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What Does the Rise of Digital Currencies (CBDCS) Mean for Monetary Sovereignty in the Global South?

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ABSTRACT: The pace of CBDC developments brought about a new discourse on the future of monetary system architecture and money state sovereignty in particular, especially in emerging countries. Using a qualitative literature review supported by available data and comparative case studies, this paper examines the implications of CBDCs for monetary sovereignty in the global south. It explains the rationales of CBDC introduction, including financial inclusion, modernization of the payments system, competition with digital private money and geopolitical considerations. In addition, this paper reviews the potential of CBDCs in terms of the implications of monetary policy, financial stability, fiscal capability, and payments autonomy. Comparative analysis of CBDC results in India, Nigeria, Bahamas and Brazil (etc.) demonstrates that the impact of CBDCs might differ from one country to another depending on the quality of institutions and governance, as well as digital infrastructure. It becomes clear that the CBDCs are not only innovations in digital technologies, but also policy instruments at the same time. However, their potential to strengthen monetary sovereignty is based not only on digital technologies, but also on proper legal framework, efficient institutions, inclusive introduction, and trust of the population.

1. INTRODUCTION

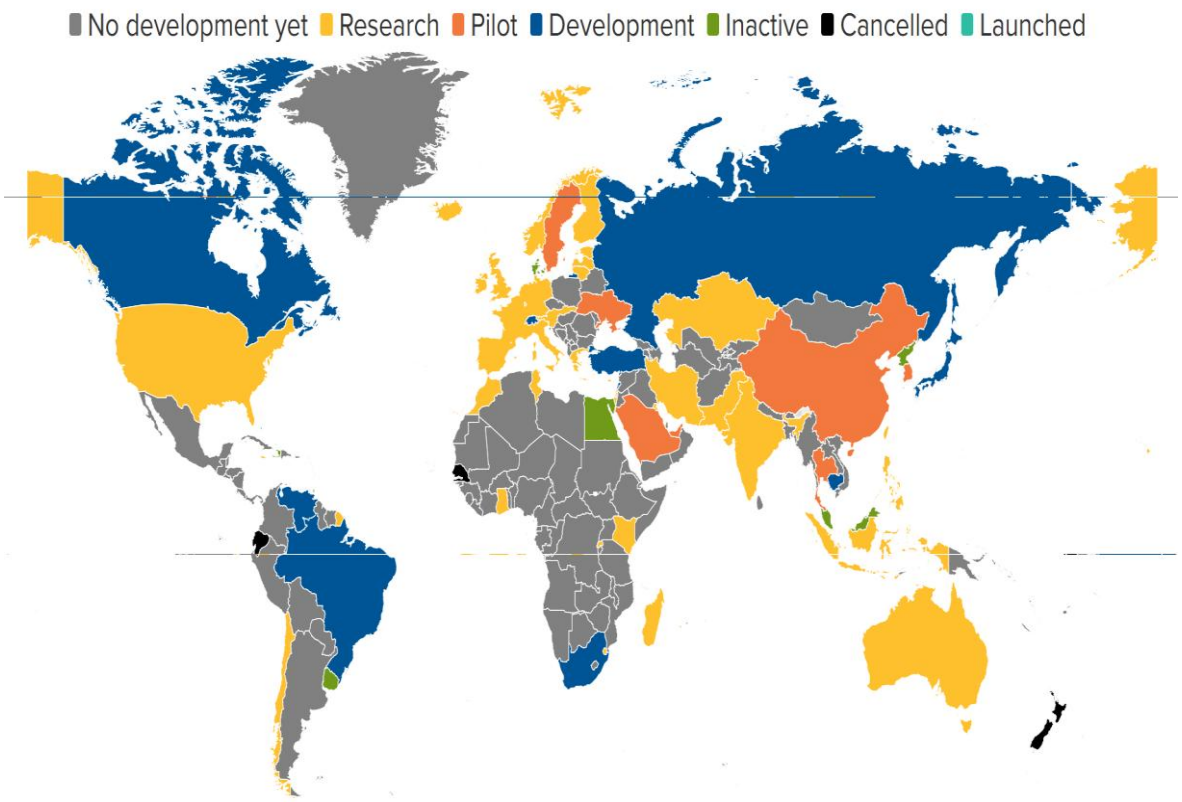
Money has changed in countless ways over the last 100 years, from having a high physical cash percentage to having an increasingly digital form of value exchange. The developments in financial technologies, the ubiquity of the internet and the quick pace at which mobile payment methods are being adopted have revolutionized the way financial transactions are carried out by individuals, businesses and governments. More recently, the emergence of crypto currencies and stable coins have challenged Monterey frameworks built on the control of central banks, since these privately issued forms of money operate largely outside the central banks direct authority. Central bank digital currencies (CBDCs) have been one of the most relevant innovations in the field of monetary policy in the last few years, being a digital version of a sovereign currency issued by a central bank, which complements, in some cases, the use of physical cash (Bank for International Settlements [BIS], 2023).

In recent times, the increasing digitisation of payments systems has set the scene for a surge in global interest in CBDCs. Digital payments have grown at an unprecedented rate, as more and more people own smartphones, and its internet infrastructure and electronic payments have become widespread. In 2023, about 67% of global population, 5.4 billion people, accessed the internet, and the use of smartphones is growing in both developed and developing economic regions (International Telecommunication Union, 2023). At the same time, the World Bank (2022) found that the financial inclusion rate for adults has increased from 51% in 2011 to 76% today, indicating remarkable progress in the digital financial inclusion of adults. All of this has helped the reduction of cash in many economies and inspired government to modernise payment systems that can be adapted to more digital financial ecosystems.

