

## RESEARCH ARTICLE

# Reconstructing the International Settlement System: Characteristics, Motivations, and Challenges of the Multilateral Digital Currency Bridge

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## Abstract

As global economic cooperation deepens and the international security landscape evolves, the need for a more inclusive and secure cross-border settlement system has become paramount. This system must support productivity growth and global security. The Multilateral Digital Currency Bridge (MDCB) emerges as an innovative financial infrastructure with the potential to revolutionize traditional international settlement systems. By facilitating diversified payment currencies, decentralized settlement structures, and non-hegemonic settlement instruments, the MDCB can foster a healthier global political economy. The development of the MDCB is driven by shifts in structural power. It seeks to address inherent contradictions within the existing financial system, fulfill the evolving material needs of reshaped production structures, respond to genuine security concerns, and leverage advancements in knowledge structures. The limitations and contradictions within the current international settlement system create a strong demand and ample application prospects for financial innovations like the MDCB. However, geopolitical evolution and great power competition may significantly influence the development of the MDCB. Challenges remain, including technical uncertainties, regulatory inconsistencies across jurisdictions, difficulties in integrating with existing international financial systems, and potential shortages of digital liquidity assets. The successful implementation and development of the MDCB will depend on a confluence of factors.

**Keywords:** MDCB, International Settlement System, Central Bank Digital Currency, Blockchain.

## 1. Introduction

Deepening global economic cooperation and evolving security landscapes necessitate a more inclusive and secure cross-border settlement system to address productivity and security concerns. Advancements in financial technology provide the foundation for this system. Central Bank Digital Currencies (CBDCs) are gaining traction among major central banks and international financial institutions due to their distributed nature, controllable anonymity, and legal tender status. These features make CBDCs promising solutions for enhancing efficiency, accessibility, and security in cross-border transactions.

Building on CBDCs, the Multilateral Digital Currency Bridge (MDCB) has emerged as a significant development in the international financial arena. The “Inthanon-LionRock” project, initiated in 2019 by the Hong Kong Monetary Authority (HKMA) and the Bank of Thailand (BOT), explored the use of CBDCs for cross-border payments between the two regions. This collaboration has since expanded to include the Digital Currency Research Institute of the People’s Bank of China, the Central Bank of the United Arab Emirates (CBUAE), and the Saudi Arabian Monetary Authority (SAMA). This enlarged partnership makes it the largest multilateral cross-border payment experiment involving digital currencies to date.

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It fosters closer communication and cooperation among central banks while aiming to simplify cross-border payments and pave the way for a future-proof international settlement system.

Initial research on the MDCB highlights several key features. Scholars recognize it as an innovative cross-border payment platform leveraging blockchain technology to offer efficient, secure, and low-cost decentralized solutions.<sup>[1]</sup> Its modular design and flexible regulatory frameworks allow adaptation to diverse national requirements. Additionally, the MDCB holds promise for promoting financial inclusion and network effects. Other research explores the link between the MDCB's development and the technological maturity and practical application of CBDCs. The construction of the MDCB utilizes a customized cross-border blockchain network, a depository receipt mechanism, and a multi-tiered node architecture to optimize cross-border payment processes.<sup>[2]</sup> Furthermore, scholars have analyzed the role of the MDCB in the internationalization of emerging market currencies. They posit that the MDCB can facilitate smooth connectivity among central banks, promoting the use of these currencies for settlement. Smart contract technology employed within the MDCB further reduces settlement risks and enhances transaction transparency.<sup>[3]</sup> While experiments with the MDCB are progressing, existing research primarily focuses on surface-level characteristics and micro-level perspectives. There's a limited exploration of the deeper motivations driving its development.

This paper aims to address this gap by conducting an in-depth analysis of the MDCB's structural features within the context of the current international financial architecture. It seeks to uncover and elucidate the underlying logic and interaction mechanisms between the transformation of knowledge structures, security frameworks, and production models associated with this development. Building on this foundation, the paper will examine potential trajectories for the MDCB's future development and its implications for reshaping the global financial order. By doing so, this study aspires to provide theoretical support and strategic insights for understanding and responding to the next wave of transformation in the international financial system.

## 2. Rebuilding the Structure: Characteristics of the Settlement System in the MDCB

The International Monetary Order (IMO) and its supporting settlement and exchange rate systems are

fundamental to contemporary financial structures. (Douglas et al., 2024)<sup>[4]</sup> The current IMO traces its roots to the *Bretton Woods System* established after World War II. It has since evolved through agreements like the *Jamaica Accords* and the G20 mechanisms implemented after the 2008 financial crisis. (Mario, 2009)<sup>[5]</sup> However, the existing settlement framework exhibits limitations. It has not fully integrated advancements in modern financial technology and reflects a pronounced unipolar hegemony.

