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The Impact of Global Central Bank Digital Currency Policies on Cross-Border Capital Flows

XueHan Zhuo *

International Business College, Dongbei University of Finance and Economics, Dalian, China, 116023

* Corresponding Author Email: 2023210571@stumail.dufe.edu.cn

Abstract. As central bank digital currencies (CBDCs) move from conceptual exploration toward institutionalized pilots and cross-border applications, their implications for the international financial system extend well beyond payment innovation itself and increasingly reshape the institutional conditions of cross-border capital flows. From the perspective of policy design, this paper systematically examines the mechanisms through which global CBDC policies affect cross-border capital flows and the heterogeneous consequences they generate across countries. The paper identifies four core policy dimensions of CBDCs, namely cross-border access, interoperability, holding limits and remuneration, and regulatory embedding, and on this basis develops an analytical framework for understanding their effects on capital mobility. It argues that CBDC policies influence the scale, structure, and volatility of cross-border capital flows mainly through four channels: lower transaction costs, stronger asset substitution, bank disintermediation, and programmable regulation. Specifically, CBDCs may, on the one hand, reduce frictions in cross-border payment and settlement, improve the efficiency of international capital allocation, and expand the scale of capital movements. On the other hand, they may also intensify capital flow volatility, currency substitution, and financial fragility by reinforcing safe-asset preferences, weakening the buffering role of the banking system, and lowering the cost of capital withdrawal. The analysis further shows that the international effects of CBDC policies are highly asymmetric across countries. For major currency economies, CBDCs are more likely to strengthen international currency attractiveness and capital concentration effects, whereas for emerging market and developing economies, their cross-border expansion is more likely to generate digital currency substitution, capital outflow pressures, and financial instability risks. On this basis, the paper argues that future CBDC policy should seek a more appropriate institutional balance among payment efficiency, financial stability, monetary sovereignty, and international coordination, while embedding necessary safeguards into the design stage in order to mitigate destabilizing effects on cross-border capital flows.

Keywords: Central Bank Digital Currency, Cross-Border Capital Flows, Policy Design, Financial Stability.

1. Introduction

In recent years, with the rapid expansion of the digital economy and the ongoing digital transformation of global payment systems, central bank digital currencies (CBDCs) have emerged as a major topic in international finance [1, 2]. Compared with traditional payment instruments, CBDCs are expected not only to improve payment efficiency, reduce transaction costs, and enhance financial inclusion, but also to serve as an important policy tool for reshaping cross-border payment systems, safeguarding monetary sovereignty, and influencing the evolving structure of international currency competition [3, 4]. Against the backdrop of persistently high costs, low efficiency, limited transparency, and complex intermediation in cross-border payments, an increasing number of central banks have accelerated CBDC research and pilot programs, while some economies have begun exploring their use in cross-border payment and settlement arrangements. As a result, CBDCs are no longer merely part of domestic monetary digitalization; they are increasingly becoming a new institutional factor with the potential to affect international capital flows and global financial governance [5].

Existing studies have mainly examined the economic implications of CBDCs from the perspectives of cross-border payment efficiency, monetary sovereignty, financial stability, and bank disintermediation. On the one hand, a large body of research suggests that CBDCs may enhance the efficiency of cross-border payments and improve the allocation of international capital by reducing payment frictions, shortening settlement times, and increasing transaction transparency[6]. On the other hand, some studies argue that if CBDCs are made available for cross-border holding and use—especially when major international currency issuers move first—they may strengthen safe-asset substitution effects, accelerate the reallocation of capital across borders, and amplify capital flow volatility, deposit migration, and currency substitution during periods of financial stress[7]. Nevertheless, the existing literature has largely focused on payment innovation and the internal effects of CBDCs on domestic financial systems, while giving relatively limited attention to how differences in global CBDC policy frameworks may systematically shape cross-border capital flows. In particular, there is still a lack of an integrated analytical framework that links policy design, transmission mechanisms, and heterogeneous outcomes.

Against this background, this paper takes global CBDC policies as its object of analysis and examines their potential effects on cross-border capital flows and the associated policy implications. Specifically, the paper first identifies the key policy dimensions of CBDCs, including cross-border access, interoperability, holding limits and remuneration design, and regulatory embedding. It then develops an analytical framework to explain how CBDC policies may affect cross-border capital flows through four major channels: lower transaction costs, asset substitution, bank disintermediation, and programmable regulation. Building on this framework, the paper further discusses the possible effects of CBDC policies on the scale, structure, and volatility of capital flows, and compares their heterogeneous implications for major currency economies and emerging market and developing economies. By approaching the issue from the perspective of policy design, this study aims to clarify how CBDCs may reshape the institutional conditions of cross-border capital movements and to provide a theoretical reference for understanding transformations in international finance in the digital currency era.

2. Literature Review

2.1. CBDC and cross-border payments

The early literature on central bank digital currencies primarily focused on conceptual definitions**,** functional positioning, and institutional design, but it has gradually expanded to address their potential role in cross-border payments[8]. A broad consensus in the literature is that CBDCs have attracted substantial attention in this area because the traditional cross-border payment system has long been characterized by high costs, low efficiency, limited transparency, and complex intermediation chains. Under the existing international payment architecture, which is largely built upon correspondent banking networks and multilayered clearing arrangements, cross-border transactions often face long settlement lags, high fees, asymmetric information transmission, and significant compliance burdens. These structural frictions not only reduce the efficiency of international fund transfers but also constrain the modernization of the global payment system. Against this background, a large number of studies regards CBDCs as an important institutional innovation for improving cross-border payments, arguing that digital currency infrastructure and new settlement arrangements may reduce payment frictions and provide a new technological foundation for the restructuring of the international payment system.

Within this line of research, the literature has mainly examined the effects of CBDCs on cross-border payments from three perspectives. First, CBDCs are widely believed to improve payment and settlement efficiency. Compared with the traditional reliance on multiple intermediaries and fragmented accounting systems, CBDCs may enable more direct value transfer and thereby shorten the settlement chain, increase the speed of cross-border transactions, and reduce operational costs. Second, CBDCs may enhance transparency and traceability in payment processes. Payment

arrangements built on digital infrastructure can improve the recording and verification of transaction information, thereby mitigating problems associated with opacity and insufficient regulatory coordination. Third, CBDCs may promote greater connectivity across payment systems. In particular, with the development of multi-CBDC platforms, wholesale CBDC bridge arrangements, and cross-system interoperability frameworks, scholars have increasingly explored how CBDCs may improve linkages across different currency systems at both the technical and institutional levels and create new pathways for cross-border payment cooperation.

However, the existing literature on CBDCs and cross-border payments still places primary emphasis on improvements in payment functionality, highlighting their advantages in cost, efficiency, and technological architecture[9, 10]. Although these studies provide an important foundation for understanding the cross-border use of CBDCs, their analytical focus remains largely confined to the payment system itself. Much less attention has been paid to how changes in payment conditions may spill over into broader international financial variables, especially cross-border capital flows. In other words, while improvements in cross-border payment efficiency represent the starting point of the international economic effects of CBDCs, their deeper significance lies in the possibility that these changes may alter the institutional conditions under which capital is allocated across borders, thereby exerting a more profound influence on capital flow behavior.

