

Research on the impact of mBridge on the existing cross-border trading system

Jiaxin Xu

Guangdong country garden school,
Foshan, 526040, China

Abstract:

The mBridge has attracted widespread attention from the international community. Currently, the number of mBridge observers, including several developed countries, has been expanded to 15, and more and more systemically important banks and large multinational corporations are also looking forward to participating in mBridge. mBridge's network effect will undoubtedly continue to expand as the number of participants increases. Driven by the new international financial infrastructure, financial inclusion and financial support to the real economy will achieve breakthrough progress. The traditional cross-border payment system has a longer transaction chain, higher transaction costs, higher transaction risks and regulatory requirements, and higher participation thresholds. At the same time, mBridge shows stronger economic effects, security and stability effects, and inclusive effects. This paper enriches the systematic research on mBridge by summarizing the advantages and disadvantages of mBridge, exploring in-depth the key concerns of mBridge's projects, pilot results, and room for progress, and summarizing and analyzing the project from the perspectives of its economic significance, innovative mechanisms, and effectiveness and challenges. However, based on the current problems of mBridge, it seems to take time to answer whether the system will fundamentally impact the dollar-dominated cross-border trade model.

Keywords: MBridge ; Transnational trade patterns; Currency.

1. Introduction

With the advent of the digital economy, digital assets in the form of crypto assets and stablecoins have developed rapidly. However, crypto assets and stable coins lack intrinsic value and national sovereign backing and are subject to greater uncertainty

and financial risk. With the booming development of network technology and the digital economy, the international payment system calls for digital currencies that are more convenient, secure, inclusive, and privacy-protective^[1]. While global economic integration is progressing rapidly, the pace of development of systems for cross-border financial flows to support

integration is lagging significantly, with innovation in the area of payments largely concentrated in the domestic sector, and cross-border payments continue to face the challenges of high costs, slowness, limited accessibility and lack of transparency. After Bitcoin was introduced in 2008, it attracted the attention of the whole world due to its wide usage, growing popularity, and rapidly increasing value. The digital currency was predicted to be the future currency. Eleven countries have launched central bank digital currencies, 21 are running pilot projects, and 79 are developing or studying these currencies.

In this context, how to conduct traditional transnational transactions with this new form of currency is becoming a global problem. With the world watching, China launched a cross-border transaction system, mBridge, to enable independent international trade via digital currencies among its members. The mBridge project aims to provide an efficient, low-cost, real-time, and scalable cross-border multilateral central bank digital currency network for central banks and commercial players, which can be directly connected to significantly increase the potential for international trade flows and cross-border business. The mBridge project has pioneered using multiple central bank digital currencies to realize cross-border real-value transactions between companies. It is the world's largest cross-border central bank digital currency pilot project to date. The steady progress of mBridge responds to the G20's need to improve cross-border payment services^[2]. It provides a new way for central banks to think about using central bank digital currencies for cross-border settlements. Because China has remained the world's largest goods trading nation for seven consecutive years, these recent developments have sparked discussions about whether the Chinese-led mBridge project will challenge the current transnational transaction pattern and the related US dollar's long-standing dominance in the future.

2. Importance of implementing the mBridge program

2.1 The Comparative Advantages of mBridge: Fast, Cheap, Transparent, and Free of Economic Sanctions

Launched in 2021, this initiative, led by the Bank for International Settlements and China, aims to create a central bank digital currency (CBDC) and facilitate cross-border transactions. By December 2023, 29 observers, including several developed countries, had joined the project, and nearly 20 banks had applied to join mBridge on a pilot or formal transaction basis, further expanding mBridge's

network effect. It also leads to why its members choose mBridge over traditional systems of transnational transactions based on the dollar.

The comparative advantage of mBridge, empowered by the ledger technology and wide usage of digital currencies, lies in its efficiency, cost-effectiveness, and transparency. Specifically, the peer-to-peer connectivity provided by mBridge significantly reduces the need for third-party intermediary structures such as correspondent banks in cross-border payments, which allows for a simpler operational process for cross-border payments, which can gain significant improvements in speed, cost, transparency, efficiency, and resilience. At the same time, mBridge by design enables interconnectivity with traditional financial market infrastructures, which both reduces the cost of access to mBridge for participating institutions, saves participants time by allowing straight-through processing, and promotes financial inclusion in jurisdictions with fewer correspondent bank links and reduced transaction flows. Compared to traditional cross-border settlement systems, mBridge eliminates the need for numerous intermediary banks, as the electronic money system allows correspondent banks in individual countries to make cross-border remittances by directly working on the Internet^[3]. This system significantly reduces the time required for international transactions, with remittances that typically take 3-4 days now completed in just a few minutes. Moreover, using online technology, the mBridge system would be cost-effective as it directly transfers CBDCs between countries. It will eliminate multiple intermediation and manual processing layers, reducing transaction fees, operational costs, and affordable cross-border payments.