Along with the rise in digital payments come privately issued digital currencies that are becoming more influential. Bitcoins were developed in 2009 to offer a decentralized digital currency, whereas stablecoins like Tether (USDT) and USD Coin (USDC) aimed to offer low volatility by pegging their worth to reserve assets, typically the U.S. dollar. These innovations have enhanced financial innovation and payment options, but they have also highlighted various critical issues, including monetary sovereignty, financial stability, consumer protection, illicit financial flows, and the risk of central bank authority over national monetary systems being undermined (International Monetary Fund [IMF], 2023). This has led many central banks to speed up their investigation into CBDCs as a way to modernize and maintain sovereign control over the money supply.

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Global Status of Central Bank Digital Currency Development



Source: Atlantic Council (2025), CBDC Tracker.

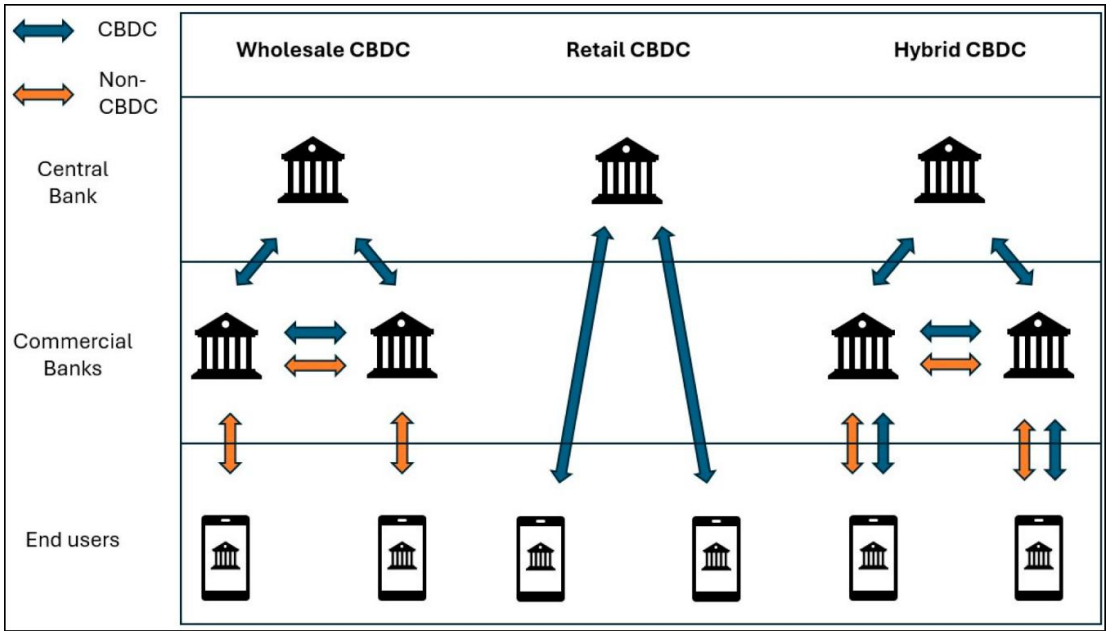
The interest in CBDCs has surged over a fairly short time frame. The Atlantic Council CBDC Tracker (2025) reveals that 131 countries and currency unions, which account for over 98% of the global gross domestic product, are in the process of exploring central bank digital currencies in different formats. Retail CBDCs are increasingly moving towards pilot programmes to wide rollouts, several jurisdiction, specifically in the Bahamas, Jamaica and Nigeria, already implemented them. Countries such as India, Brazil and China are actively using advanced pilot programmes. The BIS (2023) also reports that almost all the central banks surveyed are involved in some type of CBDC research and a significant number are moving on to pilot testing or issuing a CBDC. The above developments indicate that CBDCs are moving beyond policy debates and are increasingly playing a role in national monetary policies.

A central bank digital currency is a digital form of the country's sovereign money, which is issued and guaranteed by the country's central bank, and is equal to the country's unit of account and legal tender (BIS, 2020). CBDCs, unlike cryptocurrencies, are liabilities of the central bank, they are generally decentralised and they have a meaningful price volatility. In addition, CBDCs are not stablecoins as they are not cryptocurrencies that are backed by reserves. Additionally, a CBDC should also be distinguished from an ordinary electronic bank deposit, which is a claim on commercial banks rather than a central bank. Alternate propositions further distinguish between retail CBDCs, intended for daily use by households and firms, and wholesale CBDCs, intended mainly for interbank settlements and and financial market operations.

