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CBDCs for Financial Inclusion:
Risks and Rewards



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FRIDAY, October 14, 2022

4:00PM - 5:00PM, IMF HQ1 Atrium (HQ1-1-700)

CBDCs for Financial Inclusion: Risks and Rewards

Sponsored by the IMF's Monetary and Capital Markets Department and Strategy, Policy, and Review Department

Central bank digital currencies (#CBDC), if appropriately designed, can help improve #financialinclusion. Effective implementation needs a proportionate, risk-based approach and the support of complementary policies. The session will share knowledge and lessons learned thus far.



Alliance for Financial Inclusion. 2022.**"Central Bank Digital Currency – An Opportunity for Financial Inclusion in Developing and Emerging Economies?" Alliance For Financial Inclusion, Kuala Lumpur.**

This special report on CBDC and financial inclusion aims to unpack considerations for developing and emerging countries by evaluating the extent to which CBDC can advance financial inclusion. It provides an overview of the landscape of CBDC in developing and emerging countries and the specific motivations for AFI members to pursue one. It looks at the current state of financial inclusion across different developing and emerging countries and regions, and identifies the main use cases CBDC can contribute to. It identifies the relevant barriers to these use cases and the unique CBDC features that address them. It introduces the potential risks and unintended consequences for consumers, central banks, and payment service providers before setting out a framework and roadmap to assist central banks on their CBDC journey from exploration to implementation.

Auer, Raphael, Holti Banka, Nana Yaa Boakye-Adjei, Ahmed Faragallah, Jon Frost, Harish Natarajan, and Jermy Prenio. 2022.

"Central Bank Digital Currencies: A New Tool in the Financial Inclusion Toolkit?" FSI Insights No. 41, Bank for International Settlements, Basel.

Central banks are considering how retail central bank digital currencies (CBDCs) may help support financial inclusion. While they are not a magic bullet, central banks see CBDC as a further tool to promote financial inclusion if this goal features prominently in the design from the get-go. In particular, central banks are considering design options around promoting innovation in the two-tiered financial system (eg allowing for novel non-bank payment service providers), offering a robust and low-cost public sector technological basis (with novel interfaces and offline payments), facilitating enrolment and education (via simplified due diligence and electronic know your customer) and fostering interoperability (both domestically and across borders). Together, these features can address a range of existing barriers to financial inclusion. The paper draws on interviews with nine central banks with advanced work on CBDCs and financial inclusion, as well as ongoing research and policy work at the BIS and World Bank. It gives concrete examples from the central banks' work and discusses challenges, risks and regulatory and legal implications.

It aims to facilitate peer learning on a key set of issues around CBDCs and financial inclusion policy faced by societies around the world.

Bank for International Settlements. 2022.**"CBDCs in Emerging Market Economies." BIS Paper No. 123, Bank for International Settlements, Basel.**

In recent years, emerging market economy (EME) central banks have increasingly engaged in projects related to central bank digital currencies (CBDCs). The stage of their engagement – research, pilot or launch – varies according to differences in country circumstances, including the availability of digital infrastructure, their focus among different policy objectives, and the attendant motivations and concerns. This volume contains papers that were prepared for a meeting of Deputy Governors of central banks from EMEs, which took place on 9–10 February 2022 and explored issues such as: the main objectives of introducing CBDCs; the guiding principles of CBDC design and data governance; challenges of CBDCs for monetary policy, financial intermediation and financial stability; the implications of CBDCs on financial inclusion; and the cross-border aspects of CBDCs.

Čihák, Martin, and Ratna Sahay. 2020.

"Finance and Inequality." Staff Discussion Notes No. 2020/001, International Monetary Fund, Washington, DC.

The study examines empirical relationships between income inequality and three features of finance: depth (financial sector size relative to the economy), inclusion (access to and use of financial services by individuals and firms), and stability (absence of financial distress). Using new data covering a wide range of countries, the analysis finds that the financial sector can play a role in reducing inequality, complementing redistributive fiscal policy. By expanding the provision of financial services to low-income households and small businesses, it can serve as a powerful lever in helping create a more inclusive society but—if not well managed—it can amplify inequalities.

Didenko, Anton, and Ross Buckley. 2021.

"Central Bank Digital Currencies: A Potential Response to the Financial Inclusion Challenges of the Pacific." Issues in Pacific Development, No. 3, Asian Development Bank, Manila.

