International Journal of Economic Studies and Management (IJESM)
ISSN 2789-049X
Int. J. Econ. Stud. Manag. 5, No.6 (OCTOBER-2025)

CBDCs and the Future of Global Money: Sovereignty, Surveillance, and the Emerging Digital Monetary Order

RAMDANI BOUCHRA
Laboratory LARMATIF
Faculty of Legal, Economic and Social Sciences
Mohammed I University – Oujda - Morocco

AOURAGH MIMOUN
Laboratory MADEO
Faculty of Legal, Economic and Social Sciences
Mohammed I University – Oujda - Morocco

Abstract : Central Bank Digital Currencies (CBDCs) are a truly big deal. They're one of the most important changes happening to money itself in our century. This paper dives into why countries are exploring CBDCs, how they might design them, and what this could mean for the world – especially looking at major players like the EU, the US, and China.

We start by looking at what experts are saying. Then, we explore the key questions: How will CBDCs affect things like setting interest rates (monetary policy)? Could they make the financial system more stable, or less? What does it mean for a country's control over its own digital space ("digital sovereignty")? And how might they change the way money moves across borders?

We also look at the bigger global picture. It's not just about technology; it's about power and influence. Different countries have different ideas about how CBDCs should be run, creating some tension. This competition could actually reshape the entire global financial system.

To make sense of it all, we develop a framework. This helps clarify the pathways through which CBDCs could create exciting new opportunities, but also carry risks that might affect the whole financial system.

Finally, we wrap up by highlighting the crucial policy questions leaders need to tackle and point out where we need more real-world evidence to understand how CBDCs will actually work in practice.

Keywords: Monetary policy; Central Bank Digital Currency; digital sovereignty; financial stability; global finance; cross-border payments; privacy; geopolitics.

Digital Object Identifier (DOI): https://doi.org/10.5281/zenodo.**17432969**

1. Introduction

The rise of Central Bank Digital Currencies (CBDCs) marks a fundamental change in how we think about and manage money digitally. This is more than just an upgrade to payment systems; it's the beginning of a new era for money itself, forcing us to rethink the basis of financial trust, the state's role in finance, and the structure of global money flows.

This shift isn't accidental. It's driven by a combination of pressures: the growing influence of private digital assets, the steady decline of cash, geopolitical competition over financial technology, and heightened concerns about national control over money in an increasingly fragmented world.

As central banks explore or pilot CBDCs, one thing is clear: these digital currencies are far from neutral instruments. Their design reflects specific institutional priorities, deliberate policy decisions, and technological choices – all of which carry significant weight in determining how power is distributed, both domestically and internationally.

Why are countries racing to create digital cash? The answer depends on who you ask. The US and EU seem focused on keeping their existing money strong and adapting to a world where finance is increasingly digital. China, however, is moving fast with its e-CNY, suggesting a bolder ambition: using its digital currency as a tool to extend its global influence and shape new rules. Meanwhile, many developing countries are exploring digital currencies for very different reasons: to bring banking to more people, strengthen their own financial systems, and avoid relying too heavily on technologies controlled by other nations.

This paper digs into the big question: How is this global wave of state-backed digital money changing the very nature of money itself? We'll look beyond just the economics. We need to understand what this means for who controls digital spaces (digital sovereignty), our personal freedoms and privacy (civil liberties), and how the world manages money across borders (global governance). Ultimately, we're asking: In a world deeply connected digitally yet fiercely competitive, how do these new government digital currencies shift the power balance between central banks, individual citizens, and rival nations?

By linking institutional choices with their broader systemic effects, the goal of our paper is to contribute to a more complete understanding of the role CBDCs are anticipated to be involved in shaping the future of the international monetary order.

2. CBDCs in Our Time: Rethinking Money, Institutions, and Sovereignty

Over the past decade, the digitalization of money has evolved from a fringe experiment into a central concern of global monetary governance. The rise of CBDCs (Central Bank Digital Currencies) signals not only a technological adaptation by central banks but a deeper institutional response to the shifting demands of modern economies, societies, and geopolitics.

Unlike privately issued cryptocurrencies, CBDCs are being designed as public instruments, embedded in legal authority, regulatory frameworks, and macroeconomic policy regimes. In this section, we explore the key conceptual and economic dimensions of this transformation, structured around six foundational themes.

2.1 Historical Foundations and Conceptual Grounding

The idea of state-issued digital currency builds on long-standing debates about the nature of money. Historically, money has served three core functions, store of value, medium of exchange, and unit of account, all underpinned by trust in the issuing institution (Asmundson & Oner, 2012; Smithin, 2000). In modern economies, this trust is tied to central banks. While theorists such as Friedman (1971) and

Keynes (as discussed in Dostaler, 1997) offered differing views on the state's role in monetary management, they agreed that monetary credibility is foundational to macroeconomic stability.

