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BRETTON WOODS 2.0

ISSUE BRIEF

Developing an Agenda for IFIs and Central Bank Digital Currency

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The **GeoEconomics Center** develops data-driven programs, publications, and thought leadership at the nexus of economics, finance, and foreign policy. The Center aims to bridge the divide between these oft-siloed sectors with the goal of helping shape a more resilient global economy. Our work is built on the idea that the United States must lead with allies or risk becoming a bystander in a reshaped international financial system. The Center is organized around three pillars – the Future of Capitalism, the Future of Money, and the Economic Statecraft Initiative.

This issue brief is launched in January 2024 as part of the Atlantic Council GeoEconomics Center's Bretton Woods 2.0 Fellowship. This Fellowship aims to cultivate a new generation of economists to help reimagine the shape of the international financial system.

The **GeoEconomics Center's Bretton Woods 2.0 Project** examines the challenges facing the Bretton Woods Institutions and leverages data, research, and convenings to propose new solutions for the future of the IMF, World Bank, and World Trade Organization. The goal of the project is to deliver a blueprint for reforms in four key areas: governance and parallel institutions; macro-critical global trends; future of money and fintech; and non-state and quasi-state actors.

Introduction

Central bank digital currency (CBDC) is a digital version of cash issued by a central bank to be used either by individual consumers (retail CBDC, or rCBDC) or financial institutions (wholesale CBDC, or wCBDC). At the time of writing, more than one hundred central banks are pursuing CBDCs for a variety of motives: improving payments efficiency and upgrading existing financial infrastructure, increasing financial inclusion, and enhancing monetary policy transmission. CBDCs allow their developers unparalleled discretion in terms of their constituting features—inter alia, choice of design, accessibility, and programmability. CBDCs present unique opportunities and challenges for policymakers, regulators, market participants, and individuals, making this a transformational moment in the history of money.

International financial institutions (IFIs) have taken note of their member countries' burgeoning interest in CBDCs. IFI mandates and responsibilities intersect with CBDCs in several important ways. First, CBDCs may present new financial-stability challenges. This brings CBDC-related developments under the purview of the International Monetary Fund (IMF). Second, CBDCs' development potential (including financial inclusion)—a major force driving adoption in emerging markets and developing economies (EMDEs)—makes them relevant for the World Bank. Finally, the Bank for International Settlements (BIS), with its standard-setting committees, is a natural forum for discussion on issues related to technology and regulation around CBDC. Recognizing the intersection of CBDCs and their mandates, and spurred by the demands of member countries, these IFIs have been rapidly developing workstreams on CBDC.

Collectively, IFIs' efforts constitute an emerging global governance architecture for CBDCs. But is that emerging architecture appropriate, effective, and sufficient to manage the global transition to digital money? This report is an attempt to answer this question, with a focus on three domains: financial stability, development and financial inclusion, and global payment systems. One chapter is dedicated to each of these issues. Each chapter considers the risks, challenges, and opportunities associated with CBDC development, and discusses the mandates, activities, and plans of the international financial institutions. Finally, recommendations are made in each area to improve the global governance architecture for CBDCs.

Safeguarding Financial Stability

Financial Stability and CBDCs

Domestic Financial-Stability Risks

An inappropriately designed CBDC could pose substantial threats to domestic financial stability. Consider, for instance, a country that launches an interest-bearing rCBDC. Such a design choice could be implemented to empower monetary authorities to push interest rates below the zero lower-bound (ZLB) constraint. However, the combination of central-bank credibility and interest-bearing money (which is provided by the central bank directly, as opposed to through the commercial banking system) could lead consumers to substitute bank deposits for CBDC wallets. This could lead to unproductive competition between the central banks and commercial banks. Further, even non-interest-bearing CBDCs may create the conditions for deposit flight from banks if consumers view the central bank as a more credible option for depositing their savings. This would be especially true in a low-interest-rate regime, where bank deposit rates are near 0 percent.

CBDCs also have important implications for monetary policy. They can augment central bankers' "policy toolkit" by facilitating below-ZLB rates, increasing the amount of real-time information available, and allowing for more effective "helicopter drops," in which the central bank transfers money directly to households. But the introduction of CBDC can also introduce simultaneous challenges by disintermediation of bank deposits and weakening the banking-channel transmission of monetary policy.

Further, programmable CBDCs could constitute a novel form of economic stimulus, wherein "expiring" money could be used to increase consumers' marginal propensity to consume (MPC) during periods of distress. In normal times, however, such forms of money can pose risks to financial stability and could make citizens lose faith in the central bank if their CBDC-denominated savings are programmed to depreciate or "expire" rapidly.[1]

Widespread global adoption of rCBDCs could threaten smaller EMDE countries with currency substitution. For example, consider the impact of a widely available digital US dollar (USD). If residents of countries with volatile currencies gain easier access to a digital USD, they may seek to substitute their local currency with the USD for their payments, savings, and investments. Under this dollarization scenario, domestic policymakers might lose monetary autonomy, threatening their ability to stabilize the financial system during times of stress.