2.2. CBDC and capital flow dynamics

As the literature on CBDCs has expanded, more studies have analyzed them within the broader framework of international finance and open-economy macroeconomics, especially in relation to cross-border capital flows. Compared with research focused mainly on payment efficiency, this strand emphasizes the systemic effects of CBDCs on international asset allocation, currency substitution, financial stability, and capital flow volatility. Broadly, the literature can be divided into two perspectives: an “efficiency-enhancing” view and a “risk-amplifying” view.

From the efficiency-enhancing perspective, CBDCs are seen as a means of improving international capital allocation by reducing frictions in cross-border payment and settlement. Traditional capital flows are often constrained by payment costs, information asymmetries, and settlement delays, while CBDCs may lower these barriers through more convenient payment arrangements, greater transparency, and less reliance on intermediaries. As cross-border investment, trade finance, and global liquidity allocation become increasingly digitalized, CBDCs may improve the accessibility and responsiveness of international capital flows.

By contrast, another part of the literature focuses on the risks CBDCs may pose to capital flow volatility and financial stability. Although CBDCs reduce the cost of cross-border payments, they may also lower the threshold and exit cost of moving capital across borders, making flows more immediate, sensitive, and procyclical. This issue becomes particularly important if major currency issuers introduce CBDCs for cross-border holding and use. In that case, foreign users may more easily hold and transact in strong-currency CBDCs, reinforcing safe-asset demand and currency substitution. For economies with weaker monetary credibility, more fragile financial systems, or more limited capital account management capacity, this may intensify capital outflow pressures, deposit migration risks, and exchange rate volatility.

In addition, a growing body of research examines the relationship between CBDCs and capital flow management. CBDCs do not necessarily promote capital mobility in only one direction; their traceability, programmability, and rule-embedding capacity may also provide new tools for regulation. Under certain designs, foreign exchange controls and capital flow management measures can be embedded into CBDC systems through identity verification, transaction limits, geographic restrictions, purpose-based constraints, or automated compliance procedures. Their effects on capital flow dynamics are therefore not uniform, but highly dependent on policy design and institutional context.

Overall, the literature has recognized the importance of CBDCs for cross-border capital flows, but this field remains underdeveloped. While the efficiency-enhancing view is relatively well established, arguments about volatility, financial fragility, and capital flow management have not yet been integrated into a coherent analytical framework. Given the current diversity of CBDC experiments across countries, understanding how policy variation affects capital flow dynamics remains an important task for future research.

2.3. Research gap and contribution

A review of the literature shows that although CBDC research has expanded from payment innovation to international finance and financial stability, systematic analysis of how differences in CBDC policies affect cross-border capital flows remains limited. First, much of the literature treats CBDCs as a relatively uniform policy tool and pays insufficient attention to variation in policy design. Yet economies differ significantly in cross-border access, interoperability, holding limits, remuneration, and regulatory embedding, and such differences are likely to shape the direction and magnitude of CBDCs' effects on capital flows.

Second, existing studies often examine the effects of CBDCs on cross-border payments, banking systems, currency substitution, or financial stability separately, rather than within a unified framework of capital flow analysis. In reality, CBDCs influence cross-border capital flows through the combined effects of changing payment frictions, asset substitution, bank disintermediation risks, and regulatory embedding. Only by integrating these channels can researchers better explain how CBDC policies affect the scale, structure, and volatility of capital flows.

Finally, the literature has paid insufficient attention to cross-country asymmetry. Because economies differ in currency status, financial market depth, capital account openness, and regulatory capacity, the spillover effects of CBDC policies are unlikely to be uniform. CBDCs may strengthen the international role of major currencies, while increasing digital currency substitution and capital outflow pressures in emerging and developing economies.

Against this background, this paper develops a framework for analyzing how CBDC policy design affects cross-border capital flows. It focuses on key dimensions such as cross-border access, interoperability, holding constraints, remuneration, and regulatory embedding, and examines their effects through four main channels: lower transaction costs, stronger asset substitution, bank disintermediation, and programmable regulation. It also compares the different impacts and policy challenges faced by major currency economies and emerging market and developing economies. In doing so, the paper aims to address gaps in the literature on policy heterogeneity, mechanism integration, and cross-country asymmetry, and to provide a clearer framework for understanding capital mobility in the digital currency era.

3. Policy dimensions of cbdcs

Central bank digital currencies are not a homogeneous policy object. Although different countries often pursue broadly similar goals in developing CBDCs—such as payment system digitalization, greater financial efficiency, or improved monetary governance—their institutional designs vary substantially across jurisdictions. It is precisely these differences that determine the direction, magnitude, and risk profile of the potential effects of CBDCs on cross-border capital flows. Accordingly, any meaningful analysis of how CBDCs affect international capital movements must begin by decomposing them into several key policy dimensions and examining how these dimensions reshape the institutional conditions under which capital is allocated across borders. Drawing on the existing literature and ongoing policy experimentation, this paper identifies four core policy dimensions of CBDCs that are particularly relevant to cross-border capital flows: cross-border access, interoperability, holding limits and remuneration, and regulatory embedding.

3.1. Cross-border access

Cross-border access is the primary policy dimension shaping the international economic effects of CBDCs. At its core, it concerns whether a country's CBDC can be held, used, and settled by non-residents, and to what extent such access is institutionalized and normalized. If a CBDC is restricted to domestic residents and domestic use cases, its effects largely remain within the national payment system and domestic financial structure. Once it is opened to non-residents—especially when direct holding and cross-border transactions are permitted—the CBDC ceases to be merely a domestic payment instrument and instead becomes a digital monetary vehicle with international circulation potential. In such a setting, both the technical and institutional barriers to cross-border capital movement may be significantly lowered.

From the perspective of capital flows, the importance of cross-border access lies in the fact that it directly determines the ease with which foreign actors can obtain and use a given currency in digital form. It also shapes the speed boundaries of both capital inflows and outflows. A relatively open access regime may increase the convenience with which international investors allocate assets denominated in the relevant currency, thereby strengthening its attractiveness in cross-border payments and asset holding. At the same time, however, it may also enable funds to move more rapidly out of weaker currencies or fragile banking systems during periods of stress, flowing instead toward currencies with stronger credibility and deeper liquidity. Cross-border access may therefore generate gains in payment convenience and capital allocation efficiency, while also amplifying capital flow volatility and currency substitution risks.

Moreover, cross-border access is not simply a binary choice between openness and closure. In practice, it can take multiple forms and degrees. Some economies may allow only certain categories of non-resident users to access their CBDCs or may restrict cross-border access to specific types of transactions. Others may permit limited cross-border use through bilateral agreements, regional arrangements, or multilateral platforms. Cross-border access should therefore be understood as a continuous policy variable rather than a fixed institutional attribute. The boundaries set by this variable are likely to have a profound influence on the role of CBDCs in international capital movements.