The launch of Bitcoin and other decentralized cryptocurrencies challenged this state monopoly, prompting central banks to reconsider their position in the digital monetary landscape (Brunnermeier et al., 2019). In this context, CBDCs emerged as a strategic innovation, a digital form of sovereign money that preserves central control while adapting to digital usage patterns. We're seeing pioneers like Sweden's e-Krona (Sveriges Riksbank, 2017) and China's e-CNY (People's Bank of China, 2021) move their digital currency ideas out of the lab and into people's hands through trials. This shift is quietly changing the future of money as we know it.

2.2 Motivations for CBDC Implementation

Why are central banks exploring digital currencies (CBDCs)? Their reasons are actually pretty varied.

Some are focused on modernizing: They see CBDCs as a way to upgrade outdated payment systems, make transactions faster and cheaper, and encourage people to use less physical cash.

Some want to include more people: They hope CBDCs can make financial services accessible to folks who are currently left out of the traditional banking system. (Auer et al., 2020; Fung & Halaburda, 2016)

Others are worried about competition: The rise of private digital currencies, especially stablecoins, makes them nervous. They're concerned these could undermine their control over the money supply and potentially threaten financial stability.

The COVID-19 pandemic really pushed these points home. It showed how risky it is to rely heavily on cash (think hygiene, access) and massively sped up the switch to digital, contactless payments. (Boar & Wehrli, 2021)

So, how are they approaching this? Carefully. Big players like the European Central Bank (ECB) and the Bank for International Settlements (BIS) are stressing the importance of "minimally invasive" CBDCs. The idea isn't to replace commercial banks but to build a digital currency that works with them. (Bindseil, 2020; BIS, 2021).

And it's not just about fixing things at home anymore. Exciting experiments like Project Helvetia, mBridge, and Project Jura are exploring how CBDCs could work across borders. This suggests CBDCs might become key tools for countries to not only improve their own financial systems but also to actively shape the future of global finance.

2.3 CBDCs and Monetary Policy Dynamics

Central banks see potential in digital currencies (CBDCs), but they also have to worry about unintended consequences. A top concern? People might ditch their regular bank accounts and rush to use the central bank's digital money instead. If this "deposit flight" happens, it could cripple banks' lending ability and throw credit markets into chaos.(Barrdear & Kumhof, 2016; Williamson, 2022). To avoid this while still making CBDCs effective, experts suggest things like tiered interest rates – basically making CBDCs less attractive for hoarding large sums, so people keep enough money in their regular banks.(Bindseil, 2020).

Moreover, the central banks'capability to control interest rates or respond to shocks may be enhanced through programmable CBDCs, though this raises further questions about design and accountability. Davoodalhosseini et al. (2020) argue that CBDCs could reduce excess reserves in systems with reserve-floor frameworks, complicating liquidity management and requiring a reconfiguration of monetary operations.

Overall, the literature converges on the point that CBDCs can expand policy space but will require careful design and governance to avoid disintermediation, financial instability, or institutional overreach.

2.4 Financial Stability: Opportunities and Vulnerabilities

Central Bank Digital Currencies (CBDCs) are pitched as tools to make our financial system tougher and clearer. But like any powerful new tool, they come with their own set of challenges.

The Upside: Imagine a financial crisis hits. CBDCs could offer a safe harbor – a type of digital money backed directly by the government. This could give people a reliable alternative if regular bank systems wobble.(Grothoff & Moser, 2021). We've seen early tests, like in the Bahamas and Eastern Caribbean, suggest CBDCs might be especially helpful for keeping payments flowing smoothly in remote areas or places with fewer banks.(IMF, 2022).

The Downside: However, there are potential pitfalls. If CBDCs aren't designed carefully, they could actually worsen problems during a bank panic. Think about it: if everyone gets nervous and tries to pull their money out of commercial banks at the same time, CBDCs could make it frighteningly easy to shift that money away incredibly fast. Research using simulations shows this could create major cash flow problems for banks unless specific safeguards (like limits) are built in.(Schilling et al, 2020)

Another concern is that CBDCs might blur the lines between different parts of government. Central banks could find themselves handling tasks – like directly sending money to people or influencing credit – that are usually the job of other branches focused on spending and taxes.

The Bottom Line: So, will CBDCs strengthen or weaken our financial system? There's no simple yes or no answer. It all boils down to how we build them.(Andolfatto, 2021). The specific design choices, how different institutions work together, and the plans for handling emergencies will ultimately decide whether CBDCs become a stabilizing force or introduce new risks.