Global Financial-Stability Risks

The emergence of CBDCs could usher in a global payment architecture characterized by real-time, multi-currency, cross-border payments. The speed of global flows may pose a challenge for policymakers and regulators, who even today struggle to keep pace with novel financial-market developments. This could lead to the sudden development of global imbalances, particularly during times of financial stress.

A faster, more connected global financial system also threatens to transmit financial contagion more quickly. Domestic financial-stability risks could possibly spill over into the global financial system. For example, the collapse of a domestic banking system could threaten the financial stability of countries with high levels of exposure to the crisis-stricken country, particularly in an economy working with a CBDC.

Cybersecurity is also a risk that must be managed, failing which national and global financial stability could be jeopardized. A centralized, national CBDC system would be among the highest-value targets for malicious actors. Any breach of the CBDC architecture could destabilize financial markets in a number of ways: preventing users from accessing CBDCs, inhibiting functioning of payment systems, and eroding trust in the central bank and the financial system. This, in turn, could halt economic activity, freeze credit markets, and lead to runs on banks.

Assessing the IFIs: Financial Stability

Safeguarding financial stability is a core responsibility of the IFIs. The IMF (along with the Financial Stability Board, or FSB) is primarily responsible for monitoring the global financial system to identify emergent risks, establish standards for market participants, and facilitate global cooperation.

1 This is similar to how consumers lose faith in central banks during periods of excessive or hyperinflation. A good illustration of this phenomenon is Venezuela, where hyperinflation has prompted rapid cryptocurrency adoption at the expense of the Bolívar, the national currency. "Hyperinflation and Sanctions Evasion: What On-Chain Data Tells Us About Venezuelans' Trust in Cryptocurrency," Chainalysis, August 27, 2020, https://www.chainalysis.com/blog/venezuela-cryptocurrency-market-2020/.

The International Monetary Fund's mandate to ensure domestic and international financial stability provides a strong basis for addressing the financial-stability implications of CBDCs. The IMF is responsible for overseeing the international monetary system, which could come under strain following widespread global adoption of CBDCs. Consistent with this mandate, the IMF has published more than thirty papers about CBDCs since 2017.[2] These papers have focused on a range of topics, including policy considerations, monetary policy implications, and more.

Through these papers, the IMF is building the internal capacity and analytical foundation needed to provide technical assistance to member countries. To date, more than forty countries have approached the IMF for technical assistance (TA), though its current budget allotted to CBDC work is insufficient to meet this demand. Maintaining a "ten-thousand-foot view" on various CBDC issues, rather than engaging on technical details in specific countries, is most realistic, given the IMF's growing responsibilities, resource constraints, and governance system.

To date, the IMF has taken a cautious approach to developing policy views, and has not taken any institutional positions. However, the IMF's managing director has taken a position on CBDC design decisions that are relevant to financial stability, including non-interest-bearing CBDCs and central-bank limits on CBDC holdings. Concrete views related to CBDCs and financial stability must be developed and shared more quickly.

One of the IMF's most important contributions to global financial stability is its surveillance work, especially Article IV reports and the associated Financial Sector Assessment Programs (FSAP). CBDC-related developments have not yet been fully integrated into these reports. For example, while CBDCs are commonly mentioned in Article IV reports discussing countries that have either piloted or launched a CBDC, discussions have been limited and general. The 2022 Article IV report covering the Bahamas discusses some technical details of the sand dollar's design and describes uptake.[3] But it does not fully consider why the project has not been successful, discuss which technical design or policy features prevent broader uptake, or assess oversight and governance of the CBDC.

Going forward, the IMF has committed to "rapidly widen and deepen its work on digital currency." This includes scaling up resources devoted to CBDC-related work, some of which have already been secured from the executive board. The centerpiece of the IMF's future work will be its CBDC handbook, a major work including twenty chapters covering policy objectives, design choices, technology, macro-financial impacts, and more. The handbook is currently under development and will be released in the next five years. Given the rapid development of CBDCs globally, the release of this handbook could be expedited.

The Bank for International Settlements has an important role to play with regard to cybersecurity. For example, Project Polaris is a research initiative focused on secure and resilient CBDCs. The project, which is based out of the BIS Innovation Hub Nordic Centre, has published papers on secure offline payments, a security framework for CBDC systems, and cyber-threat modeling. Through this work, the BIS aims to aid central banks as they design and implement CBDCs. Beyond its research agenda, the BIS is also serving as a venue for various stakeholders to discuss cybersecurity concerns, share best practices, and establish a global community of practice. Its first major conference on the topic took place in 2023.

Recommendations

1. **Enhance surveillance.** The IMF, World Bank, and others must fully incorporate CBDCs into existing surveillance products like Article IV and FSAP reports. Doing so would provide needed comparative information and help build both an empirical foundation and staff capacity to enable deeper work on the subject. Enhanced surveillance will also inform the IMF's future activities on CBDC. If CBDCs become a significant, global financial risk, then the IMF must be prepared to adapt and expand its digital-currency portfolio. If not, then it must continue to track evolutions in central-bank money.