During this period, the rising popularity of the CBDCs has sparked a renewed academic debate on monetary sovereignty, which is defined as the power of the state to create money, manage the money supply, pursue monetary policies that are independent of the private sector, and ensure financial stability within a country's borders. Monetary sovereignty traditionally has been linked closely to the monopoly of the state over legal tender, the state's ability to create seigniorage revenue, its control over capital flows, and its ability to pursue macroeconomic goals at a level with relatively low external constraint (Helleiner, 2003). Recently, globalisation and financial liberalisation, partnered with the movement pod large reserve currencies in the international arena, has made monetary sovereignty immensely difficult to exercise, particularly in economies of developing countries. Theoretical approaches like currency hierarchy are based on the idea that national currencies hold different status in the global financial system and that financial statecraft is an essential tool in international politics, involving the strategic use of financial and monetary instruments. The term digital sovereignty has more recently gained traction, reflecting a focus on how States try to assert control over digital infrastructure, financial information and payment systems in a globalised world of ever greater interconnection (Farrell & Newman, 2019).

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Retail and Wholesale Central Bank Digital Currencies



Source: Bank for International Settlements (2020).

The problems are particularly pronounced in the Global South, a general term used to describe low- and middle-income countries in Africa, Asia, Latin America and parts of Oceania, which frequently suffer from certain structural developmental problems and lack of symmetrical integration into the global financial system. A large portion of these economies still suffer from financial exclusion, inadequate payment facilities, high informal sectors, reliance on foreign currencies, bursts of capital flight and different levels of dollarisation. International financial institutions and the ups and downs of international capital markets often play a decisive role in domestic monetary policy, restricting the flexibility of governments to exercise full monetary sovereignty (UNCTAD, 2024). This has led to significant interest around the use of CBDCs as a means to improve domestic payment systems, increase financial inclusion, improve policy effectiveness and limit reliance on foreign financial infrastructures.

This raises the question of whether CBDCs strengthen or threaten monetary sovereignty in the Global South, and under what institutional conditions each outcome is likely. Specifically, this paper examines whether CBDCs can reinforce sovereignty by reducing reliance on foreign currencies and improving monetary policy transmission and financial inclusion, or whether they introduce new risks, such as cybersecurity vulnerabilities and cross border monetary competition for developing countries. The paper aims to provide insights to the discourse on digital currencies, state power, and monetary sovereignty in the context of developing economies by examining these conflicting views.

2. LITERATURE REVIEW

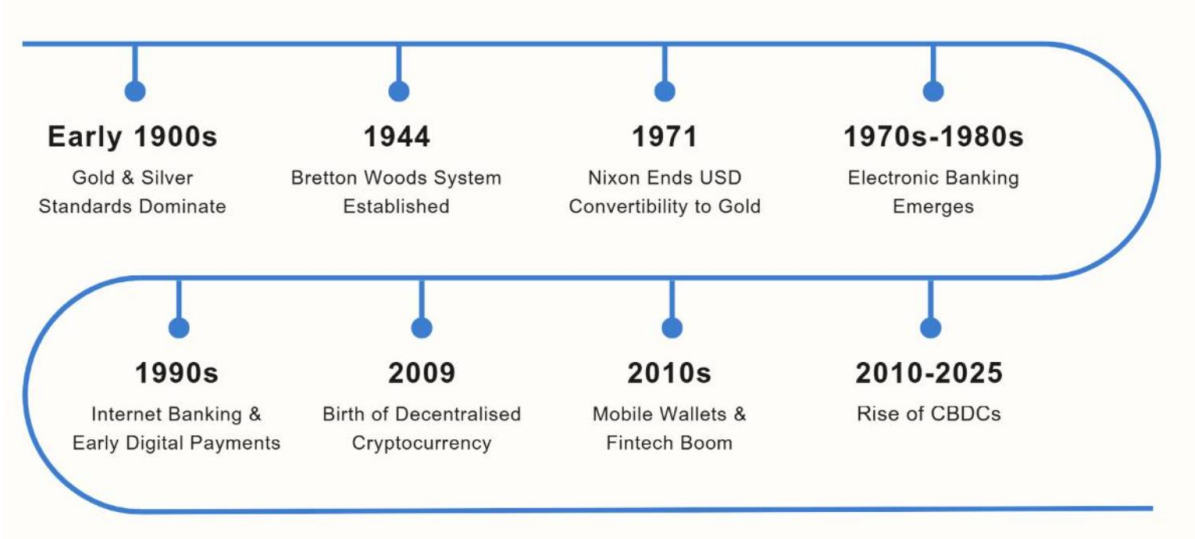
he the rapid development of central bank digital currencies (CBDCs) has generated a substantial body of interdisciplinary research spanning economics, finance, political economy, international relations and public policy. Current research works on the issues of CBDCs from various angles, such as technological innovation, payment system efficiency, financial inclusion, banking stability and monetary policy. These papers have made major contributions to the understanding of digital currencies; however, few studies have focused on the potential impact of CBDCs on monetary sovereignty in developing economies. This review traces the evolution of money, the theoretical foundations of monetary sovereignty, existing CBDC research, the geopolitical dimensions of digital currencies, and empirical evidence from selected developing economies, in order to identify the research gap this study addresses.

2.1 Evolution of Money

The evolution of money is a process of a gradual change due to the evolution of economic structures, technology and institutions. According to classical writers, like Menger (1892/2002) commodity money (including gold, silver, and other valuable commodities) came into existence as a remedy to the deficiencies of the barter system. Commodity money was backed by the value of the commodity from which it was made, but problems with its divisibility, portability and supply made the transition towards representative money and later fiat money desirable.

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Evolution of Money: From Physical Cash to Central Bank Digital Currencies



Source: Adapted from Bank for International Settlements (2020), Central Bank Digital Currencies: Foundational Principles and Core Features.