2.5 CBDCs in the Global Financial Architecture

As money goes digital around the world, central banks are looking closely at their own digital currencies (CBDCs). One big reason? Making international payments faster, cheaper, and less of a hassle.(Banque de France et al., 2021; Bank of Canada & MAS, 2019). Think sending money across borders without the usual delays, high fees, or needing big networks like SWIFT to handle it. Projects like mBridge (linking the UAE, Thailand, China, and Hong Kong) are already testing this, aiming for instant settlements between different countries.

But there's a flip side. This push for easier payments could accidentally split the global financial system into separate zones. Imagine digital walls popping up between different currencies.(Brunnermeier and Niepelt, 2019). Experts point out that CBDCs could either strengthen the current pecking order of dominant currencies (like the US dollar) or shake it up. It really depends on whether different countries' digital currencies can work together smoothly, how widely they're used, and how strong the economies behind them are.

There's also a concern called "digital dollarization." This means people and businesses in smaller or less stable economies might start using major CBDCs (like a digital dollar or euro) instead of their own national money. If that happens, those countries could lose control over their own financial policies.(Kumar and Rosenbach, 2020)

So, the big picture is this: CBDCs could help knit the world's finances closer together... or they could create even deeper divides between the financial "haves" and "have-nots." Which path we take? It largely depends on whether countries can agree on common rules and work together effectively.

2.6 Broader Economic and Social Considerations

CBDCs aren't just an economic tool; they connect deeply with fairness, inclusion, and whether people trust the system. In countries where lots of folks are locked out of banking, CBDCs could be the key that lets them in. Think of it this way: it's like building a new bridge into the financial world, but people need the right devices and knowledge to cross it safely.(Narayanan, 2020; Lee et al., 2021). For instance, Jamaica's JAM-DEX and Nigeria's eNaira have enabled government transfers and reduced transaction frictions, particularly during the pandemic.

Nevertheless, digital exclusion remains a threat. Without deliberate design for accessibility, CBDCs could exacerbate inequalities and deepen existing divides. As noted in the IMF (2022) and Claessens et al. (2024), success in financial inclusion is contingent upon both technological adoption and institutional trust, factors that vary widely across jurisdictions.

In this sense, CBDCs are more than technical instruments. These tools aren't just ideas – they're political and social forces that will shape who gets economic opportunities and whether our institutions earn people's trust in the future.

3 CBDCs in a Multipolar Digital Currency Order: Sovereignty, Power, and Global Asymmetries

The faster countries move their money online, the more it becomes a key tool in international power plays. The rollout of CBDCs by the United States, the European Union, China, and several emerging economies signals the formation of an increasingly multipolar digital monetary system. Unlike the post-Bretton Woods world, which has long been dominated by the US dollar and, to a lesser extent, the euro, the digital future may be defined by competing monetary architectures and norms. Here, we take a look at the global effects of CBDCs, focusing on five important and connected fronts.

3.1 The Digital Dollar and Euro: Redefining Monetary Power

The Dollar and Euro: The Pillars of Global Money (Going Digital?)

Right now, the US dollar and the euro are the heavyweights of the world's financial system. They're the currencies everyone trusts for savings (reserves), international trade, and big financial deals. So, when these giants start talking about creating official digital versions, it's a really big deal. It could shake things up globally (BIS, 2021; Auer et al., 2020).

Different Paths, Same Goal?

The US Fed: They're taking it slow and steady with the digital dollar idea. Their main worry? Protecting the dollar's top spot worldwide while making sure banks and lenders back home aren't disrupted (Allen et al., 2021). They're wary of unintended consequences.

The European Central Bank (ECB): They see a digital euro differently – as a tool for independence. It's about Europe controlling its own monetary destiny, especially with non-European payment giants (like Visa, Mastercard, PayPal) and other countries' digital currencies gaining ground (Fernández-Villaverde et al., 2021). It's a strategic move.

But Here's the Catch... No matter how carefully each side moves, one big question hangs over both projects: How will these powerful digital currencies affect other countries? Could their influence reach further than intended? It's a concern that needs serious thought as the world watches this digital shift.

If widely adopted, a digital dollar could lead to a form of "digital dollarization," where firms and households in fragile economies hold and transact in US CBDC, further entrenching asymmetric dependencies (Brunnermeier et al., 2019). Similarly, the euro's digitization may bring European

regulatory standards into foreign jurisdictions, especially in cross-border settlements and data-sharing practices.

Thus, while the digitization of the dollar and euro may reinforce their global position, it also risks exporting governance models that may not align with the institutional preferences or capacities of other nations.

3.2 China's e-CNY and the Strategic Use of CBDCs

China's e-CNY initiative represents not only the most advanced CBDC in terms of deployment but also the most strategically integrated. The People's Bank of China has already piloted the e-CNY in dozens of cities, and major digital platforms like WeChat Pay and Alipay have incorporated it into their services (People's Bank of China, 2021).