2. **Model CBDC impacts.** The IMF and other relevant institutions must do more work to model the impact of a CBDC launch in diverse countries and under various circumstances. Fund economists have modeled demand for CBDCs in the United States and United Kingdom. More work along these lines should be done to rigorously consider various future scenarios.

2 These have been published under a variety of categories, including Fintech Notes, policy papers, working papers, FSAP reports, and issues of the *F&D* magazine. See the Annex for more details.

3 The Bahamas is one of the few countries around the world with an active, functional CBDC.

A woman gets her phone's QR code of the digital payment services scanned at a food shop, following the coronavirus disease (COVID-19) outbreak, in Shanghai, China October 10, 2020. REUTERS/Aly Song.

3. **Share best practices on CBDC messaging.** Central banks can be effective public communicators, but they are typically inexperienced around CBDC-related concerns. IFIs can support central banks in these efforts by compiling and sharing best practices on CBDC messaging and public education.

4. **Consolidate work on cybersecurity.** Chapter 5 of the upcoming IMF CBDC handbook will examine issues of cyber readiness and resilience. This should be consolidated with the findings of the BIS Innovation Hub's work on cybersecurity, and first-mover central banks that have functional CBDCs.

Embracing the Development Potential of CBDC

Economic Development, Financial Inclusion, and CBDCs

Many countries are pursuing CBDCs to advance financial inclusion and harness the developmental benefits of new financial technologies. For EMDEs in particular, financial inclusion constitutes the largest single motivation for pursuing a CBDC. Policymakers also envision CBDCs helping modernize and expand financial services—especially banking and payments—to unbanked citizens. Consider the Bahamas, whose sand dollar CBDC was able to modestly expand access to financial services and reduce the cost of mobile payments. Both facets were previously major challenges, given the barriers posed by the country's unique geography of seven hundred islands, of which just thirty are inhabited.

Similarly, CBDCs could have significant implications for fiscal policy, an area that remains relatively unexplored.[4] The ability to settle transactions instantly could make CBDCs especially useful for government-to-person (G2PX) transactions like tax and transfer payments. Further, a CBDC-based financial architecture could result in more effective public financial management (PFM)—including treasury transfers to and from subnational governments, cash/liquidity management, public procurements, etc.—and, therefore, help build capacity.

CBDCs may also have secondary benefits, like reducing corruption facilitated by physical cash. A traceable CBDC system, while concerning from civil-rights and privacy perspectives, can reduce corruption, potentially leading to a more equitable distribution of public resources. Appropriately designed CBDCs may also support formalization by bringing economic activity under the scope of tax authorities. This would increase countries' tax revenues, a useful development in periods of high debt and rising interest rates.

CBDCs can also be used for redistributive purposes. Consider a sovereign that decides to replace existing cash with an interest-bearing rCBDC. Funding rCBDC interest payments by the central bank's seigniorage income could constitute a novel form of income redistribution. Such a design may seem at odds with maintaining financial stability. However, this need not be the case, and an interest-bearing CBDC can have its own set of advantages, such as strengthening the interest-rate channel of monetary policy transmission by inducing competition in the banking system.

On the other hand, the emergence of CBDCs may also skew global development by widening the digital divide across countries. For example, if CBDCs constitute the primary vehicle of global commerce and finance, countries lacking them (or access to CBDC multi-country platforms) would be effectively locked out of global economic activity, leading to adverse developmental consequences.

Assessing the IFIs: Development and Financial Inclusion

IFIs have tentatively embraced the developmental potential of CBDCs, although further work is needed to realize their true potential.

The World Bank has a long-standing commitment to financial inclusion as a pillar of its poverty-reduction efforts. Since 2021, it has begun incorporating CBDCs into this framework. In 2021, the World Bank published three technical papers focused on CBDC design, payments systems, and cross-border payments. Other topics it has covered include financial inclusion and the environmental impact of CBDCs. However, the volume and depth of the World Bank's research on CBDCs significantly lags behind those of the IMF and BIS (see the Annex for more details).

The World Bank has also organized events to encourage dialogue on the financial-inclusion benefits of CBDCs. It is also supporting the development of digital public infrastructure, through its Identification for Development (ID4D) and G2PX programs. Both programs demonstrate the bank's capacity for supporting the development of digital public infrastructure.

The Bank for International Settlements has taken a lead among IFIs on the technical development of CBDCs. As part of this work, the BIS has considered how to design secure, resilient offline payment systems for CBDC (such as Project Polaris). This is an important contribution, as offline payments could be implemented in low-income, low-connectivity areas.

Recently, the BIS Innovation Hub announced that it is collaborating with the World Bank to tokenize paper-based promissory notes used in development funding. This is a welcome development, a first-of-its-kind IFI collaboration that seeks to use digital token-based money for development-oriented objectives. Building on this project, the World Bank and the BIS can explore other areas of development finance that would benefit from the advantages offered by tokenization and how this could be incorporated in a CBDC-based financial architecture.