### 2.1 Mitigating Dollar Value Uncertainty through Sovereign Digital Currency Settlement

The MDCB mechanism enables participants to utilize their own sovereign digital currencies for cross-border transactions. By integrating into the MDCB architecture, countries can achieve efficient and direct bilateral settlements with their counterparts. A key advantage of this approach is a substantial reduction in reliance on the U.S. dollar as the dominant settlement currency. This not only mitigates foreign exchange risks for participating nations but also creates a more favorable external environment for them to implement effective economic policies.

The MDCB allows participants to reduce their reliance on U.S. dollar reserves by facilitating bilateral settlements using their own currencies. In the traditional international settlement system, countries often maintain substantial U.S. dollar reserves to facilitate cross-border trade and investment. However, U.S. dollar exchange rate fluctuations pose significant risks to financial stability and complicate foreign exchange management. (Olafisayo et al., 2024)<sup>[6]</sup> Long-term U.S. dollar depreciation can erode the real value of foreign exchange reserves held by countries, potentially triggering financial market instability, particularly for those heavily reliant on reserves for domestic currency stability. Furthermore, U.S. dollar volatility increases the complexity of exchange rate management, often necessitating frequent central bank interventions in the foreign exchange market to maintain currency stability and reserve levels. ( Roberto Pereira, 2003)<sup>[7]</sup> By enabling bilateral transactions using their own currencies within the MDCB framework, countries can minimize the need for holding large U.S. dollar reserves. This reduces their exposure to U.S. dollar fluctuations, mitigating the risks associated with reserve asset instability and simplifying foreign exchange management.

The MDCB can also enhance the autonomy and effectiveness of monetary policy for participating

countries. In the traditional system, some outward-oriented economies peg their currencies to the U.S. dollar for stability.(Bailliu, 2003)<sup>[8]</sup> However, this approach limits their monetary policy options. For example, a country needing to stimulate its economy through lower interest rates might be constrained by a U.S. dollar peg. The MDCB allows member countries to reduce reliance on the U.S. dollar, granting them greater freedom to design and implement monetary policies tailored to domestic needs. Freed from the direct influence of U.S. dollar fluctuations, central banks gain flexibility to adjust interest rates and other tools to address domestic challenges like inflation or economic transformation.

## 2.2 Mitigating Centralization in Traditional Settlement Systems through a Distributed Network Settlement Structure

The MDCB mechanism introduces an innovative international financial settlement architecture. At its core, this framework leverages central banks as key hubs for information exchange and currency conversion. Crucially, it integrates domestic commercial banks into a distributed settlement system. This approach diverges significantly from the centralized model of SWIFT. Unlike SWIFT's single-center structure, the MDCB decentralizes the system and seamlessly integrates a broader range of commercial banks. This decentralized architecture enhances the reliability and inclusivity of the international financial system.

The MDCB establishes a decentralized information exchange and settlement system with central banks as central hubs. This distributed approach mitigates risks associated with the single-center model of the SWIFT system. While SWIFT remains the backbone of traditional financial transactions, it suffers from limitations like extended processing times. In contrast, the MDCB leverages blockchain technology to enable direct, peer-to-peer settlements, significantly expediting transactions. Furthermore, the recent exclusion of Russia from SWIFT by Western nations underscores the system's vulnerability to geopolitical influences.(Ethan S., 2022)<sup>[9]</sup> The MDCB, on the other hand, fosters information exchange and settlement channels directly between central banks. By utilizing blockchain technology, it distributes risk and enhances overall system resilience. This reduces uncertainties stemming from the politicization of financial systems and offers a more secure alternative to traditional settlement frameworks.

The MDCB revolutionizes international settlements by integrating a broader range of participants, particularly smaller and medium-sized commercial banks, into the system. In the current system, these smaller banks face significant challenges due to their limited scale and resources, often relying on correspondent banking relationships with larger institutions for international transactions.(Titilola, 2018)<sup>[10]</sup> This reliance leads to increased costs, higher risks, and limited access. The MDCB, however, leverages existing networks between commercial banks and central banks, enabling direct participation for smaller banks. By utilizing central bank-issued digital currencies and operating under central bank oversight, the MDCB streamlines the payment process, enhances speed and security, and significantly reduces transaction costs. This fosters a more inclusive and efficient international financial environment, promoting greater trade convenience, expanding international trade volumes, and ultimately contributing to a more stable and predictable global economy.