Unlike Western counterparts, China explicitly links its digital currency to geopolitical and infrastructural goals. The e-CNY is part of broader efforts to reduce dependence on US-dominated financial channels, such as SWIFT, and to promote yuan-denominated settlements, particularly in Asia and among Belt and Road Initiative (BRI) partners (Berg et al., 2025). Cross-border CBDC collaborations, such as mBridge with Hong Kong, Thailand, and the UAE, are illustrative of this ambition.

However, the architecture of the e-CNY also reflects China's political system. Features like hierarchical wallets, real-name verification, and high degrees of programmability allow for granular monetary control, but raise significant concerns about financial surveillance (Baronchelli et al., 2022; Kumar & Rosenbach, 2020). While these features enhance policy efficiency and anti-fraud capabilities, they may also export China's model of digital governance to other jurisdictions.

In this sense, the e-CNY is both a monetary instrument and a vector of institutional influence, a tool to reshape regional payment systems in China's image.

3.3 CBDC Innovation in the Global South: Inclusion, Risk, and Dependence

CBDC initiatives in emerging economies are often framed as tools for inclusion and modernization. Countries like those in the Eastern Caribbean (with DCash), the Bahamas (Sand Dollar), and Nigeria (eNaira) are pioneers in launching their own digital currencies.(IMF, 2022; Claessens et al., 2024). These "Central Bank Digital Currencies" (CBDCs) aim to tackle real problems: getting people to rely less on physical cash, bringing more people into the financial system (especially those often left out), and making government payments faster and cheaper.(Lee et al., 2021).

While these digital currencies offer huge potential, particularly for remote areas or communities underserved by traditional banks, getting people to actually use them has been hit-or-miss. Governments themselves have adopted them quicker than businesses or individuals. Why the slow private uptake? Persistent hurdles like gaps in digital skills, spotty mobile internet access, and lingering distrust in institutions are holding things back.(Bijlsma et al., 2025).

There's another layer of concern specific to these economies. By relying heavily on foreign technology (often from places like China or Europe) to build and run their CBDCs, they risk swapping one kind of dependency for another. This isn't just about the technology itself; it could mean losing control over critical financial data, infrastructure ownership, and even their own regulatory power. This risk is especially acute if these digital currencies become tied up in aid deals or partnerships for digital infrastructure.

For CBDCs to genuinely empower economies in the Global South – helping them stand on their own feet – they need to be deeply rooted in local realities. They must be shaped by domestic rules and priorities, and designed from the ground up to include everyone and withstand challenges.

3.4 The Global Implications for Privacy, Civil Liberties, and Digital Sovereignty

When governments design Central Bank Digital Currencies (CBDCs), it's not just about moving money digitally. They're making fundamental choices that shape the relationship between you, the state, and financial companies. How private your spending remains is a critical question. Look at the European Central Bank: they're advocating for designs that protect anonymity, particularly for those quick, offline buys – trying to keep a bit of cash-like privacy alive.(ECB, 2023; Bindseil, 2020). Others, like China, prioritize traceability, data centralization, and identity verification (People's Bank of China, 2021). The United States remains undecided but shows growing interest in a hybrid model involving private intermediaries, raising questions about the role of Big Tech in handling sensitive financial data (Armantier et al., 2021).

The normative implications are profound. If programmable CBDCs are used to restrict purchases, enforce sanctions, or shape behavior, they risk becoming tools of algorithmic governance (Baronchelli et al., 2022). As Mishra et al. (2024) argue, these risks must be weighed against the benefits of more responsive and efficient monetary policy.

Technological solutions exist, such as zero-knowledge proofs or token-based offline CBDCs, but these often conflict with regulatory priorities such as AML/CFT compliance (Grothoff & Moser, 2021). As a result, the future of CBDC privacy may be determined less by technical feasibility than by political will.

In short, the way CBDCs are designed and governed will shape not only payments, but also the future of civil liberties and digital citizenship.

3.5 Reordering the Global Financial Architecture

Finally, CBDCs are reshaping the geopolitical foundations of the financial system itself. Competing standards, partnerships, and governance models are emerging across regions. Western institutions such as the IMF, BIS, and G7 promote interoperability and shared principles, while China builds its own ecosystem through bilateral cooperation and infrastructure investments (Auer et al., 2022; Berg et al., 2025).

Imagine a future where digital money creates new walls, not bridges. Instead of a connected global system, we could end up with isolated patches of incompatible digital currencies (CBDCs), reflecting today's political tensions. If countries don't work together, money might struggle to flow freely across borders. Nations could get stuck in separate financial bubbles, where who you trade with and what digital tools and information you can access are dictated by which "zone" you're in (Brunnermeier et al., 2019; Adalid et al., 2024).