3.2. Interoperability

Interoperability is the second major policy dimension in the design of CBDCs. It refers to the extent to which different national systems or payment infrastructures can be effectively connected in terms of information exchange, value transfer, and settlement coordination. Compared with traditional cross-border payment arrangements, which rely heavily on intermediaries and multilayered clearing chains, CBDCs can play a meaningful role in cross-border settings only if some form of inter-system connectivity is in place. A CBDC that functions efficiently within a domestic payment environment but lacks interoperability with foreign systems is unlikely to generate substantial improvements in cross-border payments or cross-border capital allocation.

The implications of interoperability for capital flows are twofold. First, a higher level of interoperability facilitates smoother conversion and settlement across currency systems, thereby reducing the technical frictions and time costs associated with international capital allocation. When CBDC platforms, clearing systems, and identity verification mechanisms across jurisdictions are effectively connected, capital can move more quickly and efficiently between markets. Second, greater interoperability also increases the immediacy and responsiveness of capital movements. This means that while international fund allocation may become more efficient under normal conditions, capital flows may also become more procyclical and volatile in periods of financial uncertainty. In other words, interoperability not only improves cross-border efficiency but may also raise the sensitivity of capital flow behavior.

At the institutional level, interoperability is not merely a technical issue; it also requires coordination of rules and governance structures. Differences across countries in data standards, identity

authentication, settlement rules, foreign exchange conversion, compliance requirements, and legal liability all affect the depth and scope of CBDC connectivity. Interoperability thus reflects a country's capacity to integrate its CBDC into the broader international payment network and global financial system. Its significance extends well beyond payment connectivity, as it also shapes the magnitude of the spillover effects that CBDCs may exert on cross-border capital flows.

3.3. Holding limits and remuneration

Holding limits and remuneration are crucial in determining whether a CBDC has strong asset-like characteristics. Unlike traditional cash, a CBDC may function not only as a means of payment but also, depending on its design, as a low-risk and highly liquid digital asset. Whether a country imposes caps on holdings or transactions, and whether it pays interest on CBDC balances, directly affects its attractiveness to both residents and non-residents and, therefore, its influence on cross-border capital movements.

Holding limits are often seen as an important safeguard against financial disintermediation and capital flow shocks. Without meaningful restrictions, residents and non-residents may quickly shift bank deposits or domestic assets into safer CBDC balances during periods of uncertainty, intensifying bank funding pressures and accelerating cross-border capital migration. By contrast, stricter caps make CBDCs more likely to function mainly as payment instruments rather than substitutes for financial assets. In this sense, holding limits constrain the extent to which CBDCs can reshape capital flow behavior.

Remuneration further affects the investment appeal of CBDCs and their relationship with traditional financial assets. A non-interest-bearing CBDC is more likely to remain primarily a payment instrument, whereas an interest-bearing CBDC is more likely to serve as a store of value and portfolio asset. This increases its substitutability with bank deposits, short-term financial instruments, and possibly other cross-border assets. In a cross-border setting, if CBDCs issued by major currency economies combine safety, liquidity, and attractive returns, they may draw foreign funds more easily and reinforce capital concentration in leading currency systems. Holding limits and remuneration therefore jointly define the boundary between CBDCs as payment instruments and as digital asset vehicles.

3.4. Regulatory embedding

Regulatory embedding is a key institutional feature that distinguishes CBDCs from traditional payment instruments and cash. It refers to the ability to build regulatory rules, compliance requirements, and policy constraints directly into the technological architecture of a CBDC, rather than relying only on external enforcement. As a result, CBDCs are not only payment instruments but also potential policy tools for anti-money laundering, identity verification, foreign exchange supervision, and capital flow management. In the context of international capital movements, this means that cross-border transfers depend not only on user demand and technical access, but also on the rules embedded in the currency infrastructure itself.

Its importance lies in how it changes the implementation of capital flow management and monetary oversight. Under traditional arrangements, regulation often relies on bank reporting, ex post review, and coordination across administrative bodies, which can involve delays, high costs, and room for circumvention. Because CBDCs are digital, traceable, and programmable, part of this process can be shifted directly into the transaction stage. Identity checks, geographic limits, purpose restrictions, transaction caps, and automated compliance procedures can all be embedded into the CBDC system. CBDCs may therefore reduce the frictions of cross-border transfers while strengthening the precision and enforceability of regulation.

However, regulatory embedding does not necessarily mean tighter capital controls. Its actual function depends on policy orientation and institutional design. In more open systems, it may mainly support transparency, compliance, and risk monitoring; in more restrictive systems, it may be used to limit

the speed and scale of cross-border capital flows. Regulatory embedding thus reflects not only technological governance, but also national policy preferences. More broadly, it shows that CBDCs do not simply promote freer capital mobility; they may also reshape the regulatory logic of cross-border capital flows.

Together, cross-border access, interoperability, holding limits and remuneration, and regulatory embedding form the four CBDC design dimensions most relevant to cross-border capital movements. They determine who can use CBDC, how it circulates across systems, whether it has strong asset appeal, and how capital flow rules are built into monetary infrastructure. Through their interaction, the effects of CBDCs extend beyond payment efficiency to the scale, structure, and volatility of cross-border capital flows. The next section examines the main transmission mechanisms through which these policy dimensions may affect cross-border capital movements.

4. Transmission mechanisms

Once the main policy dimensions of CBDCs have been clarified, the next step is to explain how these design features are transmitted into cross-border capital flows. In essence, the effects of CBDCs on international capital movements are not direct; rather, they operate through a set of intermediate mechanisms. Different types of CBDC policy arrangements may alter the cost of cross-border payments, reshape portfolio preferences, affect the liability structure of the banking system, and transform the regulatory logic governing capital mobility. Through these channels, they may exert profound effects on the scale, direction, and volatility of cross-border capital allocation. Building on the policy dimensions identified in the previous section, this paper argues that CBDC policies affect cross-border capital flows mainly through four core mechanisms: lower transaction costs, asset substitution, bank disintermediation, and programmable regulation. These mechanisms do not operate in isolation. Instead, they interact under different policy combinations and macro-financial conditions, jointly shaping the overall international effects of CBDCs.

4.1. Lower transaction costs

Lower transaction costs represent the most direct and fundamental transmission mechanism through which CBDCs may affect cross-border capital flows. Traditional cross-border capital movements typically rely on banking networks, correspondent banking arrangements, foreign exchange intermediaries, and multilayered settlement systems. As a result, the transfer of funds across borders often involves relatively high fees, long settlement delays, complex compliance procedures, and significant informational frictions. These transaction costs not only increase the barriers to international investment and cross-border payments but also constrain the speed and efficiency with which capital can be reallocated globally. By introducing digital monetary instruments, real-time settlement capacity, and simplified inter-system payment arrangements, CBDCs may significantly reduce the operational and temporal costs of transferring funds across borders, thereby improving the efficiency of international capital mobility.

From the perspective of capital flows, the most immediate consequence of lower transaction costs is an increase in the convenience and responsiveness of cross-border asset allocation. When the cost of moving funds across markets declines, international investors can adjust their portfolios more easily in response to yield differentials, changing risk expectations, and liquidity conditions. As a result, both the frequency and volume of capital movements may increase. This effect is likely to be especially pronounced in short-term portfolio allocation, securities investment, and transactions involving highly liquid assets, where improvements in payment and settlement efficiency can substantially enhance capital mobility. In this sense, CBDCs do not merely improve the efficiency of payments; they also reduce the institutional frictions that normally constrain the reallocation of capital across borders.