While development and financial inclusion are not formally within the realm of the International Monetary Fund, its comprehensive approach to CBDC—in developing

4 A notable exception is a recent IMF paper on the use of fintech for public financial management. Gerardo Uña, et al., "Fintech Payments in Public Financial Management: Benefits and Risks," International Monetary Fund, February 3, 2023, https://www.imf.org/en/Publications/WP/Issues/2023/02/03/Fintech-Payments-in-Public-Financial-Management-Benefits-and-Risks-529100.

A police officer stands guard next to the main entrance to the venue for the upcoming meetings of the International Monetary Fund and the World Bank in Marrakech, Morocco October 8, 2023. REUTERS/Susana Vera.

guidance notes, modeling efforts, and online courses—can help developing countries build capacity.[5]

IFIs, especially the World Bank, have not paid sufficient attention to the development and financial-inclusion benefits of CBDCs, despite significant interest from member countries. The lack of focus has created several major gaps in the global architecture. First, there has been limited peer learning and cooperation. A majority of the World Bank's activities in this area have been bilateral, and its analytical papers tend to focus on high-level principles, rather than detailed comparative information. Second, IFIs have played a limited role with regard to technological development and experimentation, especially for EMDE countries.[6] Third, the evidence base focuses almost exclusively on the financial-inclusion benefits of CBDCs, and does not consider broader benefits like anti-corruption and formalization.

Recommendations

1. **Establish a shared agenda on financial inclusion and CBDCs.** Various international institutions have a role to play on this issue. To establish common goals and shared expectations, IFIs should develop a shared agenda that outlines guiding principles. The Bali Fintech Agenda provides a suitable template.

2. **Invest in digital public infrastructure.** IFIs should situate their work on CBDCs within a broader initiative to build digital public infrastructure. Central-bank digital money and modern payment systems can be incorporated in a functional "government stack" that includes digital identification, digital public services,

5 See for instance: "Central Bank Digital Currencies: Principles and Policy Considerations (CBDC)," International Monetary Fund, last visited December 11, 2023, https://www.imf.org/en/Capacity-Development/Training/ICDTC/Courses/CBDC.

6 It is notable for instance, that nearly all BIS Innovation Hub projects involve only advanced-economy central banks.

and more. These tools should constitute digital public goods and focus on development-focused functionalities, such as offline payments.[7] This would support low-income countries and resource-constrained central banks in their efforts to achieve greater financial inclusion through CBDCs.

3. **Build an evidence base for financial inclusion.** Given widespread interest in the financial-inclusion benefits of CBDCs, IFIs should invest in building an evidence base in this area. The Group of Twenty (G20) can task its Global Partnership for Financial Inclusion with creating a subgroup on CBDC that would focus on building empirical evidence.

4. **Support the development of multistakeholder forums for CBDC development.** In most countries, effectively designing and managing a CBDC will require public-private partnerships. To build trust, central banks must engage a full range of actors—including the private sector and civil society—in the development and governance of CBDCs. The World Bank can support these efforts by sharing comparative information and by connecting peer countries to discuss multistakeholder governance.

Complementing Global Payment Systems

CBDCs and the Future of International Payments

Globally, developments in financial technology have meant that domestic payments are, for the most part, fast, convenient, and available at all hours. This is unlike cross-border payments, which are often characterized by low speed, high cost, and insufficient transparency, and remain works in progress. If appropriately designed, CBDCs can offer several benefits for cross-border payments—*inter alia*, enhanced efficiency, compatibility, safety, and integration. While rCBDCs can enhance money transfers, small-scale transactions, and remittances across countries, wCBDCs can facilitate cross-border trade and capital flows. Both advanced-economy (AE) and EMDE countries view CBDCs as an increasingly important tool for enhancing cross-border payments.

At the same time, the opportunity CBDCs offer to start with a "clean slate" for cross-border payments does not hold as much promise as initially purported. The rapid state of CBDC development globally has increased the possibility of divergence across CBDC design and governance features adopted by issuing central banks. This can lead to issues of non-compatibility and lack of interoperability across borders.

The use of CBDC for international payments can also have geopolitical implications. Central banks may find it easier to develop cross-border CBDC initiatives within existing blocs and alliances.[8] While this may bode well for countries within such arrangements, it may lead to divergent CBDC systems at the international level. Ensuring compatibility of CBDC-based financial architecture across regions would undoubtedly be more challenging. Divergent efforts might influence international trade and capital flows, further exacerbating existing geopolitical and geoeconomic fragmentation.[9] Moreover, disparate CBDC development can further the efforts of countries looking to move away from existing global financial infrastructure. Cooperation and coordination on international forums, therefore, assume significant importance.

Finally, policy discourse on the role of the private sector has been limited with respect to CBDCs and cross-border payments. It is worth noting that international payments were almost entirely within the realm of the private sector before they were taken up at the multilateral level by the Saudi presidency of the Group of 20 (G20) in 2020. Hence, private players process significant expertise and innovative ability. The appropriate role for the private sector with respect to CBDCs and international payments remains an open question.

