



Task Force 03

REFORMING THE INTERNATIONAL FINANCIAL ARCHITECTURE

A Path to Inclusive and Resilient Global Financial Architecture: Exploring the Potential of Central Bank Digital Currencies

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Abstract

The hierarchical architecture of the current International Monetary System (IMS) revolves around the supremacy of the U.S. dollar and its associated financial infrastructure. In times of crisis, this framework incorporates models of monetary cooperation that depend on lenders of last resort to provide access to currency, ensuring monetary stability. Yet, policy initiatives involving Central Bank Digital Currencies (CBDCs) and Distributed Ledger Technology (DLT) may present an alternative institutional design to this structure. Monetary innovations like multi-CBDC platforms can enable direct currency exchange among central banks without relying on the U.S. dollar and its correspondent global banking networks. The Bank for International Settlements (BIS) is spearheading central bank cooperation through initiatives establishing an interoperable multi-CBDC platform. By facilitating direct settlements in local currencies, such platforms could reduce reliance on U.S. dollar liquidity during crises and expand monetary autonomy of nations. However, robust governance frameworks and international collaboration are required to address emerging risks and challenges. Access to this collaborative network should also be expanded under G20 leadership to foster a more inclusive IMS. Through open dialogue and exchange of expertise facilitated by the BIS and guided by the G20, this process should aim to contribute to a more equitable and future-proof IMS serving all nations while navigating the complexities of DLT-based monetary innovation.

Keywords: International Monetary System (IMS), Central Bank Cooperation, Central Bank Digital Currencies (CBDC), Distributed Ledger Technology (DLT).

Diagnosis of the issue

The current International Monetary System (IMS) can be characterized by a hierarchical architecture, underscoring the critical role of the U.S. dollar as the dominant international money and its central position within the global financial infrastructure. This architecture relies on a costly network of correspondent banks in the eurodollar market,¹ connected through the SWIFT system,² sustaining capital flows across different jurisdictions (Duran and Steinberg, 2024). In the aftermath of global crises, the U.S. dollar and its issuer, the Federal Reserve, tend to retain their dominant roles within the IMS. This not only reaffirms the enduring significance of the U.S. dollar but also sheds light on fundamental issues related to inequalities within the global infrastructure.

The management of financial crises has traditionally reinforced the governance and legal frameworks designed to address disturbances within the U.S. dollar-led IMS. Since the 2008 financial crisis, the lender of last resort³ for global markets has primarily relied on a network of U.S. dollar swap agreements among central banks at the core of the IMS. Central bank cooperation has shaped an infrastructure based on bilateral currency swaps to support the international uses of the U.S. dollar - i.e., the eurodollar - as the main form of international money (Mehrling, 2015). While the effectiveness of this framework for

¹ The eurodollar market is the offshore market for U.S. dollar-denominated deposits and lending outside of the United States, the issuing country of this currency.

² Society for Worldwide Interbank Financial Telecommunications.

³ A lender of last resort is an institution or a mechanism that provides emergency liquidity to countries facing financial crises or severe balance of payments issues. This role is crucial for maintaining stability in the IMS and preventing economic contagion.

providing liquidity is undeniable, access to this exclusive club is permanently limited to a select few central banks in advanced economies,⁴ with few exceptions in times of crisis⁵ (Steil, Della Rocca, and Walker, 2024; Duran, 2020, 2017).

For countries on the periphery of the IMS, the International Monetary Fund (IMF) serves as the principal lender of last resort. However, its external support often comes with conditions that can constrain these countries' independent decision-making. Indeed, the economic and legal capacity to issue debt in one's currency, coupled with the currency's role within the IMS, are key factors in ensuring State solvency and, consequently, monetary sovereignty (Ferreira-Lima, 2022).

The current system offers multilateral and bilateral policy tools to ensure liquidity and, therefore, stability during crises. Yet, it also perpetuates imbalances and restricts the monetary autonomy of countries on the periphery of the IMS. Addressing these inequalities and promoting a more inclusive and balanced monetary order remains a significant challenge.

Policy initiatives involving the issuance of Central Bank Digital Currencies (CBDCs) for cross-border transactions can potentially present an alternative approach to enhancing the resilience and inclusiveness of the International Monetary System (IMS). Based on Distributed Ledger Technology (DLT), monetary innovations regarding CBDC platforms can allow national central banks to directly exchange their own currencies without relying

⁴ As part of a standing arrangement, these central banks are Bank of Canada, Bank of England, Bank of Japan, European Central Bank, and Swiss National Bank.

⁵ For instance, in 2008 and again in 2020, the Federal Reserve authorized temporary U.S. dollar swap lines with the following countries: Australia, Brazil, Denmark, South Korea, Mexico, New Zealand, Norway, Singapore, and Sweden.

on a third medium of exchange, such as the eurodollar, and its traditional network of correspondent banking connected through the SWIFT system.

