDC. Individuals without a bank account, who are considered excluded from the financial system, make up a relatively large share of the population in these countries. In Mexico and Nigeria, the share of unbanked individuals in the adult population (age 15 or older) is about 60 percent (World Bank Group 2017). In the Bahamas, China, India, and Jamaica, the unbanked share is about 20 percent, but still higher than the share in advanced economies (World Bank Group 2017; International Monetary Fund 2019; Laidley 2022).<sup>[3]</sup> For unbanked individuals who lack internet access or a smartphone, some of these central banks have developed offline solutions to address financial exclusion with their CBDC, such as the physical CBDC payment card introduced by the Central Bank of The Bahamas (Mastercard 2021).<sup>[4]</sup>

All seven central banks in Table 1 also cited enhancing the efficiency, competition, security, or resiliency of their payment systems as another main motivation for implementing a CBDC. Most of these countries' economies are based on cash, which tends to involve higher operational costs (Bank of Jamaica 2021; Shankar 2021). A retail CBDC may improve efficiency by reducing the demand for physical cash, easing currency management in turn. In countries where electronic payments have already been widely adopted, such as China, electronic payment services may be highly concentrated within a few large private-sector providers, so a retail CBDC may increase competition and lower transaction costs or increase choices for merchants and consumers. In countries where the electronic payments system is not fully developed, a retail CBDC could be more secure than existing electronic payment processes and add resiliency to the overall payment system.

Some EMDE central banks have also listed cross-border payments as motivation for instituting a retail CBDC. Although most of these banks have focused on domestic use for their retail CBDCs, a few have enabled or envisioned a CBDC for cross-border payments, especially with neighboring countries. For example, the central banks in Nigeria and the ECCU perceive a CBDC as a means of achieving cheaper and faster international remittances (Central Bank of Nigeria 2021; BIS and others 2021). In addition, the People's Bank of China has been piloting the use of their CBDC, the e-CNY, for retail cross-border payments between China and Hong Kong (Gkritsi 2021).

## Retail CBDCs in advanced economies

No central bank in an advanced economy has yet introduced a retail CBDC, which may reflect relatively limited scope for retail CBDCs to improve the payments systems in these countries. In advanced economies, most consumers use less cash and already have access to financial services and well-developed payment systems. Accordingly, only a few central banks have identified key motivations for a retail CBDC; others have conducted studies but not found a compelling case for implementing a CBDC under current circumstances. Table 2 lists the key motivations or the contingency plans for a retail CBDC stated by several central banks in advanced economies, most of which have made significant progress in assessing the need for a retail CBDC.

Sweden's Riksbank has long been considering a retail CBDC and has identified three key motivations: payments access, resiliency, and competition. Because cash use has declined rapidly in Sweden, a priority policy goal of the "e-krona" is to ensure broad access to payments, especially for those who may be adversely affected by a cashless society (Söderberg 2019). The e-krona could potentially serve as an additional backup to existing digital payments and facilitate competition among digital payment systems currently offered by the private sector. The final decision on whether to issue an e-krona, however, is up to the national legislature.<sup>[5]</sup>

In an October 2020 report, the European Central Bank (ECB) describes seven scenarios that could induce the Eurosystem to issue a digital euro (ECB 2020).<sup>[6]</sup> A subsequent paper by ECB researchers mentions two key motivations (Bindseil, Panetta, and Terol 2021). First, a digital euro could be a monetary anchor for payments in the digital era, as public confidence in private money (such as commercial bank money) depends on its conversion at par with central bank money. Second, a digital euro could give the Eurosystem monetary strategic autonomy, which has declined as payment instruments controlled and supervised from abroad (such as payment cards with a Visa or Mastercard logo) have gained dominance in the European retail payment market.