Additionally, the decentralization of mBridge enables transactions on this platform to be conducted without concern about U.S. economic sanctions. The current transnational transaction pattern establishes an information exchange center within the U.S.-controlled SWIFT system. It gave the U.S. a superior position to control the global financial network and conduct economic sanctions on other countries, such as Iran in 2012, Venezuela in 2019, and Russia in 2022. However, mBridge is built on a blockchain-based platform, whose decentralized and immutable nature ensures that no intermediary can obstruct any transactions during the process, and even mBridge's primary sponsor, China, could not technically interfere in the transactions between the mBridge's members. In addition, participants' final settlement of real-value transactions through mBridge's shared platform can reduce settlement risk in real-world environments while ensuring the safety of central bank funds in each jurisdiction.

2.2 Guiding the Cross-Border Diversification of Trade Options

The mBridge project leads the way for central banks in other jurisdictions to explore how central bank digital currencies can be used to improve cross-border payments. mBridge draws on the lessons from several previous cross-border central banks' digital currency projects, such as the joint Canada-Singapore Jasper-Ubin project and the European Union-Japan Stella project. It has advantages over other jurisdictions' central bank digital currency frameworks as a single-system, directly accessible central bank digital currency model with a flexible modular framework to accommodate jurisdiction-specific policy, legal, and regulatory considerations, which has advantages over other central bank digital currency frameworks^[4]. mBridge's non-destructiveness, compliance, and interoperability operating principles safeguard all countries' core interests and attract more and more central banks. Its flexible and modular design meets different countries' regulatory and compliance needs, attracting more and more central banks. mBridge has the attributes of a public good in the age of the digital economy and is forward-looking and advanced to improve the global cross-border payment system more broadly. As of December 2023, 29 observers, including several developed countries, have joined the program. Meanwhile, to maximize the value and transparency of the project for central banks, several central banks have been invited to participate as observers, including the Bangko Sentral ng Pilipinas (BSP), Bank Indonesia (BI), Bank Negara Malaysia (BNM), Bank of Israel (BI), Bank of Korea (BOK), Central Bank of Sweden (CBK), as well as the Eurosystem Hub at the Innovation Center of the BIS, and the Federal Reserve Bank of New York's New York Innovation Center of the Bank for International Settlements, and the Federal Reserve Bank of New York's New York Innovation Center, which will undoubtedly realize the full potential of the project and create a strong network effect.

2.3 Guiding the Global Payment System Toward a Fairer and More Inclusive Development

mBridge contributes to developing a fairer and more inclusive global payment system. Currently, global cross-border payment mainly relies on the agent bank +SWIFT model; SWIFT, as the world's leading financial messaging service, should always remain politically neutral, but in recent years, it has been reduced to the United States, Europe, and other Western countries to launch financial sanctions weapons. mBridge can bypass SWIFT to complete the settlement of cross-border funds directly and, to a certain extent, can be weakened or even circumvent the

sanctions based on the dollar's hegemony. It is also worth noting that by extending the security of central bank funds to international settlements and alleviating many of the pain points of cross-border payments mentioned above, mBridge also has great potential to promote regional trade and further support trade-driven economic growth. In particular, cross-border transactions in emerging markets and developing countries are usually settled in a few dominant currencies^[5]. These jurisdictions are exposed to the spillover effects of monetary policies in the source countries of foreign currencies and to financial stability risks. At the same time, the mBridge project is conducive to the greater use of national currencies in international trade, thus helping to safeguard national monetary sovereignty.

From August 15 to September 23, 2022, mBridge selected several typical international trade scenarios to pilot. During the six-week pilot period, 20 commercial banks from Hong Kong, China, UAE, and Thailand, as well as their respective central banks or monetary authorities, participated in the pilot. On the mBridge platform, the central bank issued more than US\$12 million of CBDCs. The commercial banks completed a total of 164 cross-border payment transactions of more than US\$22 million, completing the largest pilot test of CBDCs based on real transaction scenarios to date, verifying the feasibility of Currency Bridge for cross-border payments in international trade settlement scenarios, and proving that Currency Bridge can effectively improve the efficiency of cross-border payment, reduce payment costs and enhance transaction transparency.

3. The Challenge Faced by the Dollar-Centered Transnational Transaction and mBridge

Although the international economic game and sanctions would still be closely influenced by the global political situation, as what happened during the US-Iraq and the Russo-Ukrainian War, the emergency of mBridge still provides an essential alternative to cross-border transactions previously dominated by dollars in the past 80 years, after the Bretton Woods system. The very existence of the rival of the dollar-dominated SWIFT system will contribute to a healthy and fair trade on a global level, especially for developing countries with disadvantaged positions in dynamic international trade. With the increase in the popularity of mBridge among various countries, their reliance on the SWIFT system in global trade will diminish, thereby weakening the US dollar's dominant role in financial sanctions and international settlements^[6]. With the

joining of Saudi Arabia in mBridge, the strong connection between oil and the dollar will also be challenged by the increase in oil transactions in digital currencies of various countries on mBridge, which could further undermine the dollar's dominance in global trade. However, this leads to the question of whether mBridge will fulfill the expectation and achieve its ambition.