However, the effects of lower transaction costs are not unambiguously positive. A lower barrier to capital movement also implies a lower cost of capital withdrawal. When market expectations

deteriorate —particularly in the presence of exchange rate depreciation pressures, rising financial uncertainty, or stress in the banking system —capital may exit more rapidly through convenient digital channels. This may intensify the procyclicality and volatility of cross-border capital flows. In other words, while CBDCs reduce the cost of capital allocation under normal conditions, they may also reduce the friction associated with capital flight during periods of stress. The transaction-cost mechanism therefore has a distinctly dual character: it may improve the efficiency of international capital allocation, but it may also make capital flows more sensitive to adverse shocks.

4.2. Asset substitution

Asset substitution is the second core mechanism through which CBDCs may influence cross-border capital flows. Its central logic is that CBDCs, as digital monetary assets, may alter the asset-holding preferences of both residents and non-residents. Unlike traditional payment instruments, CBDCs may, under certain institutional arrangements, function not only as a medium of exchange but also as a relatively safe, liquid, and accessible asset form. This becomes particularly important when major currency-issuing economies introduce CBDCs that can be held and used across borders. In such cases, foreign users may view these CBDCs as more attractive substitutes for domestic deposits or local-currency financial assets, thereby triggering shifts in portfolio allocation behavior.

The implications of this mechanism for capital flows are mainly reflected in stronger currency substitution and safe-asset preference. If a strong-currency CBDC can be directly held by foreign actors at lower cost and with greater convenience, international investors and domestic residents may increasingly reallocate part of their holdings away from local-currency assets or domestic bank deposits and into foreign CBDC balances. In practical terms, this implies a transfer of capital from weaker domestic currency systems toward monetary systems with greater international credibility. The consequences are not limited to portfolio reallocation; they may also include a decline in demand for the domestic currency and mounting pressure on monetary sovereignty. For countries with relatively fragile financial systems or weaker international currency positions, such digitally mediated asset substitutions may become particularly pronounced.

More broadly, the asset substitution mechanism may also reinforce asymmetries in international capital flows. Because CBDCs differ across countries in terms of institutional credibility, liquidity, payment convenience, and cross-border usability, global capital is unlikely to spread evenly across all digital currencies. Instead, it may become more concentrated in a small number of CBDCs with stronger safe-asset characteristics and wider international acceptance. This implies that the rise of CBDCs may not simply promote freer global capital movement; it may also intensify the concentration of capital within core currency areas. The asset substitution mechanism therefore shows that the impact of CBDCs on capital flows is not only about making capital more mobile, but also about changing where capital is more likely to move.

4.3. Bank disintermediation

Bank disintermediation is an important financial intermediation channel through which CBDCs may affect cross-border capital flows. Traditionally, commercial banks play a central intermediary role in international capital allocation. They not only absorb deposits from households and firms but also connect the domestic financial system with global capital markets through payment settlement, credit creation, and foreign exchange services. The emergence of CBDCs, especially when they combine strong safety, convenience, and holding capacity, may alter the relative preference of market participants for bank deposits versus central bank money. In doing so, CBDCs may weaken the intermediary role of commercial banks in the financial system. This is particularly important for cross-border capital flows because it directly links changes in the payment infrastructure to changes in capital flow volatility.

More specifically, when residents or non-residents can easily convert bank deposits into CBDCs—especially into foreign CBDCs that can be held across borders—the stability of bank liabilities may

come under pressure. Under normal conditions, this may take the form of a gradual diversion of deposits, rising funding costs for banks, and a weakening of their cross-border intermediary function. Under financial stress, however, bank disintermediation may manifest itself in the form of faster and larger shifts of funds out of the domestic banking system and into CBDCs, including safer foreign CBDCs. Such changes not only undermine the liquidity stability of the domestic banking system but may also amplify overall financial fragility through the interaction between banking stress and capital flow pressures.

At a deeper level, the importance of the bank disintermediation mechanism lies in the fact that it extends the effects of CBDCs on cross-border capital flows beyond payment convenience and into the structural organization of the financial system itself. If CBDCs weaken the role of banks as liquidity pools and absorbers of financial risk, capital flows may increasingly reflect immediate portfolio choices between currencies and safe assets, without being buffered or filtered through the banking system. This implies that capital movements may become faster, more sensitive, and less cushioned by intermediary structures. Bank disintermediation is therefore a crucial mechanism for understanding how CBDCs may intensify capital flow volatility and heighten financial instability risks.

4.4. Programmable regulation

Programmable regulation represents the most institutionally innovative aspect of the transmission of CBDC policies to cross-border capital flows. Compared with traditional payment instruments, one of the most distinctive features of CBDCs is the possibility of embedding rules directly into the operational logic of the currency itself. Certain policy constraints and regulatory requirements may be written into transaction execution, settlement procedures, and access conditions. This means that a CBDC is not merely a vehicle for transferring value; it may also function as a platform for policy implementation. In the context of cross-border capital flows, this implies that the conditions, constraints, and monitoring logic governing international fund transfers can be built directly into payment infrastructure, fundamentally changing the traditional model of external oversight and ex post enforcement.

The first major implication of programmable regulation is that it may improve the precision and effectiveness of capital flow oversight. Owing to the traceability and automatic execution features of CBDCs, regulators may impose differentiated rules based on user identity, transaction purpose, geographic scope, and transaction size. For example, specific categories of cross-border transactions may be subject to pre-programmed limits; certain non-resident accounts may be assigned stricter access conditions; and sensitive transactions may automatically trigger compliance review at the system level. Such arrangements may reduce the informational lags and enforcement gaps that often characterize traditional capital flow regulation, thereby making oversight more real-time and targeted. In this sense, CBDCs are not only tools for lowering the frictions of cross-border transfers but may also become new institutional instruments for managing capital mobility more precisely.

At the same time, the programmable regulation mechanism also implies that the effects of CBDCs on capital flows depend heavily on the orientation of policy design. If policy priorities are centered on openness and efficiency, embedded rules may mainly serve to facilitate compliant cross-border transactions and improve payment accessibility. If policy priorities instead emphasize financial stability and monetary defense, programmable rules may focus more on use restrictions, transaction thresholds, and constraints on cross-border transfers. What programmability introduces, therefore, is not a simple one-way liberalization of capital mobility, but a restructuring of the very mode of capital flow management. It enables regulators to shape the conditions of capital movement more actively at the level of payment infrastructure, while also making capital flows themselves more deeply embedded in national policy objectives and institutional boundaries.

Taken together, lower transaction costs, asset substitution, bank disintermediation, and programmable regulation constitute the four core transmission mechanisms through which CBDC policies may

affect cross-border capital flows. The first two mainly reflect how CBDCs influence the convenience of international capital allocation and portfolio choice behavior, while the latter two reveal how CBDCs may alter the stability of capital movements through changes in financial intermediation and regulatory structure. Precisely because these mechanisms coexist, the effects of CBDCs on cross-border capital flows do not move in a single direction: they may improve the efficiency of international capital allocation, but they may also intensify capital flow volatility, banking fragility, and currency substitution risks. Building on this framework, the next section further examines how CBDC policies may affect the scale, structure, and volatility of cross-border capital flows.