The introduction of fiat money represented a radical departure from monetary arrangements and the value of money from those of goods and services to those of state power. According to Knapp's state theory of money (1924), money is not just money, but it has a legitimacy, and is accepted as legal money, only because the government recognises it as such. This view has had a tremendous impact on the modern monetary system, where central banks control the release of money and monetary policy to ensure economic growth and price stability.

With the advent of information and communication technologies, in the late 20th century, a new period of monetary history has emerged: electronic banking, electronic payment systems and new digital financial services. Electronic money offered the opportunity of conducting transactions with money that wouldn't involve any paper currency and would not require an affiliation with commercial banking systems. Debit cards and online banking, mobile wallets and instant payment platforms were some of the innovations that brought about change in retail finance, making payments faster and less costly (Arner et al., 2020). The advances were to form the technology of more advanced virtual currencies.

Unlike the previously developed digital payment systems, Bitcoin was developed by Nakamoto (2008) and a new monetary system that was decentralised and not controlled by a central authority was introduced. Stablecoins were created later that expanded the scope of digital financial markets and introduced blockchain technology with some relatively stable values linked to the reserve assets. While cryptocurrencies have proven the technical potential of decentralised digital currencies, their volatility, regulatory uncertainty, illegitimate finance and monetary substitution have inspired governments and central banks to consider sovereign options via a CBDC (Auer et al., 2022). Thus, recent literature tends to view CBDCs as a continuation of the historical development of money, rather than a full-fledged instrument to supplant currently existing monetary systems.

2.2 Theories of Monetary Sovereignty

Monetary sovereignty has developed in a variety of theoretical streams, each of which makes a different emphasis on the aspects of the State's authority over money. Keynes (1936) asserted that monetary policy is an important tool for the government to use to stabilize employment and economic activity, since they need adequate authority over money and over interest rates to do so in response to economic fluctuations. His research laid the groundwork for the conception of monetary sovereignty as an essential part of macroeconomic governance.

More recently, Modern Monetary Theory (MMT) advocates have challenged the fiscal and monetary autonomy that conventional economic theory gives to sovereign governments with their own currency making a case for a much larger fiscal and monetary policy playing field for these governments (Kelton, 2020). MMT asserts that governments that primarily borrow in their own currencies do not have to default and thus have a great deal of policy flexibility. However, it is constrained by inflationary pressures, exchange rate dynamics and international capital mobility particularly in developing economies, critics say.

International Political Economy (IPE) provides a broader analysis recognizing that monetary sovereignty exists in the context of global financial systems of unequal power, but not simply at the domestic level. Currencies are hierarchically placed in the international monetary system and dominant currencies have more credibility, liquidity and international acceptance than

peripheral currencies (Cohen, 2015). This currency hierarchy means that the monetary independence of several developing nations is limited as the governments of these countries can trade, invest and external borrow with foreign reserve currencies.

Another closely related literature is the one dedicated to the problem of dollar dominance, aimed at the process of the continuing predominance of the US dollar in financial transactions of the global financial system with the emergence of alternative payment systems and reserve currencies. Eichengreen (2019) argues that many developing countries are structurally dollar dependent, with high dependence on the dollar for international trade, cross border financial transactions, foreign exchange reserves and therefore their monetary policy options are constrained and they are exposed to external shocks.

In recent years, the concept of financial sovereignty is not only linked to the issuance of money, but also to the control of payments, financial information, digital networks and financial regulatory authorities. Farrell and Newman (2019) provide examples of how the global financial system can be utilized to exert geopolitical influence that can lead to states investing in developing their own financial system to reduce their dependence on foreign financial systems. The need for it has never been greater as digital payment systems gain a strong presence in the international economic landscape among a highly competitive landscape.

2.3 CBDCs in Existing Literature

Existing studies on CBDC have mainly focused on their economic and technological advantages. When talking about benefits, financial inclusion will often be mentioned. The World Bank (2022) and IMF (2023) both suggest that properly designed CBDC can help extend the reach of formal financial services by making digital wallets available to the unbanked and underbanked that are low cost and require little banking infrastructure. These benefits, however, depend heavily on the digital capabilities of users, the connectivity of networks, and the capabilities of institutions, pointing to the fact that financial exclusion cannot be eliminated by all CBDCs.

A second theme of the second is payment efficiency. The BIS (2020) has said that CBDCs could enhance the speed of payments, lower transaction costs, foster competition, and strengthen domestic payment systems' resilience. The programmable payment functionality can also enable government payments, tax collection and instant settlement. This is why many central banks started out with the idea of a CBDC as a means of payment and not as a radical monetary change.

An additional strand of literature delves into implications for monetary policy and financial stability. Bindseil (2020) suggests that CBDCs could enhance the effectiveness of monetary policy transmission as they enable the central bank to engage more directly with the public and could present the central bank with novel policy instruments in times of economic distress. Yet, there are also warnings that too much redirection of deposits from commercial banks to the CBDC will lead to a loss of bank funding, limit credit supply and increase financial instability in times of crisis (Brunnermeier & Niepelt, 2019). This literature therefore highlights the importance of the design of CBDCs, such as holding limits, as well as two-tier distribution models that keep commercial banks in place.