The significance of CBDCs extends beyond the currencies themselves to the DLT-based financial infrastructure, i.e., multi-CBDC platforms, enabling the exchange of various types of money. This includes not only currencies issued by States, but also private money issued by financial institutions. Specifically, CBDCs hold a unique legal status under monetary laws known as legal tender, compelling debtors to accept them as the ultimate means of payment within borders. Moreover, CBDCs have the potential to provide heightened security by mitigating solvency risks, positioning them as a strategic form of central bank money within an interconnected monetary infrastructure at global levels.

There are two types of CBDCs: retail CBDCs for the general public and wholesale CBDCs designed for financial intermediaries. The latter functions similarly to central bank reserves but offer additional DLT capabilities. Particularly, wholesale CBDC could potentially become the foundation of a new IMS, significantly impacting the global financial landscape.⁶

Through its Innovation Hub, the Bank for International Settlements (BIS) is transforming the paradigms of central bank cooperation by supporting technological initiatives on money that facilitate the direct settlement of diverse fiat currencies. While the BIS is not poised to replace the IMF in its lending functions, or even the network of

⁶ It is important to acknowledge that one potential risk of retail CBDCs is their impact on credit intermediation within the banking sector. However, our analysis in this policy brief is primarily focused on the international role that wholesale CBDCs, along with their supporting DLT infrastructure, can play.

currency swaps, it is actively engaged in the establishment of a new public good: an interoperable DLT platform for CBDCs, notably in their wholesale version (Duran and Steinberg, 2024). mBridge and Agorá projects could be mentioned as key examples (BIS 2023a; BIS 2024).

With this new financial technology, each state can have the capability to issue its own DLT-based currency and use it to settle international transactions. In contrast to cash or traditional central bank money, CBDCs in the form of tokens possess a particular characteristic: programmability. A token, in this context, refers to a digital representation of the value of a sovereign currency that is issued and managed on DLT, including blockchain. The programmability of money refers to the ability to embed specific instructions or conditions into the currency itself, dictating how it can be used, transferred, or interacted with.

The programmability of tokenized forms of money (including CBDCs and other types of private money, such as bank deposits or e-money) allows for the automation of transactions based on predefined rules or conditions. This feature can rationalize different processes, such as executing recurring payments, enforcing compliance and legal requirements, or triggering actions based on specific economic events.

In addition to programmability, a significant feature of DLT is a ledger that can be collectively held and shared (Townsend, 2020). It can then enhance security beyond double-entry bookkeeping by improving consensus and eliminating the need for additional transaction validations between parties. In international transactions, parties engage in foreign exchange agreements, and within DLT-based platforms, they are represented as nodes. This institutional setup allows for the incorporation of a supplementary layer to guarantee transaction and legal predictability: smart contracts,

specifically ensuring payment versus payment (PvP) transactions, which are self-executing.

The direct exchange of money in a tokenized form streamlines payment processes by simultaneously transmitting payment data and funds, eliminating both the requirement for SWIFT communications and the correspondent transfer of eurodollars. This technological innovation also enables atomic settlements of monetary obligations, guaranteeing instant and irreversible transaction execution across multiple parties simultaneously. Consequently, tokenized forms of money have the potential to reduce the need for collateral in financial transactions and mitigate risks associated with liquidity and solvency. Ultimately, these technological features tend to enhance the efficiency of cross-border transactions.

Currently, multi-CBDC platform projects for cross-border transactions within the BIS have the potential to provide the financial infrastructure needed to replace the eurodollar as the primary international money. These platforms support transactions involving, notably, wholesale CBDCs and tokenized forms of private money issued by regulated financial institutions. They can enable central banks and financial institutions to conduct cross-border transactions using local currencies.

Looking ahead, this financial infrastructure could also furnish the technological layer needed to facilitate transactions involving a wide array of financial assets, including medium- and long-term obligations, all denominated in different currencies in a tokenized form. Should this scenario come to fruition, a more DLT-led IMS would profoundly alter the dynamics of both international money and cross-border financing flows in global markets.

Hence, this financial infrastructure might diminish the necessity for lenders of last resort in U.S. dollars. Although the U.S. dollar will persist as the predominant

international money in the next years, multi-CBDC platforms can provide technological means to improve currency convertibility without dependence on the use of a third medium. This could represent a significant advancement in expanding autonomous decision-making in monetary affairs for countries outside the core of the IMS - at least, for now, regarding the use of global currencies as means of payment.

This potentially less hierarchical architecture seems to better address the needs of emerging and developing market economies, albeit requiring high levels of coordination and cooperation at the global level. A new financial infrastructure may give rise to novel types of risks, such as cybersecurity threats, operational challenges, and legal uncertainties, that must be addressed by the involved stakeholders through robust governance frameworks and international collaboration.

Furthermore, only national authorities with expertise in DLT-based money, along with the requisite economic resources and human capital, are capable of joining this new forum of monetary cooperation on a global scale. Therefore, there is a significant risk that the criteria for global financial exclusion will shift from a country's ability to issue a widely-used currency to its political and technological capacity to integrate into these platforms.