7 "Roadmap for Digital Cooperation: Report of the Secretary General," United Nations, 2020, https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap_for_Digital_Cooperation_EN.pdf.

8 These can be economic, political, or geographical.

9 Geoeconomic fragmentation (GEF) refers to a multidimensional, policy-driven reversal of global economic integration, which can include: unravelling of trade links, restrictions on cross-border labor migration, and reduction of cross-border capital flows. Shekhar Aiyer, et al., "Geoeconomic Fragmentation and the Future of Multilateralism," International Monetary Fund, January 15, 2023, https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2023/01/11/Geo-Economic-Fragmentation-and-the-Future-of-Multilateralism-527266.

Indian Prime Minister Narendra Modi appears on a screen as he attends "Session II: One Family" at the G20 summit in New Delhi, India, September 9, 2023. REUTERS/Evelyn Hockstein/Pool

Assessing the IFIs: Payment Integration

International Payments and Multilateralism

Cross-border payments, per se, do not fall directly under the mandates of the IMF, the World Bank, or the BIS. Regardless, cross-border payments assume importance in a variety of policy contexts—macro-financial implications (IMF), development and financial inclusion (World Bank), and payment infrastructure (BIS, CPMI)—which makes them relevant for IFI engagement.

Global cooperation on cross-border payments has been comprehensive. This has been primarily on account of the Saudi Arabia presidency of the G20, which made the improvement of cross-border payments a global priority. The G20 tasked the FSB, along with a number of international organizations and standard-setting bodies, with developing a roadmap for the same. This roadmap (which was completed and endorsed by the G20 in 2020) was structured around nineteen "building blocks," or areas where further cooperation was required. Building Block 19 pertains to the use of CBDC to further enhance cross-border payments.

Under this building block, the IMF, World Bank, and BIS (along with FSB and CPMI, the Committee on Payments and Market Infrastructures) have collaboratively released multiple reports relating to various facets of CBDCs and international payments, including, but not limited to: design choices, opportunities and risks, and international macro-financial implications.

Individual IFI Efforts

The BIS, through its Innovation Hub, has worked extensively on technical aspects of CBDC design, development, implementation, and operation. In conjunction with a number of central banks and private-sector actors globally, the BIS Innovation Hub has developed a variety of innovative solutions for cross-border payments using CBDC. Project Icebreaker, for instance, links rCBDC domestic payment systems, and uses a hub-and-spoke solution to ensure fast, low-risk, scalable, and transparent cross-border payments.

The IMF has not focused singularly on the payments aspect of CBDCs, but has covered the topic as part of broader assessments in its Fintech Notes and working papers. Chapter 18 of the IMF's upcoming handbook on CBDCs will cover the topic as well. Notably, the World Bank has been active in the realm of international payments, and has extended these efforts to CBDCs, including a comprehensive report on the cross-border potential of CBDCs.

Recommendations

1. **Clearly demarcate responsibilities to minimize mission creep.** The G20's focus on cross-border payments has resulted in a large body of work by a number of IFIs and standard-setting bodies (SSBs). These comprise the following: FSB, CPMI, the Basel Committee on Banking Supervision (BCBS), IMF, World Bank, and International Organization of Securities Commissions (IOSCO). For CBDCs and international payments (Building Block 19 of the G20 agenda), IFIs have mostly released joint reports. Going forward, IFIs involved should clearly demarcate the domains in which they can specialize—such as technology aspects, governance design, macro-financial implications, and legal challenges—to avoid duplication of efforts and mission creep.

2. **Increase research focus on cross-border legal and governance issues.** Existing efforts by the BIS have successfully developed solutions for cross-border payments using CBDC and novel digital-payment infrastructure. While not a traditional focus area for the IFIs, they could turn their focus to the legal and governance challenges of cross-border CBDC—information sharing, data storage, differing legislative treatment of payments, etc. The IMF legal department has already worked on the domestic-law aspects of CBDCs, and could take the lead in collaborating with the BIS Innovation Hub on this front.

3. **Develop best practices on private-sector involvement across borders, especially multinational private firms.** BIS Innovation Hub projects have involved a variety of private-sector actors, including fintechs, commercial banks, technology consultancies, and law firms. However, their roles and responsibilities are not clear. Similarly, the CBDC block of the CPMI Cross-Border Payments Programme does not give any significant attention to potential private-sector involvement. Given the private sector's experience in technology and cross-border payments, IFIs should collectively develop best practices on the following: the nature of private-sector involvement, appropriate actors, associated roles and responsibilities, potential risks, and requisite safeguards.

Guiding Principles For Action

CBDCs represent a new line of work for IFIs. As seen above, IFIs' self-appointed roles have been broadly aligned with their historic functions, although these efforts have often overlapped. Further work on CBDCs will likely require new staff, new procedures, and new organizational arrangements. To be more effective in operationalizing their work on CBDCs, we propose some guiding principles for IFIs in line with our assessment of their existing efforts.