Central banks in Canada, Japan, and Norway have not found a compelling case nor an acute need for a retail CBDC but are preparing in case one is needed in the future. In February 2020, the Bank of Canada concluded that there is no compelling case at this time and outlined a contingency plan for implementing a retail CBDC under two scenarios: should cash use decline to the point where it can no longer be used in a wide range of transactions, or should a private cryptocurrency or stablecoin make substantial inroads, raising concerns about privacy and handing control of payments to private companies. In October 2020, the Bank of Japan stated that while it currently has no plan to issue a CBDC, it could issue one if cash use significantly declines and private digital money is not an adequate substitute; if a CBDC is necessary to support private payment services; or if a CBDC is necessary to develop stable and efficient payment and settlement systems suitable for a digital society. And in November 2020, Norway's Norges Bank stated that there is "no acute need to introduce a CBDC," despite a rapid decline in cash use in Norway (Bache 2020). Norges Bank, however, has a contingency plan to introduce a CBDC if the payment system evolves in a different direction than currently predicted.

Central banks in Australia and Singapore have not found a strong public policy case for a retail CBDC but are open to the possibility of one in the future. The Reserve Bank of Australia expects that digital wallets, which continue to replace physical wallets, will contain new digital forms of money that could include a retail CBDC (Lowe 2021). The Monetary Authority of Singapore (MAS) believes that a well-designed retail CBDC could have future value in preserving the benefits of generally accessible public money and that a CBDC could mitigate risks to credit creation, financial stability, and monetary policy (MAS Economic Policy Group 2021). MAS also considers supporting the growth of Singapore dollar-denominated stablecoins as an alternative policy option.

In March 2020, the Bank of England set out seven potential benefits of a retail CBDC.<sup>[7]</sup> However, in January 2022, the United Kingdom’s parliament committee concluded that they “have yet to hear a convincing case” for a retail CBDC (Economic Affairs Committee 2022). The committee argued that while a retail CBDC may provide some advantages, it would also present significant challenges. The committee also argued that a CBDC could not be designed to support the seven stated benefits equally well and that alternative solutions might pose fewer risks. The committee recommended that the Joint Taskforce (created by Bank of England and HM Treasury) identify the most significant long-term problem it believes a CBDC may solve when it publishes the use cases for a possible CBDC in 2022 and compare CBDCs against alternative means of achieving the same aim.

## Conclusion

Several EMDEs have implemented CBDCs primarily to promote financial inclusion and improve their payments systems. Several advanced economies have made significant progress in assessing the case for a retail CBDC; though a few have identified motivations for implementing a CBDC, most have not found a compelling case to do so.

Many other central banks are still at an early stage in exploring motivations for a retail CBDC, including the Federal Reserve, which recently published a report aiming to foster a public discussion with CBDC stakeholders on the potential benefits and risks of CBDCs (Board of Governors of the Federal Reserve System 2022). Through research and public dialogue, these central banks may increasingly identify motivations for a retail CBDC or scenarios in which a retail CBDC may be warranted. The motivations and scenarios will likely vary across countries, as each country has a unique set of opportunities and challenges in its economy and payment system.

## Endnotes

[1] Retail (or general-purpose) CBDCs are available for public use (like cash), while wholesale CBDCs are mainly for use by financial institutions to settle interbank accounts. In 2020, around 90 percent of central banks that had engaged in CBDC work focused either on retail CBDCs only or on both retail and wholesale CBDCs.