Lastly, digital innovation literature conceives of the CBDC as part of a wider digital financial economy ecosystem with open banking, fintech development, tokenised goods, and programmable finance. Many scholars have stated that CBDCs should not take the place of existing financial institutions, but rather should coexist with the digital transformation process whilst ensuring monetary stability and public trust (Auer et al., 2022).

2.4 CBDCs and Geopolitics

CBDCs are the subject of a growing body of research that explores them from a geopolitical or international political perspective. A significant discussion is about the possible role CBDCs could play in de-dollarisation. The introduction of sovereign digital currencies may help to partially de-dollarize the world by allowing for bilateral trade settlements in local currencies and improve regional payment systems (Prasad, 2021). Others have reservations, pointing to other institutional factors – such as deep capital markets, macroeconomic stability, and legal certainty – as being more important than digital payment technology itself for reserve currency status.

A related field of study is the cross-border payments. The current international payment systems are frequently costly, cumbersome and rely on correspondent banking relationships. CBDC initiatives backed by the BIS Innovation Hub aim to enhance cross-border settlements via interoperable digital currency platforms, which could lower cross-border transaction charges and broaden monetary cooperation amongst the economies involved (BIS Innovation Hub, 2024).

Other than that, there is a fair amount of focus on the digital yuan (e-CNY) of the world's largest large economy. While the key focus of the Chinese development of the e-CNY is on the domestic payments landscape, some researchers have started to explore its global payment implications, regional monetary influence, and long-term monetary competition (Prasad, 2021). The discussions are related to whether or not CBDCs would be able to undermine financial sanctions by providing alternative payment systems beyond SWIFT. These are still mostly hypothetical, but the geopolitical aspects of CBDCs are now a growing focus in academic research.

2.5 CBDCs in Developing Economies

To draw a conclusion, research into the developing economies shows that the introduction of a CBDC is a manifestation of the different national priorities and not a single model of policy. India's Digital Rupee has been largely examined in the context of its sophisticated digital public infrastructure, especially the Unified Payments Interface (UPI), highlighting the innovation in payments, financial inclusion, and enhancement in wholesale settlements (Reserve Bank of India, 2024). The eNaira project has been a talk of the town in Nigeria, despite its lofty goals of financial inclusion and a cashless economy, due to its limited use so far. Existing research suggests that this result is caused by low awareness of the public, insufficient incentives and trust and usability issues (IMF, 2023).

The Bahamas' Sand Dollar has been overall deemed a successful initiative to enhance access to payments across a geographically dispersed archipelago and to bolster financial resilience in the event of a natural disaster. The expansion of access to formal financial services via digital payments is also a priority in Jamaica's JAM-DEX. Unlike traditional payment methods, the Brazilian project Drex is dedicated to tokenised finance, innovation, and integration with open banking projects (Banco Central do Brasil, 2024).

China is often used as a comparative yardstick due to the scope and complexity of its CBDC program. Despite China's distinct institutional and technological contexts, the experience has offered insights on how to implement a large-scale CBDC, digital governance, and payment innovation in the context of a developing economy in the Global South. Overall, the case studies show that CBDC results will strongly be shaped by the institutional setting, policy goals and digitisation of a country, as well as by the technology itself.

2.6 Research Gap

While the amount of literature on the subject of CBDCs has grown in recent years, there are still key areas that need to be addressed. The current scholarship focuses on CBDCs as technical innovations which would lead to more efficient payments, foster fintech growth, or modernise financial systems, among other aspects. A significant amount of empirical work also deals with the advanced economies or big financial centres where the digital payment systems are already well established. Research on financial inclusion or implementation issues often focuses on developing countries, neglecting to explore and reflect on questions of state power and monetary autonomy.

Moreover, the literature focuses on too limited an economic dimension by assessing the benefits of CBDCs by measuring their speed, transaction costs or the impact on the banking system. Weaker research attention is paid to the potential impact of CBDCs on monetary sovereignty, on the reliance on payment networks other than national ones, on financial statecraft, or on the role of developing countries in the international monetary system. Given this limited understanding, there is a weak understanding of the institutional context and how it supports or undermines monetary sovereignty in the Global South through the use of CBDCs. In this paper, using monetary economics theory, international political economy frameworks, and a comparative case study analysis, I try to move beyond the perspective of digital payment technology and assess the role of CBDCs as a strategic instrument that can transform the state, money and sovereignty nexus.

3. CONCEPTUAL FRAMEWORK

Within this conceptual framework, this study treats digitalisation as an intermediate process that can affect monetary sovereignty in the Global South via the central bank digital currency (CBDC). The framework does not presume that CBDCs have a negative or positive effect on the state's role in the creation and governance of money, but regards the final impact of these as dependent on the outcomes they create in terms of financial inclusion, payments efficiency and monetary policy effectiveness. The subsequent discussion and comparative case studies are examined using these interrelated pathways.

The first step in the framework is digitalisation, which is the quick spread of digital technologies in finance. The advent of improved internet connectivity, mobile phone penetration, cloud computing, mobile banking and financial technology has revolutionized the way financial services are accessed by individuals and businesses. Concurrently, the rapid adoption of electronic payments and the rise of cryptocurrencies are undermining the traditional monetary system based on cash and stimulating governments to update payment systems (Bank for International Settlements [BIS] 2023). For this reason, digitalisation is the key factor contributing to the surge of demand for CBDCs at the international level.