If well-designed and implemented, central bank digital

currencies (CBDCs) likely offer the best solution to the financial inclusion and remittance problems that bedevil the Pacific region. However, the CBDC is a complex piece of software and a complex digital framework capable of generating economywide benefits and shocks. The development of a safe, efficient, and accessible CBDC by any Pacific country will require considerable expertise and a deep understanding of the design issues this fundamentally new form of currency gives rise to in this context. It will require Pacific island finance sector regulators to redirect scarce resources away from currently pressing challenges to undertake years of preparatory research and then pilot programs. For this reason, this brief concludes that now is not the time for countries in the region to issue a CBDC, but now is the time to begin laying the groundwork for this potentially game-changing innovation by building specific knowledge and expertise within the region's central banks.

International Monetary Fund. 2022.

[“The Money Revolution.” *Finance & Development* 59 \(3\).](#)

This special issue of Finance & Development (F&D) focuses on the ongoing money revolution and its implications for finance, monetary policy, international capital flows, and society at large. “The future of money is undoubtedly digital,” writes F&D editor-in-chief Gita Bhatt. “The question is: what is it going to look like?” F&D attempts to answer that question, drawing on cutting-edge research and analysis from economists and other leading experts including Agustín Carstens, Eswar Prasad, Ravi Menon, Tobias Adrian and many others.

International Monetary Fund. 2021.

[“The Rise of Public and Private Digital Money: A Strategy to Continue Delivering on The IMF’s Mandate.” Policy Paper No. 2021/055, International Monetary Fund, Washington, DC.](#)

Following the companion paper on the new policy challenges related to the adoption of digital forms of money, this paper presents an operational strategy for the IMF to continue delivering on its mandate of ensuring domestic and international financial and economic stability. The paper begins by summarizing the forces driving the adoption of digital forms of money, and the new policy questions that emerge. It then focusses on how the IMF’s core activities and output will need to evolve, including surveillance, capacity development, and analytical foundations. It

ends by discussing how the IMF intends to partner with other organization, and to grow and structure internal resources to fulfill this vision.

Juhro, Solikin M. 2022.

[“Central Banking Practices in the Digital Era: Salient Challenges, Lessons, and Implications.” In *Central Bank Policy Mix: Issues, Challenges, and Policy Responses*, 261–275. Singapore: Springer.](#)

The complexity and uncertainty of issues faced by central banks have and will continue to evolve in line with the advancement of digital technology. Navigating central banking practices in the digital era, therefore, is a very challenging task that requires the central bank’s ability to create breakthroughs and orchestrate policy innovations. While the central bank policy mix is still a viable strategy, central banks are required to operate beyond conventional wisdom, with novel practices. Optimizing the benefits of technological advances and becoming a relevant regulator in the digital era must anchor the central bank’s strategy in the future.

Keister, Todd, and Daniel Sanches. 2022.

[“Should Central Banks Issue Digital Currency?” *The Review of Economic Studies*, March 2022.](#)

We study how introducing a central bank digital currency affects equilibrium allocations and welfare in an environment where both currency and bank deposits are used in exchange. We highlight an important policy tradeoff: while a digital currency tends to improve efficiency in exchange, it may also crowd out bank deposits, raise banks’ funding costs, and decrease investment. We derive conditions under which targeted digital currencies, which compete only with physical currency or only with bank deposits, raise welfare. If such targeted currencies are infeasible, we illustrate the policy tradeoffs that arise when issuing a single, universal digital currency.

Khiaonarong, Tanai, and David Humphrey. 2022.

[“Falling Use of Cash and Demand for Retail Central Bank Digital Currency.” Working Paper No. 2022/027, International Monetary Fund, Washington, DC.](#)

Cash use in most countries is falling slowly. On the margin, younger adults favor cash substitutes over cash. For older adults it is the reverse. Revealed preference tied to a changing population age structure seems to be the main influence on the demand for cash

and why it is falling. Cash use may continue to fall, and card use (the main cash substitute) may fall by more, if CBDC is issued. The extent of this reduction depends on the demand for retail CBDC and the incentives (primarily transaction fees) that can play a determining role in CBDC adoption and use.

Sahay, Ratna, Martin Čihák, Papa M. N'Diaye, Adolfo Barajas, Srobona Mitra, Annette Kyobe, Yen Mooi, and Reza Yousefi. 2015.

"Financial Inclusion: Can It Meet Multiple Macroeconomic Goals?" Staff Discussion Notes No. 2015/017, International Monetary Fund, Washington, DC.

Using several recently available global datasets, this Staff Discussion Note examines macroeconomic effects of financial inclusion. It finds significant benefits to economic growth from financial inclusion, but the benefits diminish as financial inclusion and depth become large. Broadening access to credit can compromise economic and bank stability in countries with weak bank supervision. Other forms of financial inclusion—such as access to and use of bank accounts, branches, and ATMs—do not hurt stability, and can be promoted extensively. The note finds that gaps in financial inclusion are associated with economic inequality, but the association appears relatively weak.