- [2] The International Monetary Fund's World Economic Outlook classifies countries into advanced economies, emerging markets, and developing economies, using various criteria including per capita income level, export diversification, and degree of integration into the global financial system (International Monetary Fund 2022).
- [3] Data are not available for the ECCU. In India, although 80 percent of the adult population had a bank account in 2017, only 52 percent of bank account holders used the account in 2016. In China, Mexico, and Nigeria, the share of bank account holders who used the account is much higher (around 80 percent).
- [4] See Auer and others (2022) for other design features of CBDCs intended to address barriers to financial inclusion.
- [5] A government inquiry into the need for a CBDC is currently underway in Sweden, with findings due November 30, 2022.
- [6] Five scenarios are related to core central bank functions, and two scenarios are related to the broader objectives of the European Union.
- [7] These potential benefits are: (1) supporting a resilient payments landscape, (2) avoiding the risk of new forms of private money creation, (3) supporting competition, efficiency, and innovation in payments, (4) meeting future payment needs in a digital economy, (5) improving the availability and usability of central bank money, (6) addressing the consequences of a decline in cash, and (7) enabling better cross-border payments.
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Fumiko Hayashi is a Senior Policy Advisor specializing in payments in the Economic Research Department at the Federal Reserve Bank of Kansas City. Since joining the Federal Reserve in 2001, Ms. Hayashi published studies on the ATM and debit card industry, regulatory developments around interchange fees and card network rules, consumer payment choice, various types of payment methods (including credit, debit, and prepaid cards, mobile and QR code-based payments, instant payments, and central bank digital currency), payment fraud and security, nonbanks and fintechs in the payment system. She is currently conducting research on undeserved consumers in payments, fraud and scams involving instant payments, role of intermediaries in the payment system modernization, among others. Prior to joining the Federal Reserve Bank of Kansas City, Ms. Hayashi conducted research examining consumer savings and long-term care insurance, social security reform in Japan, and nursing home markets in the United States. She holds a B.A. and a M.A. in economics from Hitotsubashi University, and a Ph.D. in economics from the University of Minnesota.



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# Media

Country	CBDC implementation	Main motivations
The Bahamas	Launched the Sand Dollar in October 2020	Financial inclusion Efficiency of payment system Non-discriminatory access to financial services
China	Has begun rolling out digital yuan (or e-CNY) in several cities, including the 2022 Winter Olympics in Beijing	Financial inclusion Competition, efficiency, and safety of retail payment services Cross-border payments
ECCU	Launched DCash in March 2021	Financial inclusion Competition and resiliency of payment services Cross-border payments
India	Plans to launch a CBDC in the 2022–23 fiscal year	A boost to the digital economy Efficient and cheaper currency management Protection of the public from volatile private virtual currencies
Jamaica	Plans to launch the JAM-DEX in the second quarter of 2022	Financial inclusion Efficient and cheaper currency management
Mexico	Plans to launch a CBDC by 2025	Financial inclusion Expansion of quick, safe, and efficient payment options
Nigeria	Launched the eNaira in October 2021	Availability and access to central bank money Resiliency of payment services Financial inclusion Efficient and cheaper currency management Cross-border payments

**Table 1: Retail CBDC implementation and motivation by central banks in seven EMDEs**

Note: Motivations are listed in the order they are given in the respective central banks' papers, speeches, or press releases. Sources: Central Bank of The Bahamas (2019), People's Bank of China (2021), Eastern Caribbean Central Bank (2021), Shankar (2021), Bank of Jamaica (2021), Rodríguez (2022), and Central Bank of Nigeria (2021).

Country	Motivations or contingency plans
Australia	No strong public policy case but open to the possibility
Canada	Contingency plan if cash use declines significantly or private cryptocurrency or stablecoin use increases significantly
Euro area	Monetary anchor and monetary strategic autonomy
Japan	Contingency plan if cash use declines and private money is an inadequate substitute, if CBDC is needed to support private payment services, or if CBDC is needed to develop payment systems suitable for a digital society
Norway	Contingency plan if the payment system evolves in a different direction than predicted
Singapore	No pressing need for issuance but open to the possibility
Sweden	Broad access to payments, resiliency, and competition
United Kingdom	Parliament committee found no convincing case; Bank of England and HM Treasury identify use cases in 2022

**Table 2: Motivations or contingency plans for a retail CBDC in eight advanced economies**

Sources: Lowe (2021), Bank of Canada (2020), ECB (2020), Bindseil, Panetta, and Terol (2021), Bank of Japan (2020), Bache (2020), MAS Economic Policy Group (2021), Söderberg (2019), Bank of England (2020), and Economic Affairs Committee (2022).