The adoption of CBDC follows digitalisation, as governments try to maintain the proper role of sovereign money in digital economies. Central banks see the possibility of providing a digital currency that is secure, state-backed, and meets evolving consumer preferences and the threat from private digital currencies. CBDC adoption is not an ultimate objective however. Rather, it is a policy instrument which can influence more general economic and institutional effects.

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Financial inclusion is the first step in the link between CBDCs and monetary sovereignty, as per the framework. Yet, in certain Global South economies a considerable part of the population remains unbanked either because of the lack of banking facilities in their area or the cost of financial transaction. If a CBDC is well-designed, including ones that are available via mobile devices and available through low cost digital wallets, these barriers could be lowered by increasing access to secure payment systems and government services (World Bank, 2022). Increased financial inclusion can enhance monetary sovereignty by enriching the use of formal financial systems in the economy and by making monetary and fiscal policies more effective.

The second one is about efficiency of payments. It is possible that CBDCs can lower transaction costs, shorten settlement times, increase the security of payments and enhance the robustness of domestic payment systems (BIS, 2020). Efficient payment infrastructure promotes more widespread adoption of the domestic currency in daily transactions and less reliance on costly intermediaries, and it enhances national oversight of financial infrastructure. Such enhancements may contribute to a State's ability to manage payment systems and diminish external financial network vulnerabilities.

The third one is the effectiveness of monetary policy. CBDCs are direct bank obligations and could potentially enhance the effectiveness of central bank policy transmission and the link between policy rates and financial markets. In theory, CBDCs could be used to create more targeted liquidity provision, enhance the distribution of government transfers, and provide policy innovations for times of economic hardship (Bindseil, 2020). The efficiency of monetary policy helps to strengthen the capacity of the State to ensure price stability, regulate the amount of money in the economy, and adjust to the domestic economic situation in order to reinforce the monetary sovereignty of the State.

Together these three pathways affect the state's ability to print money, to set monetary policy independently, to protect the stability of the financial system, and to manage the monetary system effectively. Yet the framework clearly notes that CBDCs can have various impacts. Such institutions, regulations, and trust are strong, and the infrastructure for digital assets is established, which boosts the potential for digital currencies to support monetary sovereignty, financial inclusion, policy effectiveness, and autonomy in domestic payments in these types of environments. CBDCs, however, can, on the other hand, reduce the public's trust in the national monetary policy, add new vulnerabilities to the monetary policy space, and erode its sovereignty in the cases where the digital spaces cannot be closed, the governance is weak, and foreign digital currencies are widely adopted. However, lack of bridging the digital divide can create new vulnerabilities, and the acceptance of foreign digital currencies can contribute to the erosion of public confidence in the national monetary system. It is thus a balanced analytical framework for the evaluation of CBDCs as policy tools whose effects are determined not just by technology, but also by its institutional and political-economic structure.

4. DRIVERS BEHIND CBDC ADOPTION IN THE GLOBAL SOUTH

Central bank digital currencies (CBDCs) are becoming more popular in the Global South, partly because of domestic economic issues, as well as the changing global monetary system. While in many advanced countries CBDCs are perceived as a complement to existing advanced payments systems, in developing countries CBDCs are perceived as a solution to long-term structural issues (financial exclusion, inefficient payments systems, use of cash, financial shocks). At the same time, the rapid development of the Private Cryptocurrency market, and the shift in geopolitical dynamics, has resulted in governments clamping down on their national currencies. In conclusion, the introduction of CBDC in the Global South goes beyond technology; it's about development and strategic objectives.

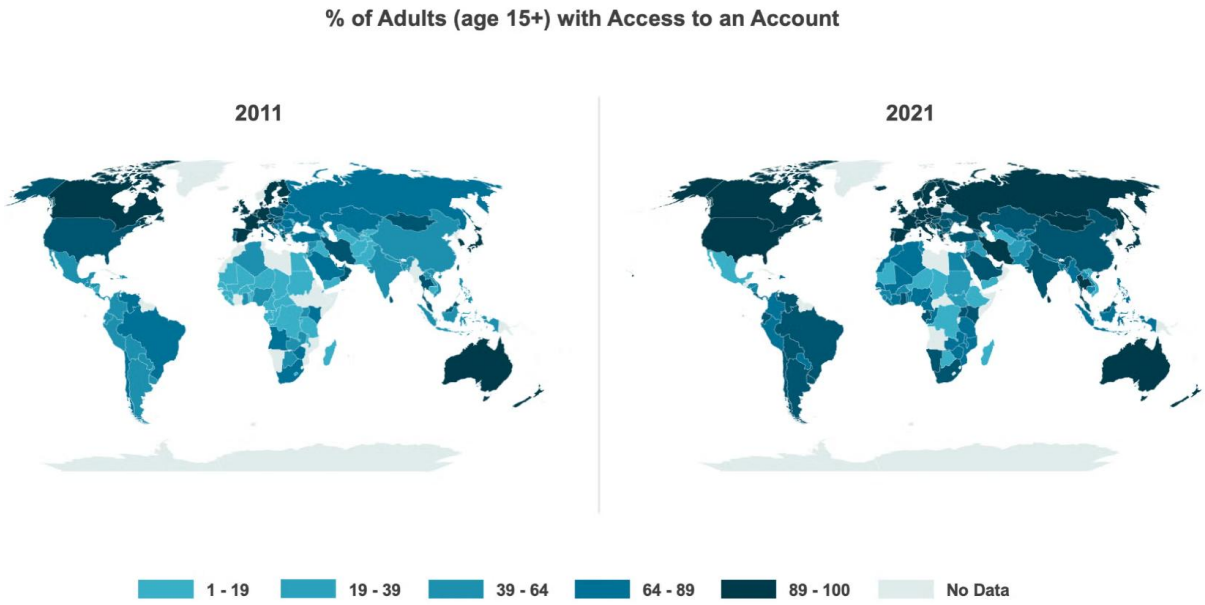
The growing adoption of digital payment technologies is contributing to the reduction in physical cash usage, which is one of the main factors behind the potential for CBDC adoption. In the last decade, mobile banking, electronic transfers, and QR code payment systems have revolutionized retail payment transactions in many developing economies. Through digital public infrastructure, millions of consumers are able to make financial transactions using their smartphone at much lower cost than traditional banking options. The Unified Payments Interface (UPI) is one example of India's shift toward a more digital financial landscape, handling over 170 billion transactions between 2024 and 25 (Reserve Bank of India [RBI], 2025). In other nations, like Brazil, Pix is an instant payment system that has dramatically lowered cash usage, while mobile payment systems have become the main method of payment in many African economies. Central banks have understood the necessity to make sovereign money relevant in an increasingly cashless economy as consumers increasingly favor digital payments for their convenience, speed, and availability. Thus, CBDCs are a move to modernize a state-issued currency, to maintain public trust in national currencies.