So, CBDCs aren't just about shiny new digital cash. They're about who gets to write the rulebook for our digital financial future. What's at stake is huge: Who's currency dominates? Who controls the digital financial space? Who holds the economic power? Navigating this shift successfully demands genuine global cooperation, fair rules that include everyone, and constant research to understand the risks.

3.6 Policy Implications

The big takeaway on Central Bank Digital Currencies? Getting their design and rules right is critical – it affects finance at home and how money works worldwide. This puts policymakers in a bind. They need to navigate tricky political waters, complex institutional setups, and far-reaching tech choices, all at

once.These trade-offs demand foresight, coordination, and the careful balancing of innovation with restraint.

First and foremost, the architecture of CBDCs must reflect a clear hierarchy of policy objectives. Central banks cannot simultaneously optimize for financial inclusion, bank intermediation, macroeconomic stability, privacy, and geopolitical influence without confronting inherent tensions. For instance, a CBDC designed to be widely accessible and interest-bearing may improve monetary transmission and reduce shadow banking, but could accelerate disintermediation and provoke instability during crises. Policymakers must therefore prioritize goals and embed safeguards in the early stages of design, particularly through tiered remuneration structures, issuance caps, or limited offline functionality (Bindseil, 2020; Agur et al., 2022).

Second, regulatory frameworks must evolve to address the blurred boundaries between public and private actors. The intermediated CBDC models proposed in the U.S. and EU seek to preserve the role of commercial banks and payment firms while offering central bank money as a backbone. However, this delegation introduces critical governance questions: who owns the customer relationship, who manages data, and how are responsibilities shared in the case of fraud, system failure, or geopolitical disruption? These issues are not merely technical, they implicate consumer protection, competition law, and financial supervision (Armantier et al., 2021; BIS, 2021).

Moreover, as programmable money becomes a real possibility, legal systems must define the permissible scope of conditionality in monetary transactions. While programmability may enable targeted transfers and reduce fiscal leakage, it also introduces risks of discrimination, exclusion, and misuse. Without clear legal and ethical standards, programmable CBDCs could become instruments of behavioral control or algorithmic governance, particularly in authoritarian regimes. In this regard, the need for "privacy by design" and democratic accountability mechanisms cannot be overstated (Grothoff & Moser, 2021; Baronchelli et al., 2022).

Internationally, the prospect of CBDC-induced currency substitution and financial dependence requires proactive multilateral coordination. For smaller economies, especially those participating in Belt and Road projects or relying on remittances, the adoption of foreign CBDCs, whether e-CNY or a future digital dollar, may offer cost efficiencies but at the expense of monetary autonomy. The IMF, BIS, and regional monetary authorities must develop norms for interoperability, capital flow management, and legal equivalence to mitigate the emergence of CBDC hegemony (Kumar & Rosenbach, 2020; Berg et al., 2025). Failing to do so could entrench asymmetries that are difficult to reverse.

Finally, inclusion cannot be assumed to follow from digitization. Policymakers must recognize that infrastructure gaps, digital illiteracy, and mistrust in institutions remain formidable barriers to CBDC uptake, especially in the Global South. Successful implementation will require robust public engagement, cross-sectoral partnerships, and adaptive design features that account for local preferences and constraints (Claessens et al., 2024; Lee et al., 2021). In this sense, CBDCs are not a shortcut to development, but a policy tool whose effects depend on the ecosystem into which they are deployed.

In sum, CBDCs compel a reconsideration of central banking not merely as a technical institution, but as a pillar of democratic governance and geopolitical strategy. Their successful deployment will rest not only on cryptographic strength and system resilience, but on legitimacy, transparency, and fairness. These are not features that can be retrofitted, they must be encoded from the beginning.

4 Methodology and Conceptual Framework

This study adopts a conceptual research design, which is best suited to synthesize, interpret, and critically assess the evolving theoretical and policy debates surrounding Central Bank Digital

Currencies (CBDCs). Rather than engaging in empirical hypothesis testing, the objective is to build a structured analytical framework grounded in recent scholarly literature, policy reports, and central bank communications. Such an approach allows for capturing the complexity of an emerging phenomenon that is not yet fully amenable to statistical generalization, but whose theoretical contours and policy implications are already attracting global attention.

The research draws on a comprehensive and thematically curated corpus of literature from multiple disciplines. Priority was given to peer-reviewed journal articles, central bank working papers, and authoritative institutional reports published since 2019, although key theoretical works from earlier periods were also incorporated to contextualize contemporary developments. Texts were selected based on their conceptual rigor, empirical relevance, geographical coverage, and institutional credibility. The review includes contributions from institutions such as the European Central Bank, the Bank for International Settlements, the People's Bank of China, and the International Monetary Fund, as well as academic journals including Journal of Monetary Economics, Journal of Financial Stability, Review of Economic Dynamics, and others.