## 2.3 Transcending the Hegemonic Attributes of Traditional Systems through a Cooperative Negotiation Model

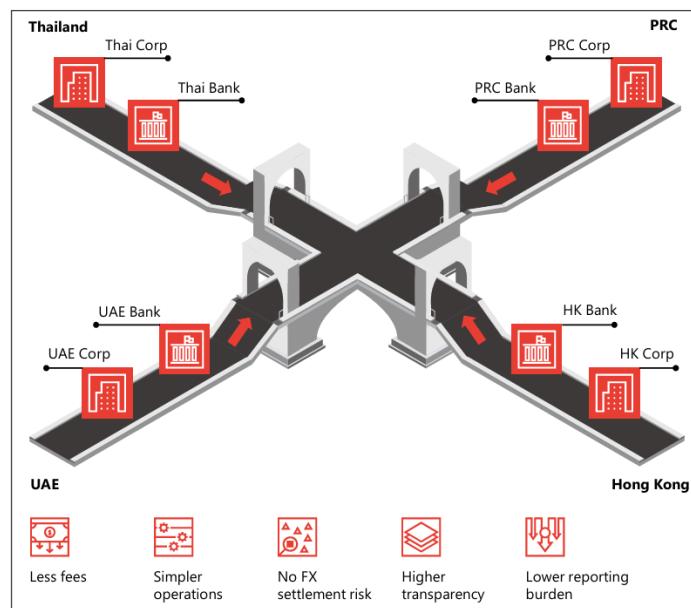
The MDCB, an international settlement initiative driven by developing countries, contrasts sharply with the U.S.-dominated current system. Rooted in cooperative principles and collective collaboration, the MDCB challenges the existing power structure and development process, potentially fostering competition with the U.S.-dollar-centric system.

The MDCB stands out as a novel financial mechanism within the emerging multipolar world order, distinct from the U.S.-dominated system shaped by past unipolar hegemony. The current system, established after World War II, evolved through the Cold War and beyond, with the U.S. dollar serving as a core asset due to America's dominant political and military influence.(Rosario, 2023)<sup>[11]</sup> In contrast, the MDCB's development reflects the long-term decline of the U.S. dollar, the erosion of unipolarity, and the restructuring of the international financial landscape. It not only addresses these changing economic realities but also adapts to the growing need for broader global financial governance.

The MDCB emerged from collaborative negotiations among developing countries, devoid of coercive power. Initiated by bilateral explorations between the Central Bank of Thailand and the Hong Kong Monetary Authority, the initiative expanded to include key

players like the People's Bank of China, the Central Bank of the United Arab Emirates, and the Saudi Arabian Monetary Authority, marking a shift from bilateral to multilateral cooperation. While participants hold influential positions in global governance, the MDCB avoids pursuing hegemony. The involvement of the Bank for International Settlements emphasizes the initiative's focus on delivering high-quality public goods through collective cooperation. This contrasts sharply with the U.S.-dominated system, where actions like the exclusion of Russia from SWIFT underscore its use as a tool for maintaining financial dominance and imposing unilateral sanctions.(Gülsüm, 2023)<sup>[12]</sup>

In summary, the MDCB, an initiative driven by developing countries and international financial organizations, represents a significant innovation within the existing international settlement landscape. Grounded in principles of collective collaboration, it aims to construct a new, more equitable and inclusive settlement framework. The MDCB reflects the urgent need for reform in the current international financial architecture, particularly among developing countries. By addressing existing deficits in global financial governance, it seeks to provide a reliable, secure, and equitable settlement service for the global financial market.



**Figure 1.** The Cross-border Settlement Structure of the MDCB<sup>[13]</sup> **Source:** Bank for International Settlements

### 3. Piloting the Bridge: The Motivations Behind the MDCB

The MDCB represents an innovative endeavor within the evolving international financial architecture, particularly the international monetary settlement system. Pilot projects are currently underway in regions including China, Hong Kong, Thailand, Saudi Arabia, and the United Arab Emirates. The financial structure, including the international settlement system, is a core component of the international political economy. Its evolution is profoundly influenced by intrinsic factors within the financial domain itself.(Jones, 2013)<sup>[14]</sup> However, structural power, encompassing production, security, and knowledge, also plays a crucial role. The reshaping of settlement systems is not solely driven by endogenous financial developments, such as the evolution of international currencies, but also reflects profound changes in production structures, security frameworks, and knowledge structures.