5. Effects on cross-border cpaital flows

Having identified the core policy dimensions of CBDCs and examined their main transmission mechanisms, this section turns to their implications for three key dimensions of cross-border capital flows: flow scale, flow structure, and flow volatility. Compared with traditional payment instruments, the significance of CBDCs does not lie merely in improving payment efficiency, but in their capacity to systematically reshape the conditions of international capital allocation through lower transaction frictions, stronger asset substitution, changes in bank intermediation, and new forms of regulatory control. For this reason, any serious assessment of the economic consequences of CBDC policies must go beyond the question of whether they improve payment convenience and instead evaluate whether they expand the volume of capital flows, alter the direction of capital allocation, and increase the sensitivity and instability of capital movements.

To structure the discussion more clearly, Table 1 summarizes the main policy drivers, potential benefits, possible risks, and policy relevance of CBDC effects across the three outcome dimensions. As the table shows, the impact of CBDC policies on capital flows is not a one-directional process of liberalization but is instead characterized by an inherent tension between efficiency and stability. Importantly, the dominant mechanisms differ across outcome variables. Flow scale is most directly influenced by cross-border access and interoperability; flow structure is more strongly shaped by holding limits, remuneration design, and asset substitution effects; and flow volatility is more closely tied to bank disintermediation, lower exit costs, and the strength of regulatory safeguards. Linking the mechanisms identified in Section 4 to these outcome variables is therefore essential to understanding the broader international financial implications of CBDC policies.

Table 1. Analytical framework of CBDC effects on cross-border capital flows.

Outcome dimension	Main CBDC policy drivers	Likely positive effects	Likely risks	Policy relevance
Flow scale	Cross-border access; interoperability; transaction-cost reduction	Higher cross-border allocation efficiency; faster settlement; broader market participation	Larger gross flows and faster reversals	Assess whether efficiency gains outweigh easier capital relocation
Flow structure	Remuneration; holding limits; cross-border access; asset substitution	More diversified international portfolios; stronger role for liquid digital assets	Concentration toward strong-currency CBDCs; digital currency substitution	Manage asymmetry between major currencies and weaker currency areas
Flow volatility	Interoperability; bank disintermediation; safeguards; programmable regulation	Faster price discovery; more transparent monitoring of cross-border transactions	Sharper sudden stops or flight-to-safety episodes; stronger procyclicality	Use embedded safeguards to contain destabilizing spillovers

Table 1 highlights the layered nature of the relationship between CBDC policy and capital flow outcomes. With regard to flow scale, the most direct effect arises from the reduction in cross-border payment and settlement frictions. As cross-border access expands, interoperability improves, and settlement becomes more efficient, the barriers to international capital allocation are lowered, increasing the scope for capital to move between markets. In principle, this can broaden participation in cross-border investment, improve allocative efficiency, and facilitate faster financial transactions. At the same time, however, larger capital flows do not necessarily imply better resource allocation. Greater gross capital movement often goes hand in hand with more frequent switching between inflows and outflows. CBDC policies may therefore increase the "activity level" of international capital flows, but that greater activity may also bring greater fragility.

This point is further illustrated in Figure 1, which provides a schematic representation of the relationship between the four transmission mechanisms identified in Section 4 and the three capital-flow outcomes examined here. The figure suggests that lower transaction costs exert the strongest direct effect on flow scale, whereas asset substitution and bank disintermediation play a more prominent role in shaping flow structure and flow volatility. By contrast, programmable regulation appears less important in expanding flow scale, but more relevant in containing volatility. This pattern indicates that CBDCs are not neutral technologies that simply promote freer capital mobility. They are institutional arrangements that simultaneously embed openness and constraint. Their ultimate impact depends on how policy design balances the expansion of cross-border accessibility with the containment of destabilizing spillovers.

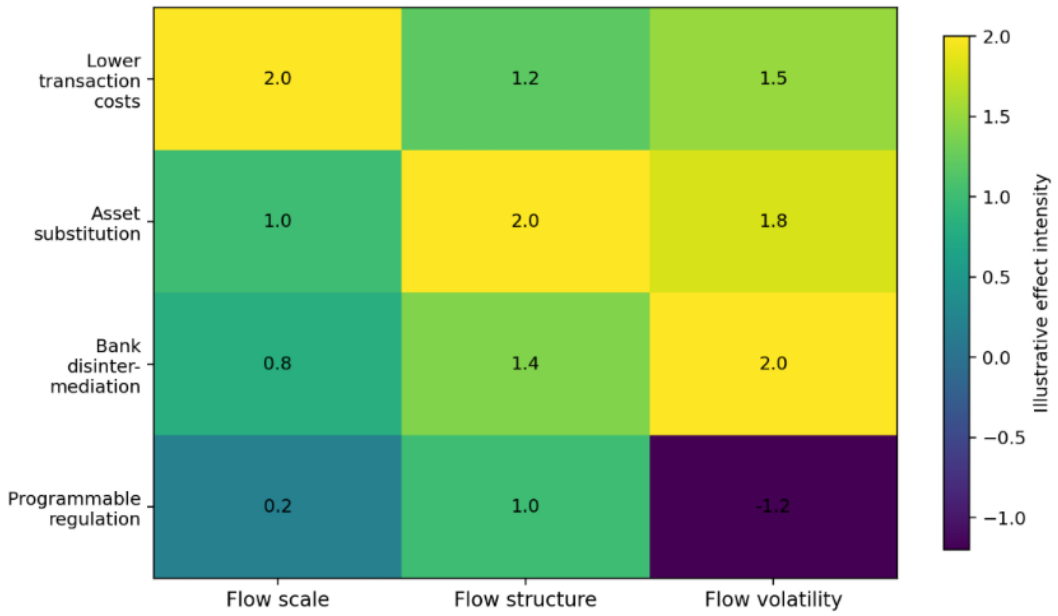

Figure 1. Transmission intensity from CBDC mechanisms to capital-flow outcomes.

5.1. Flow scale

The effect of CBDC policies on the scale of cross-border capital flows is first manifested through their impact on transaction costs and payment efficiency. Traditional international capital movements are often constrained by multiple settlement layers, long transaction times, high operational costs, and heavy reliance on intermediaries. By enabling more direct digital payment and settlement arrangements, CBDCs reduce the institutional and technical barriers to the cross-border allocation of funds. This means that, all else equal, international investors can respond more easily to changes in asset returns, market liquidity, and risk conditions, thereby increasing both the frequency and the volume of capital movements. The convenience effect of CBDCs is likely to be especially pronounced in securities investment, short-term capital allocation, and transactions involving highly liquid financial assets.

At the same time, the scale effect should not be understood simply as an increase in total capital volume. More importantly, CBDCs may alter the dynamics of gross capital flows rather than merely affecting net capital flows. Because CBDCs reduce the operational cost of both entering and exiting markets, capital inflows and capital outflows may both become more frequent. As a result, an increase in flow scale does not necessarily translate into stable net inflows. It may instead take the form of larger two-way movements, higher turnover, and more frequent reallocations across borders. The key issue, therefore, is not only whether CBDCs increase capital mobility in aggregate, but whether they make cross-border allocation more immediate and more easily reversible.