The paper's inquiry is informed by three overlapping traditions: monetary institutionalism, global political economy, and digital governance. The first explores how the role of central banks is evolving in maintaining monetary credibility and financial stability; the second situates CBDC development within broader shifts in international monetary power; and the third interrogates the regulatory, technological, and ethical dimensions of digitized financial infrastructure.

4.1 Hypotheses and Analytical Anchors

From this synthesis, several guiding hypotheses emerge. These are not assumptions to be verified empirically within this paper but are instead working propositions designed to structure the analysis and clarify the relationships between the various elements discussed.

The first hypothesis contends that the issuance of CBDCs by leading economies, the United States, the European Union, and China, is driven by a dual objective: improving domestic monetary functions while simultaneously enhancing geopolitical leverage. This is supported by a growing body of work that links digital currency design choices to concerns over currency internationalization, platform sovereignty, and cross-border influence. While Western economies emphasize preserving monetary transmission in the face of declining cash usage, China's e-CNY is explicitly positioned as a tool for reducing reliance on US-dominated infrastructures and promoting regional monetary realignment.

The second hypothesis centers on the impact of CBDCs in emerging and developing economies. While many such countries view CBDCs as tools for financial inclusion and payment modernization, the effectiveness of these initiatives depends critically on existing digital infrastructure, institutional trust, and domestic technological capacity. There is a risk, highlighted in recent literature, that countries lacking digital sovereignty may become structurally dependent on foreign CBDC platforms, thereby compromising their monetary autonomy.

A third hypothesis focuses on the normative tensions between privacy, programmability, and institutional design. It suggests that different CBDC regimes reflect fundamentally distinct models of digital sovereignty. In liberal-democratic systems, there is a strong emphasis on preserving privacy and anonymity, albeit within constraints imposed by anti-money laundering regulations, while more centralized regimes adopt designs that emphasize traceability, identity verification, and embedded compliance. These design choices are not merely technical, but are deeply embedded in political culture and institutional priorities.

4.2 Conceptual Model

To integrate these propositions, a conceptual model is proposed that links CBDC motivations, technological attributes, and regime characteristics to a set of financial, institutional, and geopolitical outcomes. At the core of the model lies the interaction between design variables, such as anonymity thresholds, remuneration schemes, and cross-border interoperability, and the institutional context in which CBDCs are developed. These interactions, in turn, shape key outcomes: the level of financial inclusion achieved, the stability of banking intermediation, the balance between state and market actors in payment systems, and the redistribution of monetary influence across borders.

The model posits that CBDC outcomes are neither linear nor uniform. Instead, they are path-dependent and contingent on policy choices, technical capacity, and the structure of global monetary hierarchies. For example, a CBDC launched with the explicit goal of replacing cash may produce different institutional effects than one introduced to compete with private payment platforms. Similarly, a retail CBDC designed for domestic use may evolve into an instrument of digital diplomacy if extended into cross-border networks or Belt and Road settlements.

This framework provides the analytical scaffolding for the following sections of the paper. It allows for a structured discussion of the tensions, trade-offs, and strategic choices embedded in CBDC adoption. Each subsequent section will interrogate these themes in more detail, examining how different jurisdictions interpret and operationalize digital sovereignty, financial modernization, and monetary power in the context of CBDCs.