#### 3.1 Addressing the Inherent Tensions in International Financial Structures: The Primary Task for the MDCB

The international economic system relies on financial structures to facilitate exchange rate settlements. These services are underpinned by a currency system characterized by relative stability and free convertibility. Currently, the U.S. dollar occupies a central position in global finance and the international settlement system.(Matías, 2021)<sup>[15]</sup> However, the long-term weakening of the dollar's creditworthiness, coupled with its supply being controlled by a single sovereign entity, introduces persistent instability into international settlement mechanisms. This inherent vulnerability constitutes a fundamental contradiction within the existing financial structure.

The long-term weakening of the U.S. dollar's creditworthiness has introduced significant uncertainty into the international settlement system. Since the *Jamaica Agreement*, the dollar's value has been

decoupled from gold, relying solely on the credibility of the U.S. government and its economic fundamentals. However, with growing U.S. government debt and shifting global economic realities, the dollar's credit foundation faces increasing internal and external pressures. Statistically, the dollar's purchasing power has eroded significantly since the 1970s. (Collin and Waddle, 2020)<sup>[16]</sup> This long-term decline undermines its stability as a reserve currency and destabilizes the international monetary system. International settlement systems traditionally rely on precious metals or currencies with strong creditworthiness. The depreciating dollar challenges this foundation, complicating currency exchange in cross-border transactions, increasing transaction costs and payment risks, and ultimately hindering the deepening of globalization.

The privatized supply of the U.S. dollar and its inherent volatility have significantly increased exchange rate risks within the international settlement system. While the dollar serves as a cornerstone currency in international settlements, its supply and management are primarily controlled by the Federal Reserve, a U.S. domestic institution. The Fed's monetary policy decisions, primarily focused on domestic economic stability, inevitably generate spillover effects on the global economy. (Julio J., 2013)<sup>[17]</sup> Since 2024, fluctuations in U.S. economic data and frequent adjustments in Fed policy expectations have exacerbated exchange rate volatility. Participants in the international settlement system must now contend with the inherent uncertainty of the U.S. dollar exchange rate and the Fed's policy outlook, increasing the costs of international trade settlements and potentially destabilizing global financial markets.

The MDCB represents an innovative response to the declining creditworthiness and privatized supply of the U.S. dollar. By leveraging digital currencies issued by participating countries, the MDCB aims to reduce reliance on U.S. dollar reserves and mitigate the associated exchange rate volatility. This initiative seeks to address the structural challenges posed by the weakening dollar's credit foundation, offering a more stable and mutually beneficial international settlement model for participating countries. By reducing global over-reliance on the U.S. dollar, the MDCB provides a potential solution to the inherent vulnerabilities of the current system.

### 3.2 The Reshaping and Expansion of Production Structures: The Material Basis for the MDCB

The current international settlement system faces significant challenges in adapting to the rapidly evolving global economic landscape. Globalization and digitalization have fundamentally altered the nature of production, impacting "who participates in production" and "what goods are produced." This dynamic shift necessitates a corresponding evolution in the international settlement system. However, the existing framework, largely rooted in traditional economic models, struggles to keep pace with these changes. This mismatch between the evolving production landscape and the outdated settlement system results in high costs and inefficiencies in cross-border transactions.

The MDCB is uniquely positioned to address the evolving needs of small and medium-sized enterprises (SMEs) in the global economy. The rise of cross-border e-commerce has empowered SMEs, but navigating traditional international settlement systems remains challenging. (Abu Sayed, and Rolfe, 2023)<sup>[18]</sup> These businesses often rely on correspondent banking relationships with larger institutions, leading to high fees, cumbersome processes, and prolonged clearing times. This significantly impacts their profitability and competitiveness. The MDCB directly addresses these issues by integrating more SMEs and their supporting banks into the settlement framework. By leveraging existing networks between commercial banks and central banks, the MDCB provides a more efficient and inclusive platform for SMEs to conduct cross-border transactions. This is particularly beneficial for countries like China, with a strong manufacturing sector, enabling SMEs to reduce costs, expand their market reach, and enhance their competitiveness in the global market.

