

The Faster Payments Council (FPC) Cross-Border Payments Work Group is proud to present the first issue of the Work Group's Bulletin focused on Central Bank Digital Currencies (CBDCs) and their effect on cross-border faster payments. This series of Bulletins is designed to educate the payments industry on the developments of CBDCs in the cross-border faster payments area.

The Work Group recognizes there are both benefits and risks with any new method of payment. This and future editions of the bulletin will provide an ongoing source of information about CBDCs and their benefits, risks, and other considerations. Bulletin.01 starts the education process by providing a primer on CBDCs.

In this edition:

- Digital Currency Terms
- Drill Down on CBDCs
- Cross-Border Models

Background

The Cross-Border Payments Work Group was chartered by the FPC in 2020. Currently there are 30 Work Group members representing membership diversity.

In June of 2021, the Work Group published the Cross-Border Faster Payments white paper¹, which addressed Use Case and Experience Requirements for cross-border faster payments along the dimensions of Speed, Cost, Ubiquity, Transparency, and Risk. The paper was structured to identify interoperability approaches, along with associated settlement schemes that are necessary to create a world-class cross-border faster payment system.

Late last year the Work Group pivoted and revised its mission and charter to cover global industry initiatives affecting cross-border faster payments – focusing specifically on the impact U.S. Central Bank Digital Currency (CBDC) could have on the adoption of cross-border real-time payments.

This undertaking is timely as it comes on the heels of an Executive Order² announced in March 2022 outlining the U.S. Government's approach to addressing the risks and harnessing the potential benefits of digital assets and their underlying technology.

The Executive Order calls for U.S. leadership in international efforts involving CBDCs and digital assets, including a report on the various opportunities, implications, and threats.

The Executive Order commissioned a report to establish whether a U.S. CBDC is “deemed to be in the national interest.”

Definitions and Terms

Digital currency is the generic term for a form of currency that is available only in digital or electronic form. It is also called digital money, electronic money, electronic currency, or cybercash. All of these are included in the term “digital asset.” Here are some definitions of various types of digital currency that can help in understanding these new methods of payment.

- **Cryptocurrency** - A digital or virtual currency that is secured by cryptography³, which makes it impossible to counterfeit or double-spend. Cryptocurrency is not issued by any central authority, rendering them theoretically immune to government interference or manipulation.⁴
- **Stablecoin** - A class of cryptocurrencies that attempt to offer price stability and are backed by an asset. They may be pegged to a currency like the U.S. dollar or to a commodity's price such as gold.⁵
- **Central Bank Digital Currency** - A digital form of a country's fiat currency⁶, denominated similar to the local currency. A CBDC is issued and regulated by a nation's central bank and is the equivalent of cash.⁶ There are two types of CBDCs:

- **Wholesale CBDCs** are similar to holding reserves in a central bank. The central bank grants an institution an account to deposit funds or use to settle interbank transfers.
- **Retail CBDCs** are similar to a government-backed digital currency generally reserved for institutions, but in this case, the government extends it to consumers and businesses.

Drill Down on CBDCs

According to the International Monetary Fund (IMF), as of early February 2022⁸ there are approximately 100 countries exploring CBDCs. Some are in the research phase, others have moved on to testing, and a few have already started distributing CBDC to their residents.

U.S. Central Bank Digital Currency can be defined as a digital liability of the Federal Reserve that would be widely available to the public. Today, Federal Reserve notes (i.e., physical currency) are the only type of central bank money available to people. Like existing forms of commercial bank money⁹ and nonbank money, a CBDC would enable consumers to make digital payments. As a liability of the Federal Reserve, however, a CBDC would not require mechanisms like deposit insurance to maintain public confidence, nor would a CBDC depend on backing by an underlying asset pool to maintain its value.

A CBDC would be the safest digital asset, with no associated credit or liquidity risk.¹⁰