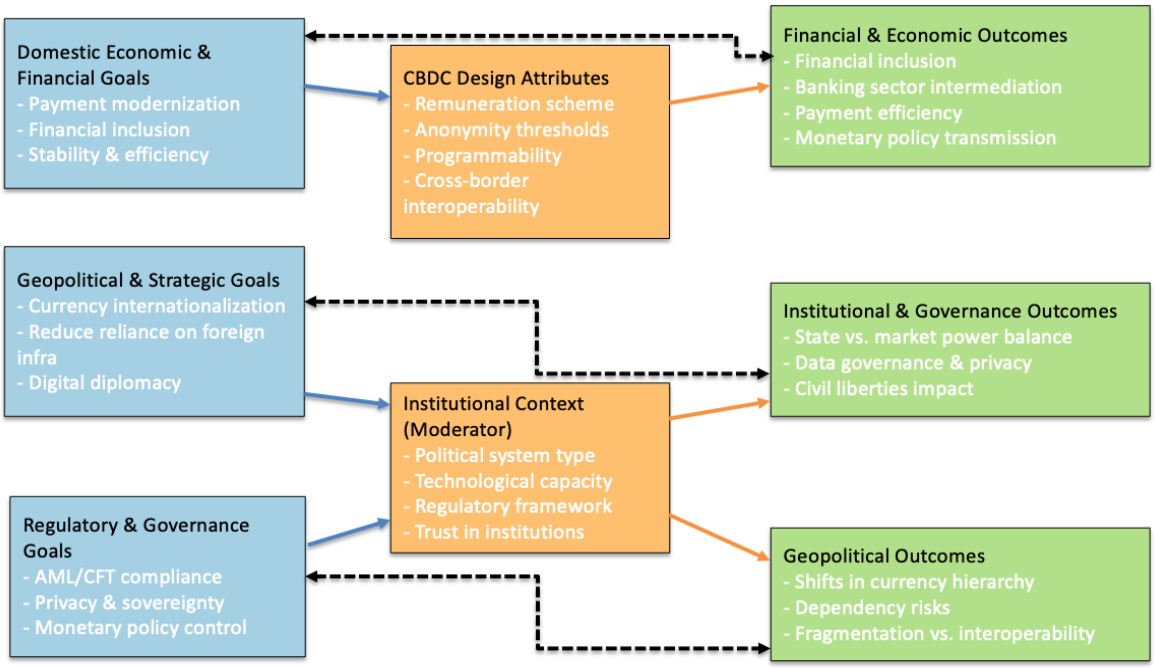

Figure 1 : CONCEPTUAL MODEL OF CBDCs

Source: designed by us

The conceptual framework and hypotheses presented earlier were constructed through abductive reasoning, allowing theory to emerge inductively from literature before being refined deductively through analytical modeling. The graphical model visualizes these relationships and provides a scaffold for policy discussion and future empirical validation.

5 Conclusion

This paper set out to investigate the evolving role of CBDCs within an increasingly digitized and geopolitically fragmented monetary landscape. Drawing on a wide body of theoretical and institutional literature, it examined how CBDCs are being shaped by diverse national motivations, economic objectives, and technological choices. While the paper remains conceptual in nature, it offers a structured framework for understanding the policy trade-offs, institutional dynamics, as well as the extended impacts of digital currency issuance by central banks.

One of the main insights of this work is that CBDCs are not monolithic. Their design and expected outcomes vary significantly depending on the macroeconomic context, the level of financial development, and the institutional priorities of each issuing country. Whether driven by financial inclusion goals, payment system modernization, or global strategic positioning, CBDCs reflect deeper shifts in how monetary authority and state capacity are being reimagined in the digital age.

At the same time, this paper recognizes its limitations. The arguments and hypotheses presented here are not based on original empirical evidence, and some of the developments discussed remain in early or pilot phases. As such, the findings should be read as part of a broader theoretical conversation that remains open and evolving. Real-world outcomes will depend on complex interactions between technology, regulation, public trust, and international coordination, factors that will require continuous observation and empirical testing.

Looking ahead, future research could benefit from case-based studies of CBDC deployment, behavioral analysis of user adoption, and cross-country comparisons of legal and governance models. Moreover, interdisciplinary work that brings together economics, law, political science, and computer science may offer the most promising path forward in understanding the long-term implications of CBDCs.

While still in early stages globally, CBDCs have the potential to reshape monetary systems in meaningful ways. This paper has aimed to contribute to the growing body of work seeking to understand this transformation, not by offering final answers, but by framing key questions and laying the groundwork for future inquiry.

REFERENCES

[1] Adrian, T., & Mancini-Griffoli, T. (2019). The rise of digital money. Annual Review of Financial Economics, 13, 57–77.

[2] Agur, I., Ari, A., & Dell'Ariccia, G. (2022). Designing central bank digital currencies. Journal of Monetary Economics, 125, 62–79.

[3] Andolfatto, D. (2021). Assessing the impact of central bank digital currency on private banks. Economic Journal, 131(634), 525–540.

[4] Armantier, O., Doerr, S., Frost, J., Fuster, A., & Shue, K. (2021). Whom do consumers trust with their data? US survey evidence. BIS Bulletin, 42, 1–9.

[5] Asmundson, I., & Oner, C. (2012). What is money? Finance & Development, 49(3), 52–53.

[6] Auer, R., Cornelli, G., & Frost, J. (2020). Rise of the central bank digital currencies: Drivers, approaches and technologies (BIS Working Paper No. 880). https://ssrn.com/abstract=3724070

[7] Auer, R., & Böhme, R. (2021). Central bank digital currency: The quest for minimally invasive technology (BIS Working Paper No. 948). https://www.bis.org/publ/work948.htm

[8] Bank for International Settlements. (2021). CBDCs: An opportunity for the monetary system. In Annual Economic Report 2021 (pp. 65–95). https://www.bis.org/publ/arpdf/ar2021e3.htm

[9] Bank of Canada & Monetary Authority of Singapore. (2019). Jasper-Ubin Design Paper. https://www.mas.gov.sg

[10] Banque de France, BIS Innovation Hub, & Swiss National Bank. (2021). Project Jura: Cross-border settlement using wholesale CBDC.