- **Embrace a demand-driven approach.** This would allow member countries to guide the activities and priorities of IFIs. For example, a large number of member countries, especially EMDEs, are interested in the financial-inclusion benefits of CBDCs. IFIs should, therefore, continue to make progress on this issue. IFI activities should reflect the needs and interests of their membership, and not those of independent actors with their own agendas.

- **Protect institutional legitimacy.** Relevant policy and technical considerations of CBDCs constitute fundamental questions about the role of governments and central banks in the economy. Engaging on complex political-economy questions requires IFIs to protect their own legitimacy. Today's political landscape is challenging for IFIs; new workstreams should recognize these challenges and work toward building legitimacy.

- **Incorporate diverse perspectives.** Bringing different voices to the table is a requirement. IFIs must engage with diverse actors—including the private sector and civil society—to build and maintain expertise in CBDCs. More importantly, facilitating the participation of diverse actors ensures that work on CBDCs is equitable and broadly representative of stakeholder priorities.

- **Think big.** To date, IFIs have taken a cautious approach to CBDCs.[10] While their prudence is

10 Notable exceptions include: Tobias Adrian, et al., "A Multi-Currency Exchange and Contracting Platform," International Monetary Fund, November 4, 2022, https://www.imf.org/en/Publications/WP/Issues/2022/11/04/A-Multi-Currency-Exchange-and-Contracting-Platform-525445; "Blueprint for the Future Monetary System: Improving the Old, Enabling the New," BIS, 2023, https://www.bis.org/publ/arpdf/ar2023e3.pdf.

understandable, ambition and boldness are needed. IFIs should continue to embrace the possibilities presented by the emergence of new digital technologies for money—*inter alia*, programmability, composability, and tokenization.

Discussion and Conclusion

At a time of significant geopolitical and geoeconomic fragmentation, global cooperation and collaboration assume additional importance. While absolute convergence may not be possible (or even desirable), the rise of fragmented technological and payments systems can exacerbate existing differences and imbalances across countries. CBDCs represent a unique opportunity for IFIs to build on their legitimacy, especially if they engage countries that fall outside traditional country groupings and classifications.

With respect to specific roles, both the IMF and BIS have taken a de facto lead with respect to research and policy issues around CBDCs, broadly in line with their mandates. While the World Bank has also been involved with CBDCs, its capabilities and expertise are well placed to explore development-related use cases of CBDCs, centered around the needs of lower-income countries.

IFI cooperation has traditionally been strong, especially the two Bretton Woods (BW) institutions: the IMF and the World Bank. A recent joint statement by the two institutions mentions "digital transition" as a key area of cooperation between the two organizations, and work on CBDCs can be included under its purview.[11] However, CBDCs involve a wider variety of stakeholders than just the BW institutions. These include central banks, the private sector, civil-society groups and non-BW multilateral institutions (such as the BIS) and initiatives (such as those by the G20, Group of Seven (G7), etc.). Therefore, the development of an international CBDC working group with the IMF, BIS, World Bank, central banks, and private-sector market participants would be a necessary step for global discussion and collaboration on various CBDC-related topics discussed in this report.

To conclude, this report offers some novel and practical recommendations the IFIs can undertake to ensure this across three domains: financial stability, development, and cross-border payment systems. IFIs need to do more work in developing collaborative efforts and cross-functional partnerships across a wide variety of actors to ensure the achievement of the ultimate goal: a more stable, equitable, and efficient global financial system.

11 "Joint Statement of the IMF Managing Director and of the World Bank President," International Monetary Fund, press release, September 7, 2023.

Annex: IMF, BIS, and World Bank Research on CBDCs

1) Bank for International Settlements Research on CBDCs

	Category	Paper/Report Title	Date	Topic/Theme
1	BIS Quarterly Review	Central Bank Cryptocurrencies	9-17-2017	Overview
2	CPMI / Markets Committee Report	Central Bank Digital Currencies	3-13-2018	Overview
3	BIS Papers	Proceeding with Caution—a Survey on Central Bank Digital Currency	1-8-2019	Survey article
4	BIS Papers	Impending Arrival—a Sequel to the Survey on Central Bank Digital Currency	1-23-2020	Survey article
5	BIS Quarterly Review	The Technology of Retail Central Bank Digital Currency	3-1-2020	Design (rCBDC)
6	BIS Bulletin	COVID-19, Cash, and the Future of Payments	4-3-2020	Adoption
7	BIS Working Papers	Rise of the Central Bank Digital Currencies: Drivers, Approaches and Technologies	8-24-2020	Overview
8	BIS IH report	Central Bank Digital Currencies: Foundational Principles and Core Features	10-9-2020	Overview
9	BIS IH report	Project Helvetia Phase I: Settling Tokenized Assets in Central Bank Money	12-3-2020	Settlement (wCBDC/DLT)
10	BIS Papers	Multi-CBDC Arrangements and the Future of Cross-Border Payments	3-19-2021	Cross-border payments
11	BIS Working Papers	The Digitalization of Money	5-19-2021	Overview
12	BIS Working Papers	Central Bank Digital Currency: the Quest for Minimally Invasive Technology	6-8-2021	Design
13	BIS Papers	CBDCs Beyond Borders: Results from a Survey of Central Banks	6-11-2021	Survey article
14	BIS IH Report	Central Bank Digital Currencies: System Design and Interoperability	9-2021	Design
15	BIS IH Report	Central Bank Digital Currencies: User Needs and Adoption	9-2021	Adoption
16	BIS IH Report	Central Bank Digital Currencies: Financial Stability Implications	9-2021	Financial stability
17	BIS IH Report	Central Bank Digital Currencies: Executive Summary	9-2021	Overview
18	BIS IH Report	Inthanon-LionRock to mBridge: Building a Multi-CBDC Platform for International Payments	9-28-2021	Cross-border payments
19	BIS IH Report	Central Bank Digital Currencies—Executive Summary (rCBDC)	9-30-2021	Overview (rCBDC)
20	BIS Working Papers	Central bank Digital Currencies: Motives, Economic Implications and the Research Frontier	11-4-2021	Overview