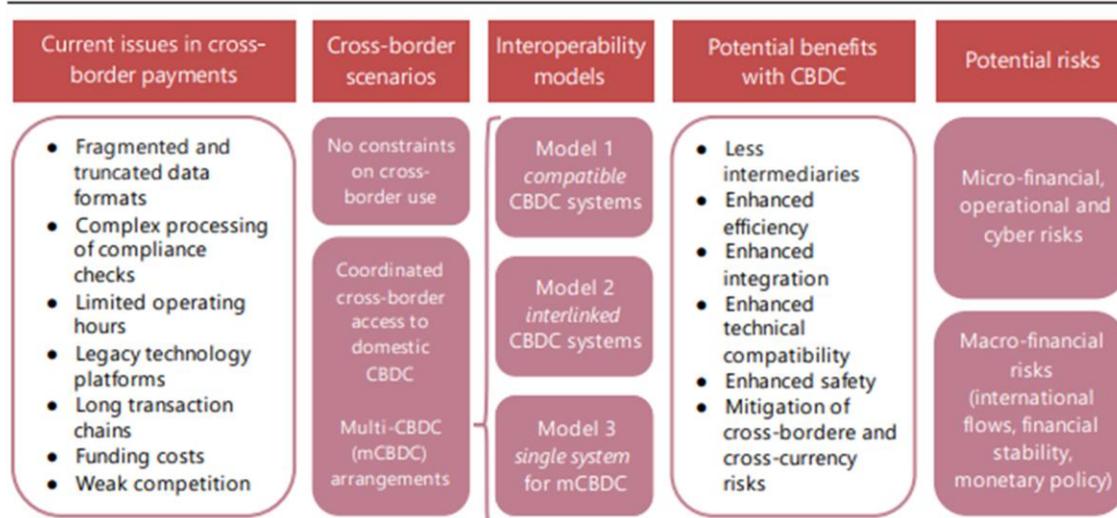
Central Banks are looking at CBDCs for a number of reasons: financial inclusion; to enhance/improve existing infrastructure; to drive innovation and new products; greater competition (inclusive of non-banks); and to retain sovereignty. The focus of this bulletin centers on issues related to cross-border payments.

The proliferation of these global CBDC initiatives will alter the traditional cross-border payment and correspondent banking paradigms. According to the Research and Analysis paper published by the Federal Reserve Bank in January of this year titled Money and Payments: The U.S. Dollar in the Age of Digital Transformation stated: “a CBDC could fundamentally change the structure of the U.S. financial system, altering the roles and responsibilities of the private sector and the central bank.”¹¹

CBDCs offer in a digital form the unique advantage of central bank money: settlement finality, liquidity, and integrity.¹² Further the issuance and use of a CBDC for cross-border payments could potentially help simplify intermediation chains, increase speed, and lower costs.¹³

Summary of the potential to enhance cross-border payments with CBDCs

Graph 1



Source: CPMI; BIS Innovation Hub; IMF; World Bank.

With any new innovation or service there are potential risks. This is as true for CBDCs as it is for any other financial innovation. A CBDC needs to be designed in a way that supports a central bank's primary objective of maintaining both monetary and financial stability. The design must be accompanied by appropriate, robust operational risk management and cybersecurity policies and procedures. Lastly, it needs to replicate the technical resilience, sound governance and integrity of the existing infrastructures to gain and keep the acceptance and confidence of the public. CBDCs will likely inherently focus on domestic issues in primary considerations as each central bank looks to improve on their country specific limitations. The likelihood is there will be a range of CBDCs implemented internationally, however with the nature of the globalized world, it is essential CBDCs are designed and implemented to interact within the global markets. Interoperability and standards will be the keys to the operational efficiency and acceptance of CBDCs cross-border.

The table below highlights how the different CBDC interoperability models and arrangements can facilitate cross-border payments.

The same dimensions noted above of Speed, Cost, Ubiquity, Transparency, and Risk from our original white paper can be applied as drivers for CBDCs.¹⁴

- CBDCs can address slow payment execution speed, transaction costs and poor traceability for cross-border transactions that have been ongoing industry and customer issues.
- Near-instant CBDC settlements will speed up cash cycles and improve intraday liquidity.
- CBDCs can increase transparency, settlement speed, and operational efficiency to power productivity in today's real-time digital economy.