The decentralization of global supply chains and the growing activity in supply chain trade have driven a rapid increase in settlement demands. The MDCB, leveraging blockchain technology, addresses this shift effectively. Compared to the supply chain models of the 1970s and 1980s, today's global supply chain system demonstrates significant cross-border and regional integration, forming a complex and expansive network that spans multiple countries and regions. (Luo Peng et al., 2023)<sup>[19]</sup> This trend has significantly boosted the vibrancy of supply chain trade, leading to a surge in international settlement demands, particularly for high-frequency, small-

scale transactions. To accommodate this shift, the international settlement system must deliver efficient, low-cost payment capabilities that align with market needs. While traditional settlement systems benefit from relatively mature financial infrastructure, the sharp increase in transaction frequency has led to persistently high settlement costs, creating a key barrier to optimizing corporate expenses. The MDCB mitigates these challenges by eliminating intermediaries and leveraging network effects to achieve economies of scale, thereby reducing transaction costs. Among the participating countries, China, Thailand, and Saudi Arabia play pivotal roles in the global supply chain network. The application of the MDCB is expected to support enterprises in these nations by boosting profitability, enhancing supply chain collaboration, and promoting the deeper integration and optimization of the global supply chain network.

The MDCB can meet the timeliness demands for updating payment infrastructure to align with the rapid growth and digital transformation of service trade. The rapid growth of service trade, driven by advancements in information technology, necessitates a more agile and responsive international settlement system.(Emmanuelle, 2018)<sup>[20]</sup> Sectors like financial services, information technology, and telemedicine require real-time settlements and cross-platform interoperability to ensure timely fund transfers. However, traditional systems struggle to meet these demands, hindering the efficient flow of funds in the service trade sector. The MDCB addresses these limitations by providing real-time cross-border payments and seamless platform interoperability. This is particularly beneficial for countries actively involved in the MDCB project, where enterprises in the service sector have a strong demand for advanced settlement tools. By enabling faster and more efficient transactions, the MDCB reduces costs and facilitates the growth of service trade within these economies.

### 3.3 Security Structure Threats: The Realistic Concerns that the MDCB Needs to Address

Geopolitical and non-traditional security factors are increasingly influencing various domains, including the international settlement system. This evolving landscape, characterized by heightened competition among states, demands a robust and secure settlement framework. However, the current system exhibits limitations in effectively monitoring and mitigating threats such as terrorism financing and money

laundering.(Cabral, 2019)<sup>[21]</sup> This poses significant challenges for sovereign states, particularly developing countries, in safeguarding their trade and investment interests within an increasingly complex and volatile international environment.

The MDCB can dissolve the “weaponization” of the international settlement system with a decentralized architecture. The current, centralized international settlement system, reliant on the SWIFT network controlled by developed countries, poses security risks for many participating nations. (Henry and Newman, 2019)<sup>[22]</sup> This vulnerability is twofold: firstly, the system’s private nature, concentrated in the hands of a few, contradicts its intended role as a public good for global finance. Secondly, developed nations increasingly weaponize the system for political gain, as seen with the US freezing Russia out of SWIFT during the Ukraine conflict. The MDCB offers a potential solution through its decentralized architecture. Unlike the current model, the MDCB is a collaborative network built by participating countries. This shift towards a more equitable and secure platform aligns with the goals of several countries seeking financial sovereignty, such as Mainland China and Hong Kong threatened with US decoupling, and Saudi Arabia and Thailand promoting economic autonomy.(Andreas, 2022)<sup>[23]</sup> By participating in the MDCB, these countries hope to reduce dependence on traditional power centers and safeguard their economic security.

The existing international settlement system’s deficiencies in anti-money laundering (AML) and counter-terrorist financing (CTF) are inadequate to address new non-traditional security challenges, necessitating reform and modernization.(Robert, 2016)<sup>[24]</sup> It exhibits significant shortcomings in information sharing and collaborative regulation, with notable information silos that create regulatory blind spots and redundant efforts. This status quo not only hinders the formation of effective global regulatory synergy but also obstructs the development of a cohesive international oversight framework. Moreover, the widespread adoption of emerging technologies such as digital currencies and blockchain has diversified and complicated financial transactions, providing new channels and methods for money laundering and terrorist financing activities. However, progress in technology application and regulatory innovation within the existing international settlement system remains sluggish, making it difficult to effectively counter these novel threats. In response

to these challenges, the MDCB project has emerged. Based on blockchain technology, this initiative aims to innovatively track and manage non-traditional security threats. The application of blockchain or distributed ledger technology ensures the transparency and immutability of all transaction records, enhancing the credibility of the financial system.(Christofer and McLarne, 2017)<sup>[25]</sup> Additionally, the MDCB facilitates collaborative regulation among central banks from different countries and regions, enabling real-time sharing of transaction data and thereby strengthening the effectiveness of cross-border cooperation. Thus, countries and regions participating in the MDCB project can leverage this platform to enhance their regulatory efficiency, promote the healthy development of international financial markets, and contribute to the establishment of more robust offshore international financial centers.