5.2. Flow structure

Compared with the scale effect, the influence of CBDCs on the **structure** of cross-border capital flows more clearly reflects the deeper implications of policy design. The structure of capital flows refers not only to the balance between long-term and short-term capital, or between equity and debt flows, but also to the relative position of different currencies, markets, and asset classes in international portfolio allocation. From this perspective, cross-border access policy, holding limits, and remuneration arrangements directly shape what kinds of digital monetary assets investors prefer to hold and which monetary systems capital is more likely to enter.

More specifically, when major currency economies issue CBDCs that can be held and used across borders, and when those CBDCs combine high liquidity, strong institutional backing, and broad usability, international capital may become increasingly concentrated in those currency systems. This process does not simply increase the total volume of global capital movements; it changes the way capital is distributed across the international monetary hierarchy. Strong-currency CBDCs may attract more short-term funds, more liquidity-sensitive portfolios, and more flight-to-safety capital, thereby reinforcing the tendency for capital to cluster in core currency areas. By contrast, countries with weaker currencies, shallower financial markets, or lower levels of financial stability may face mounting pressure from digital currency substitution and the marginal erosion of domestic capital bases. In this sense, the structural effect of CBDCs is fundamentally about the reorganization of international capital allocation, and this reorganization is inherently asymmetric.

From a policy perspective, shifts in flow structure may be even more consequential than changes in scale. An expansion in total capital flows does not immediately imply financial instability, but structural imbalances may deepen unequal patterns of global financial distribution and reinforce the divide between core and peripheral currency areas. For this reason, CBDC remuneration policy, non-resident access rules, and cross-border holding constraints should not be treated as merely technical design choices; they should be understood as institutional variables that can materially affect the structure of international capital flows.

5.3. Flow volatility

Within the analytical framework of this paper, the most consequential and risk-relevant effect of CBDC policies concerns their potential to increase the volatility of cross-border capital flows. The underlying reason is that CBDCs reduce not only the cost of moving capital under normal conditions, but also the cost of withdrawing capital during periods of stress. At the same time, by strengthening asset substitution incentives and weakening the buffering role of bank intermediation, CBDCs may make capital flows more responsive to shifts in market expectations. In environments characterized by depreciation pressure, banking stress, or global risk aversion, funds may move rapidly from vulnerable monetary systems toward CBDCs perceived as safer and more accessible, thereby amplifying the procyclicality and abruptness of international capital movements.

Figure 2 illustrates this point through a comparison of alternative policy configurations. Relative to a policy regime with restricted access and low interoperability, a regime with open access and high interoperability produces a much stronger effect on flow scale and structural reallocation, but it also generates the largest increase in flow volatility. By contrast, a regime with open access but embedded

safeguards still promotes cross-border capital movement, yet it is associated with substantially lower volatility. This suggests that CBDCs do not automatically destabilize capital flows. The decisive factor is whether policy openness is accompanied by appropriate institutional safeguards, such as holding limits, transaction caps, tiered wallet structures, or embedded regulatory restrictions. Flow volatility is therefore not an inherent technological outcome of CBDCs, but the product of the interaction between openness and risk-management design.

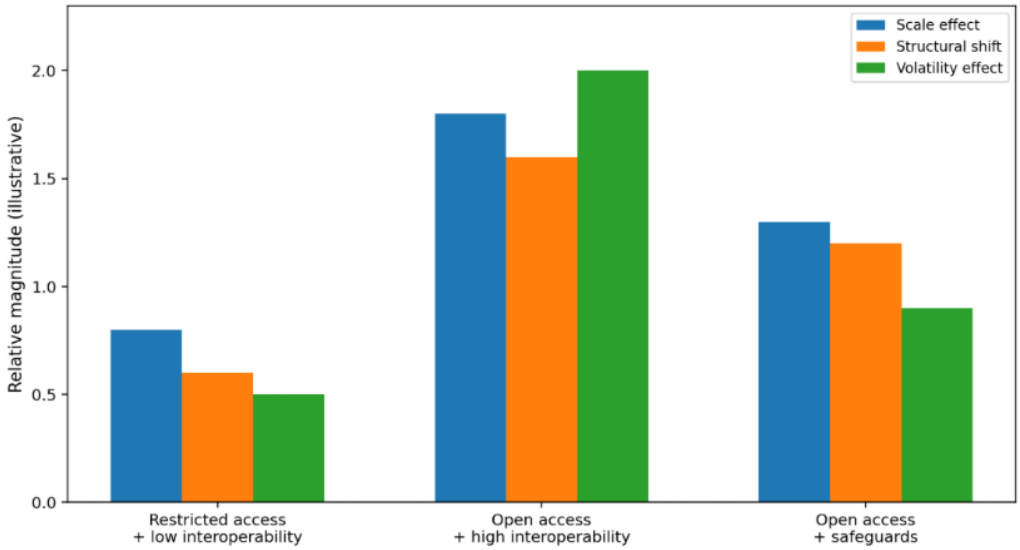

Figure 2. Capital-flow outcomes under alternative CBDC policy configurations.

Taken together, Figure 2 supports an important conclusion: the deepest international financial impact of CBDC policies may not be that they simply increase the overall amount of cross-border capital movement, but that they enhance the immediacy, reversibility, and risk sensitivity of capital flows. In traditional financial systems, bank intermediation, payment chains, and compliance procedures often provide a degree of frictional buffering. In a CBDC environment, where some of these buffers are weakened, capital movements may respond more rapidly to changes in expectations, risk, and policy signals. For this reason, the evaluation of CBDC policies cannot rely solely on criteria of payment efficiency and financial innovation. Capital-flow volatility and its implications for financial stability must occupy a much more central place in the analysis.

Overall, the effects of CBDC policies on cross-border capital flows cannot be reduced to a single-directional process of either promotion or restriction. Rather, they operate simultaneously through three dimensions. The scale effect is reflected in more active cross-border allocation; the structure effect is reflected in a stronger tendency for capital to concentrate in strong-currency CBDCs; and the volatility effect is reflected in greater sensitivity and faster reversibility of international capital movements. For precisely this reason, the international significance of CBDC policies should not be understood only in terms of payment modernization, but as part of a broader transformation in the institutional conditions governing cross-border capital flows. The next section builds on this discussion by comparing the heterogeneous effects of CBDC policies across different types of economies.

6. Heterogeneous Impacts across Countries

Although CBDC policies may affect cross-border capital flows through lower transaction costs, stronger asset substitution, bank disintermediation, and programmable regulation, these effects are by no means evenly distributed across countries. On the contrary, because economies differ substantially in terms of international currency status, financial market depth, capital account openness, financial system resilience, and regulatory capacity, the cross-border spillovers of CBDC policies are highly asymmetric. In other words, CBDCs are not an institutional innovation that produces homogeneous effects on a global scale. Rather, they are embedded in the existing international monetary system

and the hierarchical structure of global finance, and their consequences depend heavily on a country's monetary position and financial conditions. For this reason, any meaningful analysis of CBDC policies and capital mobility must distinguish between major currency economies and emerging market and developing economies, so as to reveal the uneven distribution of benefits and risks across countries.