Despite the potential of mBridge, its path to widespread adoption faces significant obstacles, including limited participation and technical and legal challenges. On the other hand, the process of de-dollarization through mBridge may not proceed as smoothly as anticipated since mBridge inevitably faces multiple challenges. First, as an emerging project, mBridge is still waiting for many countries. Over the past three years, during its trial stage, only six central banks have officially participated in the project, most of which are from developing countries in the East. Additionally, political and economic factors could impede the promotion of mBridge. Considering geopolitical relations and financial interests, some countries may opt out temporarily, especially if the United States intervenes politically with central banks willing to cooperate. The limited participation of countries, especially developed countries, would diminish its international influence, hinder mBridge's credibility, and lead to a decline in global usage if the situation does not change.

Other than that, there is the risk of fragmentation on a global level of the central bank digital currency (CBDC) systems^[7]. The technologies, standards, and protocols countries adopt to develop their digital currencies will likely differ, potentially causing interoperability problems or rendering cross-border payments and international financial transactions more complex or unworkable.

In addition, digital cross-border settlements may also expose specific legal and regulatory concerns, especially those associated with combating financial crimes. While decentralization aims to avoid malicious economic sanctions, it might inadvertently facilitate money laundering and terrorist financing. This decentralized nature of transactions increases the degree of anonymity and dispersion, making it hard for law enforcement agencies to trace and block illegal money. While the United States has been able to use its SWIFT system control to affect a good number of punitive economic sanctions, it has stopped some illegal transactions^[8].

For instance, since the mid-2000s, the U.S. has tracked and stopped funds related to drug cartels in Latin America and Central America through SWIFT. It has blocked financing for Iran and North Korea's nuclear programs, thereby maintaining regional security. If criminals misuse the decentralized feature, it could increase criminal

activity, necessitating stringent regulatory measures from governments and international institutions to mitigate potential risks.

It can be seen that human beings still face many obstacles in the way of improving their lives with advanced technologies, such as digital currencies, and collective actions are still needed for a better future.

4. Conclusion

mBridge is a major innovation in international financial infrastructure in the era of the digital economy. Compared with the traditional cross-border payment system, mBridge has the governance mechanism of five-party consultation and common governance, the payment mechanism of flexible connection between upper and lower bridges, and a market mechanism focusing on payment, which represents the direction of the reform and development of the international payment system. mBridge has successfully passed the pilot stage of the real transaction and has outstanding innovation advantages, attracting more and more observers and participants. mBridge is expected to be used more widely and gradually have a network effect to help the sound development of global trade. mBridge is expected to be more widely used and progressively form a network effect, contributing to the sound development of global trade. The rapid growth of mBridge might change the existing cross-border transaction system, as the former is comparatively fast, cheap, transparent, and free of economic sanctions. The emergence of a new transaction system will challenge the current dollar-dominated SWIFT system and contribute to the health competition. While the success of mBridge could be attributed to the growing economic influence of China, the combination of its members, and the development of technology, it is still unclear to what extent will such challenge reshape the monetary system and dollar hegemony in the future, considering the existing problem faced by mBridge and other digital currency transaction platforms in the future.

References

- [1]. Tu Yonghong, Zhang Chang, Zhu Qianyu. mBridge: International Payment System Innovation in the Digital Economy Era [J]. *International Financial Studies*. 2024, No. 001, p. 73-85.
- [2]. Ren Xiaoyan, Ren Xiaohong. On the Choice of Payment Methods in International Trade [J]. *Modernization of Shopping Malls*. 2007, No.09Z, p. 19-20.
- [3]. Wang Lipeng. The Impact of Multilateral Central Bank Digital Currency Bridges on Cross-Border Payments. *Qinghai Finance*. 2023, No.003, p. 36-43.

- [4]. Chen Xueyao. Exploration of Risk Control of International Trade Settlement Mode [J]. Journal of Fujian Administrative College. 2017, No. 001, p. 17-18.
- [5]. Zhao Zengsheng. Blockchain Creates New Mode of Cross-Border Payment for International Trade [J]. Enterprise Economy. 2017, No.009, p. 163-168.
- [6]. Shen Wei, Jin Siyuan. Credit Currency System, Digital Renminbi and Renminbi Internationalization: From “Digital Wallet” to “Multilateral Central Banks’ Digital Currency Bridge” [J]. Shanghai Economic Research. 2022, No.006, p. 78-93.
- [7]. Bisih. Project mBridge: Connecting Economies through CBDC[R]. the Hong Kong Monetary Authority, the Bank of Thailand, the Digital Currency Institute of the People’s Bank of China and the Central Bank of the United Arab Emirates. 2022.
- [8]. Xue Xinhong, Zou Yinyan, and Wang Zhongzhong. The New Shipping Lane of Cross-Border Payment-The Construction of Multilateral Digital Currency Bridge Framework and The International Cooperation of Digital RMB [J]. Shanghai Economic Research. 2024, No.002, p. 95-110.