### 3.4 Innovations in Knowledge Structures: The Technical Basis for the MDCB

The adjustment of financial structures will be shaped by innovations in knowledge systems. The development of the MDCB depends on advancements in knowledge and technological iteration. Addressing the fundamental question of “what constitutes knowledge” provides the basis for the technological framework of the MDCB. Domestically, the integration of knowledge fosters an environment conducive to its development, while internationally, the dissemination of this knowledge facilitates cooperative efforts among participating countries.

Blockchain technology forms the technical backbone of the MDCB. With its decentralized nature, immutability, and high transparency, blockchain offers a reliable framework for data management, transaction security, and the execution of smart contracts. Its continued advancement has enabled the issuance of digital currencies and supports the MDCB’s development. For instance, blockchain’s Delivery versus Payment (DvP) mechanism minimizes settlement risk by ensuring simultaneous execution of payments and deliveries. Moreover, improvements in interoperability between platforms now allow the seamless integration of various digital currencies into the MDCB. Countries participating in the MDCB project demonstrate strong technological capabilities in blockchain. China, for example, leads globally in blockchain patent authorizations, showcasing its robust research, development, and innovation capacity. (Hu et al., 2024)<sup>[26]</sup> Saudi Arabia (Alshareef,

2022)<sup>[27]</sup> and the United Arab Emirates (UAE) have also displayed significant momentum in blockchain development (Shin et al., 2022)<sup>[28]</sup>, leveraging these strengths to contribute to the MDCB’s construction.

The successful implementation of the MDCB relies on the issuance and application of sovereign-backed digital currencies by participating nations. These digital currencies must ensure both usability and credibility. Usability requires continuous and stable system operations that allow transactions to occur anytime, while credibility depends on the security, reliability, and effectiveness of the regulatory framework governing the currency. To meet these requirements, participating countries must conduct extensive pilots to refine their domestic digital currency systems and build public trust. Once these systems mature, they can support cross-border settlements and currency circulation through the MDCB. Many countries involved in the project have already established or piloted digital currencies or wallets, providing a solid foundation for the MDCB’s continued development.

International collaboration and experimentation are essential for the MDCB’s success. This initiative, a product of negotiations among participating countries, depends on ongoing cross-border cooperation for its refinement. The MDCB has now reached the Minimum Viable Product (MVP) stage, allowing monetary bridge institutions to conduct real transactions under defined conditions and procedures. (BIS Innovation Hub, 2024)<sup>[29]</sup> This milestone establishes a strong foundation for further progress and enhances the MDCB’s appeal to observer members. It also encourages additional financial institutions and countries to join this innovative fintech initiative.

In summary, the pilot phase of the MDCB represents both a governance-oriented initiative and a significant step toward addressing the inefficiencies and limitations of the current settlement system. It embodies a comprehensive reform effort, tackling challenges across interconnected dimensions such as production structures, security frameworks, and knowledge systems. The ongoing transformation of global production structures demands greater efficiency from settlement systems, requiring them to adapt to new economic realities. Concurrently, the rise of diverse security threats highlights the need for more resilient and robust regulatory mechanisms. Furthermore, advancements in knowledge systems provide the technical foundation necessary for modernizing these systems. By addressing these multifaceted challenges,

the MDCB pilot serves as a forward-looking effort to resolve current inefficiencies while adapting to the complexities of evolving production patterns, security risks, and technological progress.

#### **4. Future or Bubble : Existing Challenges for the Development of the MDCB**

As global economic integration deepens, the international settlement system remains a critical foundation for facilitating trade and financial activities. However, inherent issues and contradictions in the existing system highlight the need for innovative solutions like the MDCB. While technological advancements and financial innovations offer significant potential, the development of the MDCB continues to face persistent risks and challenges, particularly amid intensifying geopolitical competition.

##### **4.1 Great Power Competition and Economic Rivalry as External Pressures**

The development of the MDCB, as a transformative innovation in the international relations framework, has elicited varied responses from “status quo countries” entrenched in the traditional settlement system. This initiative, primarily driven by developing nations, challenges existing power structures but also increases their costs and complexities in international cooperation, particularly under pressure from dominant powers like the United States.