This heterogeneity is reflected first in the fact that CBDCs are unlikely to overturn the global monetary hierarchy; if anything, they may reinforce it. For economies that already possess strong international credibility and deep financial markets, CBDCs can serve as a digital extension of existing monetary power. For economies with lower levels of currency internationalization and greater financial fragility, by contrast, the cross-border use of CBDCs may function more as a new transmission channel for external shocks. The international effects of CBDC policies are therefore not simply a matter of technological diffusion, but a deeply institutional issue embedded in the political economy of the international monetary order.

6.1. Major currency economies

For major currency economies, CBDC policies may generate stronger capital-attracting and capital-concentrating effects. Major currency economies are generally those whose currencies already play a significant role in international payments, reserve holdings, cross-border investment, and financial transactions. These economies typically possess more developed financial markets, stronger institutional credibility, and greater liquidity provision capacity. As a result, once their CBDCs are made available across borders and connected through a high degree of interoperability, they are more likely to be accepted by international market participants. In other words, CBDCs in these economies do not create international monetary attractiveness from scratch; rather, they strengthen the digital presence of currencies that already occupy privileged positions in global finance.

From the perspective of capital flows, the introduction of cross-border CBDCs by major currency economies may increase the attractiveness of domestic-currency assets to international investors. On the one hand, CBDCs improve the convenience of holding and using the currency across borders, thereby reducing the technical barriers faced by foreign users in international financial transactions. On the other hand, if the CBDC is closely integrated with domestic financial markets, payment systems, and settlement infrastructure, it may reinforce the role of the currency not only as a payment instrument, but also as a liquidity asset, a safe asset, and a short-term store of value. Under such conditions, capital is more likely to concentrate in major currency systems through digital channels. This tendency may become even more pronounced during periods of global uncertainty or heightened flight-to-safety behavior, when investors seek assets perceived to be both secure and easily accessible in digital form.

At the same time, however, the effects of CBDCs on major currency economies are not limited to enhanced international attractiveness. They may also involve greater spillover responsibilities and stronger pressures for policy coordination. As the international use of a major-currency CBDC expands, its effects on the capital flows, exchange rate stability, and currency substitution dynamics of other economies are also likely to intensify. This means that CBDC policy in major currency economies is no longer merely part of domestic payment modernization, but may become a major institutional factor shaping the global configuration of capital flows. In particular, if policy design is highly open in terms of cross-border access, non-resident holdings, remuneration, and platform connectivity, the CBDC may reinforce the concentration of capital in core currency areas and heighten the vulnerability of other economies to capital-flow shocks. For major currency economies, then, CBDCs may serve both as instruments for strengthening international monetary status and as new sources of global policy spillovers.

From the broader perspective of the international monetary system, the development of CBDCs in major currency economies may also reinforce a more distinctly digital form of monetary hierarchy. Since international capital tends to move toward assets that offer stronger credibility, deeper liquidity, and lower institutional uncertainty, the emergence of CBDCs is unlikely to weaken monetary

stratification. On the contrary, it may further entrench the centrality of a small number of core currencies. If major currency economies are the first to establish mature cross-border CBDC networks and rule frameworks, their digital currencies may enjoy first-mover advantages in international payments and capital flows, thereby extending their monetary influence and rule-setting power. In this sense, CBDC policy in major currency economies is not only about capital movements, but also about their future institutional position in the evolving international monetary order.

6.2. Emerging and developing economies

Compared with major currency economies, emerging market and developing economies are likely to face more fragile consequences from the cross-border expansion of CBDCs. Because they are generally weaker in currency attractiveness, financial market depth, shock resilience, and policy capacity, the efficiency gains of CBDCs do not necessarily produce better capital-flow outcomes. Instead, CBDCs may provide a more effective channel for strong foreign currencies to enter domestic financial systems, increasing capital-flow pressures and currency substitution risks.

First, foreign CBDCs may intensify digital currency substitution. By reducing barriers to holding and using foreign currencies in digital form, they may weaken demand for domestic currency, especially where monetary credibility is low or financial conditions are unstable. This may accelerate capital movement into external safe-currency systems.

Second, CBDCs may increase capital-flow volatility in these economies. Lower transfer costs and greater immediacy may allow capital to exit more quickly during periods of stress, amplifying capital outflows, exchange rate instability, and financial pressure. Since these economies often lack deep local financial markets, they are less able to absorb such shocks.

Third, CBDCs may create new challenges for capital flow management. Although they offer new regulatory tools through traceability and programmability, the widespread use of foreign major-currency CBDCs may weaken the effectiveness of domestic controls. As a result, CBDCs may place greater demands on regulatory capacity rather than strengthen policy autonomy.

Overall, the effects of CBDC policies are highly asymmetric across countries. While major currency economies may strengthen their monetary attractiveness, emerging market and developing economies are more likely to face stronger currency substitution, higher capital outflow risks, and greater financial fragility. CBDC policy should therefore be understood not only as payment reform, but also as an issue of the international monetary system and global financial governance.

7. Policy implications

The analysis above shows that the effects of CBDC policies on cross-border capital flows are not unidirectional. While CBDCs may improve the efficiency of international capital allocation by reducing payment and settlement frictions, they may also increase capital-flow volatility and financial fragility by strengthening asset substitution, weakening bank intermediation, and lowering the cost of capital withdrawal. More importantly, these effects are shaped not by CBDC technology alone, but by policy design, including cross-border access, interoperability, holding and transaction limits, remuneration, and regulatory embedding. The key policy question, therefore, is not simply whether to introduce a CBDC, but how to balance payment efficiency and financial innovation with capital-flow stability, monetary sovereignty, and financial security. On this basis, this paper identifies at least three major policy implications.

7.1. Balancing payment efficiency and financial stability

The first policy implication is that CBDC design must strike a balance between improving cross-border payment efficiency and preserving financial stability. One of the main motivations behind CBDC development is to increase payment speed, reduce transaction costs, and improve the efficiency of the international payment system. From the perspective of cross-border capital flows,

however, greater payment convenience does not always move in the same direction as greater financial stability. Lower transaction frictions may improve the efficiency of capital allocation, but they also reduce the barriers to cross-border mobility, accelerate the speed of capital withdrawal, and make market participants more responsive to risk signals. In periods of financial stress, CBDCs may enable funds to move more rapidly out of domestic currency systems and banking systems toward digital monetary assets perceived to be safer and more liquid.

CBDC policies should therefore not be designed solely with the objective of maximizing payment efficiency. Considerations of financial stability must be incorporated from the outset. For policymakers, the key issue is not simply how to make cross-border payments faster, but how to prevent excessively rapid capital movements from destabilizing the domestic financial system. This implies that the cross-border rollout of CBDCs should proceed in a cautious and sequenced manner, especially where non-resident access, cross-border holding convenience, and large-scale or high-frequency transfers are concerned. These features must be evaluated not only in terms of operational efficiency, but also in terms of their implications for banking system liquidity, capital account stability, and exchange rate management. In this sense, CBDCs should not be treated as a purely technical issue of payment innovation; they must be incorporated into a broader macro-financial stability framework.