21	BIS IH Report	Project Jura—Cross-Border Settlement Using Wholesale CBDC	12-8-2021	Cross-border settlements (wCBDC)
22	BIS IH Report	Project Helvetia Phase II: Settling Tokenized Assets in Wholesale CBDC	1-13-2022	Settlement (wCBDC)
23	BIS Working Papers	Central Bank Digital Currencies (CBDCs) in Latin America and the Caribbean	1-13-2022	Overview (regional)
24	BIS IH Report	Project Dunbar—International Settlements Using Multi-CBDCs	3-22-2022	Cross-border settlements (multiple CBDCs)
25	FSI Insights	Central Bank Digital Currencies: a New Tool in the Financial Inclusion Toolkit?	4-12-2022	Financial inclusion
26	BIS Papers	CBDCs in Emerging Market Economies	4-14-2022	Multiple: conference proceedings
27	BIS Papers	Gaining Momentum—Results of the 2021 BIS Survey on Central Bank Digital Currencies	5-6-2022	Survey article
28	BIS IH Report	Using CBDCs across Borders: Lessons from Practical Experiments	6-21-2022	Overview (learnings)
29	CPMI/Markets Committee Report	Can Multilateral Platforms Improve Cross-Border Payments?	7-21-2022	Cross-border payments
30	BIS IH Report	Project Aurum: a Prototype for Two-Tier Central Bank Digital Currency (CBDC)	10-21-2022	wCBDC and rCBDC prototype
31	BIS IH Report	Project mBridge: Connecting Economies through CBDC	10-26-2022	Cross-border payments (multiple CBDCs)
32	BIS Working Papers	The Case for Convenience: How CBDC Design Choices Impact Monetary Policy Pass-Through	11-7-2022	Monetary policy
33	BIS Papers	Central Bank Digital Currencies in Africa	11-24-2022	Overview (regional)
34	BIS IH Report	Project Icebreaker: Breaking New Paths in Cross-Border Retail CBDC Payments	3-6-2023	Cross-border payments (rCBDC)
35	BIS Working Papers	CBDC Policies in Open Economies	4-3-2023	Macro-financial risks
36	BIS IH Report	Project Polaris: Handbook for Offline Payments with CBDC	5-11-2023	Offline payments (rCBDC)
37	BIS IH Report	Central Bank Digital Currencies: Ongoing Policy Perspectives	5-25-2023	Overview
38	BIS IH Report	Project Polaris: a Security and Resilience Framework for CBDC Systems	7-7-2023	Cybersecurity
39	BIS IH Report	Project Polaris: Closing the CBDC Cyber Threat Modeling Gaps	7-7-2023	Cybersecurity

40	BIS Papers	Making Headway—Results of the 2022 BIS Survey on Central Bank Digital Currencies and Crypto	7-10-2023	Survey article
41	BIS IH Report	Lessons Learned on CBDCs: Report Submitted to the G20 Finance Ministers and Central Bank Governors	7-11-2023	Overview
42	FSI Executive Summaries	Central Bank Digital Currencies—Executive Summary	8-31-2023	Overview
43	BIS IH report	Project Sela: an Accessible and Secure Retail CBDC Ecosystem	9-12-2023	rCBDC platform
44	BIS Working Papers	CBDC and the Operational Framework of Monetary Policy	9-27-2023	Monetary policy
45	BIS IH report	Project Mariana: Cross-Border Exchange of Wholesale CBDCs Using Automated Market-Makers	9-28-2023	Trading and settlement (wCBDC and FX)