Sarmiento, Adolfo. 2022.

"Seven Lessons from the e-Peso Pilot Plan: The Possibility of a Central Bank Digital Currency." *Latin American Journal of Central Banking* 3 (2): 100062.

The decision to introduce a central bank digital currency (CBDC) is part of the new challenges that central banks are facing as technology keeps moving. The e-Peso pilot plan, implemented between 2017 and 2018, could provide some key findings for central banks. In this sense, we can learn seven lessons from the e-Peso pilot plan: (i) reputation is key for central banks' decision to introduce a CBDC; (ii) financial inclusion and cultural reasons are the main motivations; (iii) keep the technological solution as simple as possible; (iv) security aspects and traceable transfers are central for operational risk problems; (v) a token was a good solution for CBDC implementation; (vi) digital money was used for small payments and transfers; and (vii) CBDCs complement the existing means of payment. The conclusions highlight that CBDC choices are based not only on technical considerations but also on the cultural implications of money use. The adoption of this new means of payment will be incremental but not reversible.

Soderberg, Gabriel, Marianne Bechara, Wouter Bossu, Natasha X. Che, Sonja Davidovic, John Kiff, Inutu Lukonga, Tommaso Mancini Griffoli, Tao Sun, and Akihiro Yoshinaga. 2022.

"Behind the Scenes of Central Bank Digital Currency: Emerging Trends, Insights, and Policy Lessons." *FinTech Notes No. 2022/004, International Monetary Fund, Washington, DC.*

Central banks are increasingly pondering whether to issue their own digital currencies to the general public, so-called retail central bank digital currency (CBDC). The majority of IMF member countries are actively evaluating CBDCs, with only a few having issued CBDCs or undertaken extensive pilots or tests. This paper shines the spotlight on the handful of countries at the frontier in the hope of identifying and sharing insights, lessons, and open questions for the benefit of the many countries following in their footsteps. Clearly, what can be gleaned from these experiences does not necessarily apply elsewhere. The sample of countries remains small and country circumstances differ widely. However, the insights in this paper may inspire further investigation and allow countries to gain time by building on the experience of others.

Sahay, Ratna, Ulric Eriksson von Allmen, Amina Lahreche, Purva Khera, Sumiko Ogawa, Majid Bazarbash, and Kimberly Beaton. 2020.

"The Promise of Fintech: Financial Inclusion in the Post COVID-19 Era." *Departmental Paper No. 2020/009, International Monetary Fund, Washington, DC.*

Technology is changing the landscape of the financial sector, increasing access to financial services in profound ways. These changes have been in motion for several years, affecting nearly all countries in the world. During the COVID-19 pandemic, technology has created new opportunities for digital financial services to accelerate and enhance financial inclusion, amid social distancing and containment measures. At the same time, the risks emerging prior to COVID-19, as digital financial services developed, are becoming even more relevant.

Tok, Yoke Wang, and Dyna Heng. 2022.

"Fintech: Financial Inclusion or Exclusion?" *Working Paper No. 2022/080, International Monetary Fund, Washington, DC.*

This paper examines the role of Fintech in financial inclusion. Using Global Findex data and emerging

fintech indicators, we find that Fintech has a higher positive correlation with digital financial inclusion than traditional measures of financial inclusion. In the second stage of our empirical investigation, we examine the key factors that are correlated with the Fletcher School's three digital divides – gender divide, class (rich-poor) divide and rural divide. The results indicate that greater use of fintech is significantly associated with a narrowing of the class divide and rural divide but there was no impact on the gender divide. These findings imply that Fintech alone may not be sufficient to close the gender gap in access to financial services. Fintech development may need to be complemented with targeted policy initiatives aimed at addressing the gender gap directly, and at changing attitudes and social norms across demographics.

World Bank, and Bank for International Settlements. 2022.

[“What Does Digital Money Mean for Emerging Market and Developing Economies?” Fintech and the Future of Finance Flagship Technical Note, World Bank, Washington, DC.](#)

Physical cash and commercial bank money are dominant vehicles for retail payments around the world, including in emerging market and developing economies (EMDEs). Yet payments in EMDEs are marked by several key deficiencies, such as lack of universal access to transaction accounts, widespread informality, limited competition, and high costs, particularly for cross-border payments. Digital money seeks to address these deficiencies. This note categorizes new digital money proposals. These include crypto-assets, stable coins, and central bank digital currencies (CBDCs). It assesses the supply and demand factors that may determine in which countries these innovations are more likely to be adopted. It lays out particular policy challenges for authorities in EMDEs. Finally, it compares these with digital innovations such as mobile money, retail fast-payment systems, new products by incumbent financial institutions, and new entrants such as specialized cross-border money-transfer operators.

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