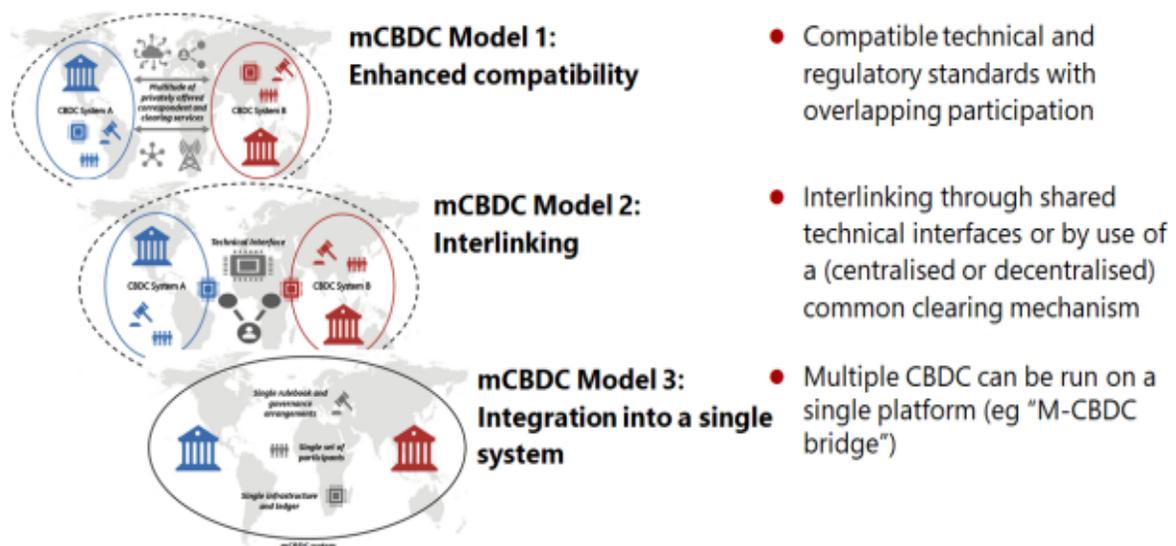
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As an example, in the intermediate interlinking model, a shared technical interface can bridge two separate payment systems. Thus participants in one system make payments to those in another directly through the technical interface, without go-betweens.

Multi-CBDC arrangements can facilitate cross-border payments

Graph 11



Source: R Auer, P Haene and H Holden, "Multi-CBDC arrangements and the future of cross-border payments", *BIS Papers*, no 115, 2021.

A CBDC is a central bank liability, and therefore would be free of credit and liquidity risks. It would not be a liability of a commercial bank and not be covered by deposit insurance.

- CBDCs enhance the potential for a central bank to offer a currency that mitigates risk.
- Central bank reserves provide a risk-free store of value and trust in the digital settlement asset.
- With a trusted instrument like a CBDC, the restrictive environment changes. It becomes more fluid and interoperable. Trust and ubiquity are the main factors that CBDCs can offer.¹⁵

The issuance of CBDCs adds dimensions that must be considered.

- **Trust** - An important aspect of any currency is trust, and a CBDC would not be successful without a secure platform that ensures user trust in the currency itself.¹⁶
- **Resiliency** - To maintain trust in the digital currency, a CBDC must guarantee the ongoing existence and usability of funds.¹⁷
- **Financial Inclusion** - The introduction of a CBDC could enable financial systems to reach people who are now excluded. Indeed, central banks consider financial inclusion as one of the most relevant arguments in support of the introduction of a CBDC.¹⁸
- **Reach** - Fiat money in the form of CBDC is a powerful tool for central banks to reach the broadest base of their populace because it is more efficient and reduces friction.¹⁹

Examples of Cross-Border Operating Models

There are a number of operating models for transaction messaging and moving money cross-border.

SWIFT

SWIFT is a world-wide cooperative of about 11,000 banks. It is a secure messaging system and does not itself move money, rather SWIFT's messages provide instructions to move funds located at participating banks.

Banks have correspondent banking relationships and maintain balances in their correspondents for the purpose of supporting customer payment requests. The SWIFT messages provide instructions to use these funds for customer and other payments. The funds must be replenished after the payments are made.

Under Basel III²⁰ these funds are included in the calculations of operating risks and require certain assets to be set aside. Also, these funds do not earn as much as they could if they were used for other purposes, e.g., loans.

Banks have a limited number of correspondent relationships and thus a limited number of deposit relationships with which to make payments. Therefore, many SWIFT messages and the parallel money movements need to go through several correspondent relationships to reach their final destination. Each correspondent or stop can add fees and foreign currency conversion expense, which can cause a lack of transparency in the cost of a transaction.

Also, in the original SWIFT system, there is no confirmation message saying the funds reached their final destination or how much was received by the recipient, i.e., how much the amount was reduced by intermediary fees and foreign exchange expenses. However SWIFT recently introduced a function called "Global Payments Innovation" (or gpi) which has solved some of these issues and is currently being adopted by SWIFT member banks.

FedGlobal

FedGlobal ACH Payments offer an efficient and low-cost means for sending cross-border credit payments to 33 countries around the world, plus debit payments to Canada only.²¹ The Federal Reserve gets foreign currency rates from multiple banks. FedGlobal is not real-time, transactions can take multiple days, and there is no authorization process. But it is typically less expensive than other forms of cross-border payments.