2) International Monetary Fund Research on CBDCs

	Category	Paper/Report Title	Date	Topic/Theme
1	Staff Discussion Note	Fintech and Financial Services: Initial Considerations (Annex III)	6-16-2017	Overview
1	F&D Magazine	Money, Transformed: The Future of Currency in a Digital World	6-1-2018	Non-technical
2	Staff Discussion Note	Casting Light on Central Bank Digital Currencies	11-12-2018	Overview
3	Working Paper	Cash Use Across Countries and the Demand for Central Bank Digital Currency	3-1-2019	Demand for CBDC
4	Fintech Notes	The Rise of Digital Money	7-5-2019	Overview
5	Working Paper	Designing Central Bank Digital Currencies	11-18-2019	Design: interest/ non-interest bearing
6	Working Paper	Money Creation in Fiat and Digital Currency Systems	12-20-2019	Conceptual clarity
7	Working Paper	A Survey of Research on Retail Central Bank Digital Currency	6-26-2020	Survey article
8	Policy Paper	Digital Money across Borders—Macro Financial Implications	10-19-2020	Macro-financial implications
9	Working Paper	Legal Aspects of Central Bank Digital Currency: Central Bank and Monetary Law Considerations	11-20-2020	Legal aspects

10	Policy Paper	The Rise of Public and Private Digital Money: A Strategy to Continue Delivering on The IMF's Mandate	6-29-2021	Institutional engagement
11	Policy Paper	The Rise of Digital Money: A Strategic Plan to Continue Delivering On The IMF's Mandate	7-29-2021	Institutional engagement
12	Working Paper	Falling Use of Cash and Demand for Retail Central Bank Digital Currency	2-4-2022	CBDC demand
13	Fintech Notes	Behind the Scenes of Central Bank Digital Currency: Emerging Trends, Insights, and Policy Lessons	2-9-2022	Overview
14	Working Paper	Cross-Border Central Bank Digital Currencies, Bank Runs and Capital Flows Volatility	5-6-2022	Financial stability
15	Working Paper	Digital Money and Central Bank Operations	5-6-2022	Monetary policy
16	Fintech Notes	Digital Currencies and Energy Consumption	6-7-2022	Environmental implications
17	F&D Magazine	The Money Revolution: Crypto, CBDCs, and the Future of Finance	9-1-2022	Non-technical
18	Fintech Notes	Towards Central Bank Digital Currencies in Asia and the Pacific: Results of a Regional Survey	9-28-2022	Survey article
19	Working Paper	Digital Money and Central Banks Balance Sheets	10-28-2022	Monetary policy
20	Working Paper	A Multi-Currency Exchange and Contracting Platform	11-4-2022	Multilateral platform for cross-border payments
21	Working Paper	To Demand or Not to Demand: On Quantifying the Future Appetite for CBDC	1-20-2023	Demand for CBDC
22	Working Paper	Crypto Assets and CBDCs in Latin America and the Caribbean: Opportunities and Risks	2-17-2023	Overview (regional)
23	Policy Paper	IMF Approach to Central Bank Digital Currency Capacity Development	4-9-2023	IMF engagement
24	Working Paper	Central Bank Digital Currency and Financial Inclusion	4-17-2023	Financial inclusion
25	Working Paper	Monetary Policy Implications of Central Bank Digital Currencies: Perspectives on Jurisdictions with Conventional and Islamic Banking Systems	4-17-2023	Monetary policy (Islamic banking systems)
26	Working Paper	Some Lessons from Asian E-Money Schemes for the Adoption of Central Bank Digital Currency	6-9-2023	Adoption
27	Working Paper	Central Bank Digital Currency Adoption: A Two-Sided Model	6-16-2023	Adoption
28	Fintech Notes	How Should Central Banks Explore Central Bank Digital Currency	9-8-2023	Overview

29	Fintech Notes	A Guide to Central Bank Digital Currency Product Development	9-8-2023	Product development
30	Fintech Notes	Implications of Central Bank Digital Currencies for Monetary Policy Transmission	9-15-2023	Monetary policy
31	Fintech Notes	CFMs in the Digital Age (2): Design Choices for CBDC	9-15-2023	CBDC design (cross-border flows)
32	Fintech Notes	Central Bank Digital Currency's Role in Promoting Financial Inclusion	9-2-2023	Financial inclusion

3) The World Bank Research on CBDCs

	Category	Paper Title	Date	Topic/Theme
1	WB Working Papers	Environmental Implications of a Central Bank Digital Currency (CBDC)	7-2021	Environmental implications
2	Sector/Thematic Study	Central Bank Digital Currency: A Payments Perspective	11-2021	Domestic payments
3	Sector/Thematic Study	Central Bank Digital Currency: Background Technical Note	11-2021	Technical note: rCBDCs
4	Sector/Thematic Study	Central Bank Digital Currencies for Cross-border Payments: A Review of Current Experiments and Ideas	11-2021	Cross-border payments
5	All About Finance (Blog)	CBDC and Financial Inclusion: Changing the Paradigm (Part 1)	10-3-2022	Overview (non-technical)
6	All About Finance (Blog)	CBDC and Financial Inclusion: Changing the Paradigm (Part 2)	10-11-2022	Overview (non-technical)
7	All About Finance (Blog)	Expiring Money (Part I)	11-2-2022	Overview (non-technical)
8	All About Finance (Blog)	Expiring Money (Part II)	11-7-2022	Overview (non-technical)
9	All About Finance (Blog)	Is Central Bank Digital Currency the right tool to Expand Financial Inclusion?	12-1-2022	Overview (non-technical)

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