Policy Recommendations

In 2020, the G20 Finance Ministers recognized the need to enhance the efficiency and resilience of cross-border payments, endorsing a comprehensive plan to address the challenges in this domain (Financial Stability Board, 2020). This endorsement provided a significant political impetus for exploring alternative systems and infrastructures to facilitate international transactions. By acknowledging these challenges and committing to a coordinated effort, the G20 paved the way for exploring innovative solutions that could potentially transform the global payments landscape. To build upon this momentum, a closer relationship between the G20 and the BIS Innovation Hub can prove invaluable.

1. Fostering International Cooperation for Currency Diversification. Greater cooperation among nations should be encouraged to provide viable institutional substitutes to the U.S. dollar as the dominant international currency. Multi-CBDC platforms can serve as an alternative infrastructure, enabling countries to directly exchange local currencies. By leveraging the technical advantages of DLT, such as transparency, programmability, and real-time settlement, these platforms can enhance the efficiency and resilience of cross-border transactions.

2. Fostering Collaborative Ventures on Innovation through a Dedicated Multilateral Forum. Central banks should pursue policy initiatives on money through a dedicated forum, particularly during periods of financial stability. It seems that this arena is the BIS Innovation Hub. The BIS can lead this transformative process on financial infrastructures by encouraging nations to engage in cooperative innovation, employing

an iterative 'trial and error' approach. This methodology facilitates open dialogue and experimentation within controlled environments, often referred to as 'regulatory sandboxes'. These sandboxes are designed to function within specific parameters, offering a controlled setting for testing and refining monetary solutions on a global scale.

3. Establishing Interoperability Standards and Governance for Integrating CBDCs and Traditional Payment Systems. Collaborative efforts are crucial to establish common standards, protocols, and governance frameworks for the interoperability of different CBDCs and their platforms. Interoperability also involves ensuring a seamless connection not only among various DLT networks but also between these networks and traditional local payment systems (utilizing 'legacy' traditional forms of money). Achieving interoperability is crucial for facilitating smooth transactions across different platforms and integrating new forms of tokenized money with existing monetary systems.

4. The Role of the G20 in Expanding Access to Monetary Innovation. Access to this collaborative network and innovative technologies should be expanded to include more countries, with a particular emphasis on developing nations. This expansion should be driven by the leadership of the G20, ensuring that the benefits of these initiatives are widely shared and inclusive. The G20's leadership is instrumental in fostering a more inclusive IMS, particularly for developing countries. By championing collaborative efforts and facilitating the participation of a diverse range of nations, the G20 can help address the unique monetary challenges and needs of emerging economies within the evolving international monetary landscape.

5. Addressing Privacy and Data Protection Concerns. While wholesale CBDCs and their DLT-based platforms offer numerous benefits, they also present challenges and risks that must be addressed. One key issue is related to privacy and data protection. While it is important for payment transactions to be traceable and verifiable, it is crucial to uphold confidentiality, secrecy, and anonymity to the extent feasible and legally required. Striking the right balance between transparency and individual rights is crucial for fostering trust and widespread adoption of these innovative monetary systems.

Scenario of outcomes



Through this collaborative approach, facilitated by the BIS and guided by the G20's leadership, central banks can collectively address the future challenges of a more DLT-based IMS. By fostering an environment of open dialogue, experimentation, and knowledge-sharing, this process aims to contribute to the development of a more resilient, equitable, and adaptable IMS that serves the interests of all nations.

To effectively provide this new public good, i.e., multi-CBDC platforms, potentially leading to reduced dependence on the U.S. dollar and its lenders of last resort in times of crisis, the BIS under the G20's guidance can cultivate strategic engagement between nations, serving as a proactive forum to forge alliances, build shared interests, include developing nations, and address potential conflicts and emerging risks related to the technology.

By enabling direct settlements between local currencies, initiatives like mBridge and Agorá within the BIS may render traditional correspondent banking redundant. This transformation paves the way for cross-border transactions to sustain international trade to be not only cheaper but also significantly faster.

Multi-CBDC platforms can foster a collaborative management of the IMS aimed at facilitating access to a wide range of currencies, not limited to dominant ones. Furthermore, this type of monetary system would streamline the decision-making process, leading to more effective and expedited outcomes.

Yet, this emerging IMS would likely display a significantly higher degree of fragmentation compared to the more centralized governance frameworks established by the traditional Bretton Woods institutions. Within this emerging IMS, nations aim to collaborate on monetary innovation, forming "CBDC clusters" based on shared interests,



political ideals, and economic alignment (Wang & Gao, 2023), seeking to strengthen their monetary autonomy at the global level. Consequently, international monetary laws and policies must adapt to address the increasing complexity of multilateral cooperation, addressing not only legal challenges tied to coordination but also technological hurdles and risks presented by DLT transactions and financial settlements involving new tokenized forms of money.



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