The second and perhaps more important reason relates to financial inclusion, a key policy issue in many parts of the Global South. While large strides have been made in the last 10 years, in 2021 there were still around 1.4 billion adults without access to banks, the vast number of which were in developing economies (World Bank, 2022). Restrictions on access to formal financial services remain due to limited banking infrastructure, geographic isolation, high account maintenance costs and inadequate identification

systems. These obstacles can be overcome by introducing a CBDC, which can enable individuals to transact using digital wallets without relying on traditional banking systems.

Many developing nations have introduced digital inclusion programs, which have already seen heavy investment in their development, and development of the CBDC. The Pradhan Mantri Jan Dhan Yojana (PMJDY) has been successful in generating more than 560 million bank accounts by 2025, which has expanded the access of formal finance to many people and laid the groundwork for the adoption of digital payment methods (Government of India, Ministry of Finance, 2025). Likewise, mobile money has revolutionized financial access in Africa. In 2023, the GSM Association (GSMA, 2024) estimated that there were more than 2 billion registered mobile money accounts globally, with the number of registered accounts and transaction value for mobile money being highest in Sub Saharan Africa. These developments are growing in recognition of the fact that there are other options available to people when traditional banking is not present. CBDCs can complement these existing platforms by offering a secure, more affordable and central bank-backed digital currency, which can improve the effectiveness of government welfare programmes and boost the participation in the formal sector.

Global Account Ownership and Financial Inclusion



Source: World Bank (2022), Global Findex Database 2021.

The rapid evolution of cryptocurrencies and stablecoins is another factor driving CBDC development. The other trend that is influencing the CBDC journey is the speed of the evolution of cryptocurrencies or stablecoins. Another factor that is fueling the development of CBDC is the rapid growth of cryptocurrencies and stablecoins. Decentralised digital assets have been of great interest to the world since Bitcoin was introduced in 2009 as a new form of value storage and payment. For some developing nations where inflation is high or exchange rates are volatile, households and companies have resorted to cryptocurrencies as a way to protect themselves from their currency's depreciation. The combination of blockchain payments and relatively stable valuations has made stablecoins, such as Tether (USDT) and USD Coin (USDC) that are often pegged to a dollar, major players in blockchain-based payments and ecommerce.

This progress however leads to financial innovation, but also raises concerns about monetary substitution, as now private tokens or foreign currencies are increasingly being used instead of domestic currencies in economic transactions. This can make monetary policy less effective, decrease demand for national currencies, and lower the seigniorage revenues generated by issuing country's currency (International Monetary Fund [IMF] 2023). Moreover, the distributed structure of numerous cryptocurrencies makes it challenging for regulators to enforce their policies and can enable illegal financial transactions or unregulated capital transfers. Widespread use of cryptocurrencies has also raised fears about how well governments can control exchange rates and domestic liquidity, as the increased use of such currencies could lead to capital flight during financial stress. Many policymakers, therefore, see CBDCs as a way to create a credible digital alternative from the public sector that can maintain confidence in the sovereign currency while also decreasing reliance on private digital assets.

The goal of enhancing domestic payments is another key factor. Lack of efficient payment infrastructure with high transaction costs, delayed settlements, disintegration of financial networks and lack of interoperability among financial institutions are still

prevalent in many developing countries. CBDCs can be used for modernising payment systems by providing faster settlements, lower intermediation, and lower cost for transactions between consumers and businesses (BIS, 2020). Better payment mechanisms also have the potential to enhance government operations by making payments to welfare recipients more timely, payments to pensioners more efficient, tax refunds more prompt, and financial aid more readily available in times of emergency. Digital transaction records can also improve tax compliance, minimise leakages of public expenditure and provide greater transparency and visibility in government payment systems. The administrative advantages are what is driving the growing interest of central banks in CBDCs as part of a wider digital transformation of the public sector, not just new payment technology.