[11] Barrdear, J., & Kumhof, M. (2016). The macroeconomics of central bank issued digital currencies (Bank of England Working Paper No. 605).

[12] Bindseil, U. (2020). Tiered CBDC and the financial system (ECB Working Paper No. 2351).

[13] Boar, C., & Wehrli, A. (2021). Ready, steady, go? Results of the third BIS survey on CBDC (BIS Paper No. 114).

[14] Brunnermeier, M. K., James, H., & Landau, J.-P. (2019). The digitalization of money (NBER Working Paper No. 26300). https://www.nber.org/papers/w26300

[15] Brunnermeier, M. K., & Niepelt, D. (2019). On the equivalence of private and public money. Journal of Monetary Economics, 106, 27–41.

[16] Danezis, G., & Meiklejohn, S. (2015). Centrally banked cryptocurrencies. arXiv preprint arXiv:1505.06895.

[17] Davoodalhosseini, M., Rivadeneyra, F., & Zhu, Y. (2020). CBDC and monetary policy (Bank of Canada Staff Analytical Note 2020-4).

[18] Dostaler, G. (1997). Keynes and Friedman on money. In Money, Financial Institutions and Macroeconomics (pp. 85–100).

[19] Friedman, M. (1971). The demand for money. In A theoretical framework for monetary analysis.

[20] Fung, B. S. C., & Halaburda, H. (2016). CBDCs: A framework for assessing why and how (Bank of Canada Staff Discussion Paper No. 2016-22).

[21] Grothoff, C., & Moser, T. (2021). How to issue a privacy-preserving CBDC. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3965050

[22] IMF. (2022). Cross-border CBDCs, bank runs and capital flows volatility (Working Paper No. 517625).

[23] Jin, S. Y., & Xia, Y. (2022). A CBDC evaluation and verification framework. IEEE Access, 10, 63698–63714.

[24] Kiff, J., et al. (2020). A survey of research on retail CBDC (IMF Working Paper 20/104).

[25] Kumar, A., & Rosenbach, E. (2020). Could China's digital currency unseat the dollar? Foreign Affairs.

[26] Lee, D. K. C., Yan, L., & Wang, Y. (2021). A global perspective on CBDC. China Economic Journal, 14(1), 52–66.

[27] Narayanan, H. (2020). Is future a rule of digital currency? International Journal of Research and Review, 8(8), 96–106.

[28] People's Bank of China. (2021). Progress of research & development of e-CNY in China.

[29] Schilling, L., Fernández-Villaverde, J., & Uhlig, H. (2020). CBDC: When price and bank stability collide (NBER Working Paper No. 28237).

[30] Smithin, J. (2000). What is Money? Routledge.

[31] Sveriges Riksbank. (2017). The Riksbank's e-krona project – Report 1.

[32] Williamson, S. (2022). CBDC: Welfare and policy implications. Journal of Political Economy.

[33] Allen, S., Salmon, C., & Treichel, V. (2021). Design choices for CBDC: Policy and technical considerations. IMF Staff Discussion Notes, 2021(1).

[34] Baronchelli, A., Ghosh, A., Giansante, S., & Tambuscio, M. (2022). CBDCs risk becoming a digital leviathan. Nature Human Behaviour, 6(6), 695–700.

[35] Berg, T., Burg, V., Guttmann, R., & Rojas, F. (2025). CBDCs, payment firms, and geopolitics. Journal of Financial Economics. In press.

[36] Bijlsma, M., van der Cruijsen, C., & van der Knaap, L. (2025). What triggers consumer adoption of CBDC? Technological Forecasting and Social Change. In press.

[37] Claessens, S., Ghosh, S. R., & Mihet, R. (2024). Opportunities and challenges of FinTech and CBDCs. Journal of Financial Stability, 68, 101042.

[38] Fernández-Villaverde, J., Sanches, D., Schilling, L., & Uhlig, H. (2021). CBDC: Central banking for all? Review of Economic Dynamics, 41, 225–242.

[39] Lee, Y., Kong, Q., & Zhang, H. (2021). Atomic cross-chain settlement model for CBDCs. Information Sciences, 570, 255–273.

[40] Li, J. (2023). Predicting the demand for CBDC: A structural analysis. Journal of Monetary Economics, 132, 71–90.

[41] Mishra, B., Dastidar, S. G., & Mitra, S. (2024). A simple model of a CBDC. Journal of Financial Stability, 68, 101030.

[42] Wilkins, C. A. (2022). Discussion of "Designing CBDC". Journal of Monetary Economics, 125, 80–84.

[43] Adalid, R., Llull, J., & Torres, A. (2024). CBDC and bank intermediation. Finance Research Letters. In press.