Other Solutions

More recently, blockchain based solutions coupled with digital currencies have driven innovation and change in cross-border payments allowing transactions to settle within seconds.

Ripple has developed a solution that allows financial institutions and payment providers from around the world to connect within a global network to send and receive payments instantly with finality and transparency. The solution leverages a blockchain ledger partnered with a digital asset which acts as a bridge between local fiat currencies, allowing institutions to eliminate pre-funding of destination accounts, reduce operational costs and unlock capital.

Other solutions include Circle and Lightning. Circle provides cross-border value exchange enabled by a stablecoin pegged to the US Dollar, which can be sent globally and allows users to transact digital dollars and convert back into local fiat at exchanges around the world. Lightning's solution connects e-wallets, crypto-wallets, QR code-based payments, bank accounts, and credit cards through their ecosystem making payments available under one roof to create a regional based settlement hub.

The Path Forward

A U.S. CBDC could be stored only in commercial bank accounts at the Fed or only in the accounts of the Federal Reserve banks or both. Presently, there is no agreement, consensus, or plan for if and when retail customers will have access to a U.S. CBDC. The U.S. CBDC could be solely used for interbank transactions, or it could be solely used for transactions between central banks or both. Furthermore, there is no agreement or plan for the Federal Reserve to have retail accounts and there is opposition to the idea from several important constituencies. There are no firm definitions or schematics showing how a U.S. CBDC or other CBDC would be used for cross-border transactions or how these transactions would be authorized, settled, and cleared, some initial studies are now underway.²²

Given the U.S. CBDC is a digital currency, the funds could include instructions stating how to credit the funds to the recipient. This would eliminate the need for maintaining costly funds in a correspondent bank and could eliminate the expensive Basel III operating risk issue. This would also eliminate the need for multiple hops.

None of these approaches eliminates the need for foreign currency conversion on the recipient's side,

but it may eliminate the need for a currency conversion on each hop and therefore reduce the cost of currency conversion.

At least three ideas for system approaches have been discussed:

- Creating one system for transmitting all CBDCs (e.g., U.S., U.K., Chinese, etc.).
- Creating multiple systems, each carrying one CBDC but compatible with the other systems.
- Creating a system carrying all the CBDCs intertwined with each other.

The definition of these three approaches needs further clarification, with emphasis on three important requirements, namely the need for finality, the need for liquidity, and the need for a trusted lender of last resort for certain types of transactions or certain situations. These topics will be addressed in future bulletins.

Summary

Development of CBDCs has moved beyond just conceptual thinking and they are now in the proof of concept and in some cases testing stages. It is however just the beginning of the journey. There is much to be learned as central banks continue to assess the impacts, implications, benefits, and risks of the issuance of CBDCs. CBDCs have the potential to change the payments landscape and ecosystem. It should be anticipated there will be many forks in the road ahead as the course of global CBDCs change and evolve.

Through the issuance of future bulletins, such as this, the FPC Cross-Border Work Group will not only provide the latest information about CBDCs but explore factors that need to be considered such as the technology frameworks and the regional and local legal and regulatory rules and mandates.

We welcome your input, assistance, and guidance to provide timely and topical information about the effects of CBDCs not only on cross-border payments but on the entire payment's infrastructure. The FPC Cross-Border Payments Work Group Bulletin.02 will explore the potential impact of CBDCs on cross-border payments.

About the Cross-Border Payments Work Group

The FPC Cross-Border Payments Work Group covers global industry initiatives, gathering information on various models and use cases for real-time payments across borders with the long-term goal of cross-border interoperability. The Work Group is currently focused on Central Bank Digital Currencies and their effect on cross-border real-time payments.

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About the Faster Payments Council

The Faster Payments Council (FPC) is an industry-led membership organization whose vision is a world-class payment system where Americans can safely and securely pay anyone, anywhere, at any time and with near-immediate funds availability. By design, the FPC encourages a diverse range of perspectives and is open to all stakeholders in the U.S. payment system. Guided by principles of fairness, inclusiveness, flexibility, and transparency, the FPC uses collaborative, problem-solving approaches to resolve the issues that are inhibiting broad faster payments adoption in this country.

The contents of this bulletin are for educational purposes only and not intended to be an endorsement by the Faster Payments Council for Central Bank Digital Currency Solutions.

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