The current international settlement system relies heavily on the US dollar, granting the United States significant economic leverage through “seigniorage” and strategic control over global financial flows. Efforts to reduce reliance on the dollar, such as the MDCB, directly threaten U.S. strategic advantages. Historically, attempts at “de-dollarization” by countries like Russia and Iran have triggered stringent sanctions, reflecting the U.S.’s commitment to preserving its monetary hegemony. As geopolitical competition intensifies, the U.S. increasingly links “de-dollarization” initiatives to broader strategic threats, as evidenced by the Trump administration’s 2024 tariff threats against BRICS countries for pursuing independent payment systems.

The MDCB’s “de-dollarization” agenda is likely to face resistance from the United States. By offering a more efficient, low-cost, and transparent alternative for cross-border payments, the MDCB undermines the dollar’s dominance and challenges the U.S.’s role in the international financial order. While the U.S. government has not issued a definitive stance, its

cautious and conservative attitude reflects concerns over the platform’s potential geopolitical implications. American think tanks have also criticized the MDCB, viewing it as a strategic move by China to reduce U.S. influence. (Fanusie, 2022)<sup>[30]</sup>

Faced with the risk of sanctions and economic pressures from the United States, some developing countries remain hesitant to fully engage with multilateral digital currencies. Many prefer to join MDCB pilot projects as observers rather than formal participants. This cautious approach reflects their need to balance the potential benefits of financial innovation against the geopolitical and economic risks of overt “de-dollarization.”

##### **4.2 Interest Divergences Among Developing Countries as an Intrinsic Barrier**

The participant countries in the MDCB are predominantly developing nations, but they exhibit significant disparities in strategic interests and economic strength. These differences result in divergent attitudes toward the initiative among both participating and observer states, creating potential conflicts in international cooperation and challenges for the MDCB’s scalability and development.

On one hand, economic powerhouses among developing nations see the MDCB as an opportunity to reduce reliance on the US dollar and construct an economic order more aligned with their national interests. As these nations gain prominence in the global political and economic landscape, mitigating potential sanctions and pressures from the United States becomes a critical concern. For these countries, the MDCB represents a vital pathway to achieving strategic objectives, enhancing cross-border payment efficiency, reducing transaction costs, and bolstering financial autonomy and resilience against external shocks. For example, Mainland China and Hong Kong actively participate in the MDCB pilot projects, viewing the platform as a means to facilitate “de-dollarization” and promote the internationalization of the digital yuan. Similarly, Saudi Arabia’s involvement reflects its aspirations to enhance financial sovereignty and regional influence through innovative settlement systems. (Roll, 2019)<sup>[31]</sup>

On the other hand, differences in attitudes toward the MDCB among emerging powers pose challenges. Mainland China’s prominent role in the initiative has sparked concerns among other key players, such as India, which views China’s leadership as potentially undermining its own economic influence. (Mark and

Zeng, 2018)<sup>[32]</sup> As a result, India adopts a cautious approach, opting for bilateral experiments with CBDCs instead of fully engaging with the MDCB. Similarly, Russia has chosen to prioritize the BRICS cooperation mechanism for cross-border settlements, aiming to position BRICS as a counterbalance to U.S. dominance.(Gavrilenko and Victor, 2024)<sup>[33]</sup> These differing expectations underscore the complexities of cooperation among major economies, with some nations viewing the MDCB as a tool for collaboration and influence, while others fear power imbalances and geopolitical risks.

In contrast, a broader group of developing countries exhibits limited enthusiasm for active participation in the MDCB. With weaker economic strength and concerns about jeopardizing national interests or attracting sanctions from status quo powers like the United States, these countries often adopt a wait-and-see attitude. This reluctance is reflected in the significant disparity between the number of participating and observer states in the MDCB initiative. Moreover, international settlements exhibit strong network externalities, meaning a settlement system's success depends on its level of adoption and network effects. If the MDCB remains limited to small-scale pilots or lacks broad participation, many nations will prefer the established and stable US dollar settlement network. This dynamic could hinder the MDCB from achieving sufficient scale and impact its long-term prospects.

Overall, the MDCB faces dual contradictions: one among emerging economic powers and another between these powers and the broader group of developing nations. These divergent strategic considerations and interests introduce potential conflicts and complicate the initiative's scalability and development. Resolving these challenges will be crucial for the MDCB to realize its transformative potential in global financial systems.