7.2. Embedding policy safeguards into CBDC design

The second major implication is that the institutional risks associated with CBDCs should not be addressed mainly through ex post supervision, but through the ex ante embedding of safeguards into their design. As shown in the preceding analysis, the effects of CBDCs on cross-border capital flows depend heavily on how key policy parameters are set. If cross-border access is highly open, interoperability is extensive, holding constraints are weak, and regulatory embedding is insufficient, CBDCs may more easily become channels for rapid capital relocation and stronger currency substitution. By contrast, if appropriate constraints are built into the system from the design stage, it may be possible to preserve the efficiency benefits of CBDCs while limiting their destabilizing effects on capital flows and financial stability.

In this sense, CBDCs should be understood as a form of designable monetary infrastructure, rather than as fixed payment instruments. Policymakers can manage the capital-flow effects of CBDCs in advance through holding caps, transaction limits, tiered wallet structures, differentiated access conditions, non-interest-bearing arrangements, and purpose-based restrictions. In cross-border use cases, questions such as whether non-residents may hold CBDCs, how much they may hold, whether balances can be directly converted into foreign assets, and whether large-value or high-frequency transfers are allowed should not be determined solely by technical feasibility. They should instead be aligned with macroprudential goals and capital-flow management objectives. In addition, programmable compliance checks, identity verification, and transaction monitoring mechanisms should be treated as core elements of institutional design rather than as secondary add-ons. Only when safeguards are embedded into the monetary infrastructure itself can CBDC policy effectively reconcile openness with stability.

7.3. Strengthening international coordination and differentiated governance

The third policy implication is that, because CBDCs inherently generate cross-border spillovers, their governance cannot remain confined to unilateral domestic frameworks. Stronger international coordination is needed, together with differentiated governance arrangements that take account of national asymmetries. As argued in the previous section, CBDC policies do not affect major currency economies and emerging market and developing economies in the same way. For the former, CBDCs may further strengthen international monetary attractiveness and capital concentration effects. For the latter, the cross-border expansion of CBDCs is more likely to intensify digital currency substitution, capital outflow pressures, and financial fragility. The international effects of CBDC

policies are therefore not merely a matter of domestic institutional choice, but also a question of coordination in the context of a changing international monetary system.

At the international level, greater coordination is needed in areas such as cross-border access rules, interoperability standards, data governance, digital identity authentication, payment and settlement interfaces, and compliance frameworks. Without such coordination, divergence in national CBDC systems may encourage regulatory arbitrage, intensify cross-border capital shocks, and generate new forms of institutional friction. At the same time, special attention should be given to the relatively vulnerable position of emerging market and developing economies in digital currency competition. International rule-making should preserve sufficient policy space for these economies so that they can adopt CBDC strategies consistent with their level of financial development, degree of capital account openness, and need for financial stability. In other words, CBDC governance should not impose a single model of openness on all countries. It should recognize differences in currency status, financial structure, and risk-bearing capacity, and therefore promote a more layered and inclusive framework of international coordination.

Overall, the key issue in CBDC policy is not simply the pursuit of payment modernization, but the redesign of the institutional boundaries governing cross-border capital flows in the digital age. There is no automatic harmony between payment efficiency, capital stability, monetary sovereignty, and international coordination. CBDCs reveal their policy complexity precisely through the tensions among these objectives. The success or failure of future CBDC policies will therefore depend largely on whether countries can move beyond technological optimism toward a more cautious, institutionalized, and cooperative approach to governance. For the purposes of this paper, this further confirms that CBDCs are not neutral tools in international capital mobility, but new institutional variables capable of reshaping the global financial order in profound ways.

8. Conclusion

This paper has examined the impact of global central bank digital currency policies on cross-border capital flows from the perspective of policy design. It argues that CBDCs are not merely a form of payment innovation; their international financial effects depend largely on institutional arrangements such as cross-border access, interoperability, holding limits and remuneration, and regulatory embedding. Different policy configurations shape the scale, structure, and volatility of capital flows through lower transaction costs, stronger asset substitution, bank disintermediation, and programmable regulation.

The paper shows that CBDC policies generate a dual effect on cross-border capital flows. On the one hand, CBDCs may improve the efficiency of cross-border payment and settlement, reduce frictions in international capital allocation, and facilitate capital mobility. On the other hand, they may lower the cost of capital withdrawal, reinforce safe-asset preferences, and intensify capital-flow volatility, currency substitution, and financial fragility. These effects are also highly asymmetric across countries: major currency economies are more likely to use CBDCs to strengthen capital attraction and monetary influence, whereas emerging market and developing economies are more likely to face stronger capital outflow pressures and digital currency substitution risks.

On this basis, the paper suggests that the central challenge of future CBDC policy lies not in payment modernization alone, but in achieving a better institutional balance among payment efficiency, financial stability, monetary sovereignty, and international coordination. Future research may further develop this topic through theoretical modeling, cross-country comparison, and empirical evidence from CBDC pilot programs. As CBDCs become more institutionalized and increasingly cross-border in scope, their impact on the international financial system is likely to deepen, opening broader avenues for both academic research and policy analysis.

References

[1] LEE D K C, YAN L, WANG Y. A global perspective on central bank digital currency[J]. China Economic Journal, 2021, 14(1): 52-66.

[2] RACHMAD Y E. CBDC as a Global Payment Tool: Opportunities and Challenges in International Trade[J]. The United Nations and the Nobel Peace Prize Awards, 2025.

[3] CAO H H, HUANG Y, HUANG Y, et al. Fintech, financial inclusion, digital currency, and CBDC[J]. The Journal of Finance and Data Science, 2023, 9: 100115.

[4] OZILI P K. CBDC, Fintech and cryptocurrency for financial inclusion and financial stability[J]. Digital Policy, Regulation and Governance, 2023, 25(1): 40-57.

[5] FOSTER K, BLAKSTAD S, GAZI S, et al. Digital currencies and CBDC impacts on least developed countries (LDCs)[J]. 2021.

[6] RACHMAD Y E. CBDC as a Global Payment Tool: Opportunities and Challenges in International Trade[J]. The United Nations and the Nobel Peace Prize Awards, 2025.

[7] de ABREU RODRIGUES R M F. The Future of Monetary Policy in the Era of Central Bank Digital Currencies (CBDCs): A Comparative Study of CBDCs Strategies and Their Impact on Monetary Policy at the European Central Bank and the Federal Reserve[J]. 2025.

[8] BINDSEIL U, PANETTA F, TEROL I. Central Bank Digital Currency: functional scope, pricing and controls[R]. ECB Occasional Paper, 2021.

[9] THEMISTOCLEOUS M, RUPINO DA CUNHA P, TABAKIS E, et al. Towards cross-border CBDC interoperability: insights from a multivocal literature review[J]. Journal of Enterprise Information Management, 2023, 36(5): 1296-1318.

[10] DESHPANDE A V. Enhancing Cross-Border Payment Efficiency with Stablecoins: Reducing Costs and Settlement Delays[C]//. International Scientific Conference on Business and Economics: Springer, 2025: 155-170.