### **4.3 Technical Integration and Financial Management Remain Micro-level Challenges**

Despite the considerable potential for development, the MDCB faces significant real-world challenges that cannot be overlooked. Its successful implementation relies on advanced technologies like blockchain, which remain in pilot and validation stages in a limited number of participating countries. Achieving mainstream adoption will require overcoming numerous technical barriers, institutional shortcomings, and liquidity constraints. These challenges demand not only

technological progress but also robust regulatory frameworks and sufficient asset reserves to ensure stability and reliability.

Firstly, there is uncertainty regarding the technological prospects. While the MDCB has successfully completed Minimum Viable Product (MVP) testing with five participating parties, its reliability across diverse cross-border payment scenarios and under high-load conditions remains unproven. Larger-scale pilot studies and advanced testing are needed to validate its stability and practicality. Any significant deficiencies uncovered during these trials could undermine confidence among observer nations and even participating countries, potentially stalling broader adoption.

Secondly, there is an asymmetry in the regulation of privacy protection and transaction security. Privacy protection and transaction security regulations vary significantly across countries due to differences in economic conditions, technological capabilities, and cultural norms.(Krishna et al., 2023)<sup>[34]</sup> These discrepancies complicate the global adoption of the MDCB, as nations often tailor digital currency regulations to their own needs. To address this, a credible, interoperable regulatory framework must be established to harmonize these differences. Such a system should balance fairness, flexibility, and effectiveness, ensuring secure and smooth digital currency transactions on a global scale.

Thirdly, there is the challenge of integrating with the existing international financial architecture. Cross-border payments intersect with various domains, including monetary policy, foreign exchange regulation, compliance, and institutional frameworks. (Li, 2022)<sup>[35]</sup> While the MDCB focuses on optimizing information and capital flows, its success requires deeper integration with broader financial policies. Establishing an organizational entity akin to SWIFT or the Bank for International Settlements could facilitate this integration. Such an entity would enable effective coordination between settlement participants and international financial organizations, ensuring alignment during policy formulation and implementation.

Fourthly, there is the challenge of digital liquidity asset scarcity in cross-border transactions. Unlike traditional systems reliant on the U.S. dollar for liquidity, the MDCB operates on a peer-to-peer model for bilateral transactions.(Murau et al., 2023)<sup>[36]</sup> While this reduces dependency on third-party currencies, it

introduces liquidity management challenges. Many participating countries' currencies lack mature offshore trading markets, limiting their circulation in global financial markets. This places greater liquidity management demands on central banks. To address these challenges, central banks must act as lenders of last resort when necessary and develop robust contingency measures to ensure the MDCB's stable operation.

## 5. Conclusion

As digital currencies mature and more countries join pilot projects, the MDCB is emerging as an innovative cross-border payment solution distinct from traditional international settlement systems. The MDCB has the potential to significantly improve transaction speed and efficiency while promoting financial inclusiveness, marking a major breakthrough in financial technology (fintech). Its framework relies on co-construction and shared benefits, where participating nations jointly undertake initial investments and operational responsibilities, with efficiency gains distributed equitably. This collaborative model underscores the MDCB's fundamental departure from traditional systems and serves as a key driver for its long-term sustainability.

Positioned as a transformative innovation within the digital economy era, the MDCB aims to surpass the U.S. dollar-centric settlement framework by enabling multi-currency payments and adopting a decentralized architecture. This new system addresses structural inefficiencies in traditional models, such as high costs, slow processes, and limited transparency, while advancing greater openness and fairness in international finance. Additionally, the MDCB reflects a broader need to realign production structures, security frameworks, and knowledge systems with evolving global economic and political conditions.

However, the MDCB's development hinges on overcoming significant challenges. Currently in small-scale pilot phases, the project faces issues of technical reliability and institutional alignment among participating nations. Ensuring security, stability, and compatibility will require sustained technological investment and international cooperation. Differences in legal frameworks, regulatory policies, and technical standards further complicate coordination efforts. Geopolitical competition has also positioned the MDCB as a focal point for conflicting interests among emerging powers, established economies, and developing nations. These tensions create barriers

to the project's progress and amplify uncertainties surrounding the reform of the global settlement system.

In summary, while the MDCB represents a bold attempt to transform the international financial system, its success depends on the interplay of technological advancements, institutional harmonization, and geopolitical dynamics. These factors will ultimately shape the MDCB's trajectory and its role in reshaping the global financial architecture.

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