Thirdly, geopolitical factors have gained a greater influence in determining the CBDC strategies in the Global South. The global financial system is still largely reliant on US dollar and the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network, which poses a structural reliance for many developing economies involved in international trade and finance. This vulnerability renders countries vulnerable to the volatility of international capital markets, the imposition of financial sanctions, and geopolitical instability. As a result, a number of governments have started to consider CBDCs as a way to improve cross-border payment autonomy and decrease the dependence on traditional correspondent banking systems.

This is reflected in the regional initiatives. The BIS Innovation Hub's Project mBridge seeks to facilitate cross-border payments by leveraging interoperable wholesale payment tokens, thereby facilitating potentially more efficient cross-border payments and the possible contribution of digital currencies to this (BIS Innovation Hub, 2024). Meanwhile, ASEAN and BRICS have increased the dialogue on regional payments and settlements via local currencies rather than major international currencies. CBDCs would not be intended to supplant the prevailing dominance of the US dollar in the international monetary system but are likely to help pave the way towards a de-dollarisation dynamic that would see the use of domestic currencies grow in regional trade and investment. CBDCs are, therefore, not just a means of financial modernisation but also a tool for bolstering economic resilience, fostering policy autonomy, and boosting the role of developing economies in a changing global monetary landscape for many of them.

5. CBDCs and Monetary Sovereignty: Opportunities

The potential of central bank digital currencies (CBDCs) has garnered attention in the policy and academic circles for its benefits in enhancing monetary sovereignty particularly for developing countries.Although CBDCs are often presented as technological tools for modernising payments, a growing body of research highlights their wider significance. Effectively designed and well-governed CBDCs can create a more robust role for the state in money and boost the use of domestic currency, thereby facilitating the implementation of monetary policy, increasing financial inclusion, enhancing fiscal administration, limiting reliance on foreign payment systems, and increasing government's capacity to respond to economic crises. For countries in the Global South, these opportunities are especially relevant as they have been historically hindered by structural issues like financial exclusion, dollarisation and limited institutional capacity, which have been limiting the exercise of monetary sovereignty.

5.1 Strengthening Domestic Currency

The main argument that supports CBDCs is that they would help to build confidence in the domestic currency and give the central bank a greater role as the major provider of sovereign money. In many developing economies, however, persistent inflation, currency volatility and weak financial institution have led households and businesses to save and transact in foreign currencies on private digital assets. This process, known as dollarisation or currency substitution, reduces demand for the national currency and weakness the central bank’s influence over economic activity (Cohen, 2015).

CBDCs present governments with a chance to deliver a safe, digital currency that is trusted by the government and will satisfy the increasing public need for electronic payments. CBDCs are direct liabilities of the central bank, thus have much less credit risk than private-issued digital currencies or commercial bank deposits. This could result in fewer transactions being switched to foreign currencies or stablecoins as people and businesses may keep using the local currency, thanks to its availability. In economies sensitive to currency substitution, a properly designed CBDC can aid in maintaining the use of domestic money in a digitalizing financial system, according to the International Monetary Fund (2023).

Moreover, CBDCs can help build trust in a central bank's ability to keep up with technology and maintain its authority over it. The relevance of sovereign currency is crucial to ensuring that the public remains loyal to national money systems through the changing nature of payment methods. Therefore, CBDCs can reinforce monetary sovereignty by promoting digital transactions and transactions on the state-issued money, and not on other privately issued money.

5.2 Improved Monetary Policy Transmission

The second significant one is the enhancement of the transmission of monetary policy. A traditional monetary policy takes place mainly through the commercial banks' activities in both lending and borrowing decisions, and acts as a reaction to changes in the central bank policy rates. In many developing economies, financial market imperfections, underdeveloped banking sectors and financial exclusion tend to dampen the effectiveness of this transmission channel.

CBDCs can help enhance this process due to the direct claims to the central bank and the new avenues by which monetary policy can impact economic behaviour. Bindseil (2020) believes that if designed properly, CBDCs could help to enhance the efficiency and effectiveness of policy implementation by allowing central banks to send monetary messages directly through the financial system. In times of economic crisis, CBDCs can provide fast liquidity and better reallocation of financial aid, alongside the commercial banking system.

Another innovation that has been talked about is programmable money, where certain conditions could be included in the transactions of digital money through a predetermined set of rules. While this gives rise to potential legal and ethical concerns, programmable CBDCs may provide governments with the means to send targeted financial aid, create time-bound stimulus payments, or optimize the use of public funds in times of extraordinary economic events. These innovations may lead to greater flexibility and responsiveness of monetary policy and maintain central bank control of the monetary system.

5.3 Greater Financial Inclusion

Financial inclusion is one of the most compelling policy cases for CBDCs in the Global South. While access to the formal financial sector has improved significantly in the last decade, there is still a large gap between access to formal financial sources for urban and rural, high and low income populations and for men and women. The World Bank estimates that in 2021, about 1.4 billion adults were not in the formal financial system, most of whom were living in developing economies (World Bank 2022).

These gaps are measurable and can be addressed to a degree by a broad adoption of CBDCs, which could offer easy-to-use digital wallets with limited banking structures that work via a wide variety of mobile devices. CBDC wallets can offer reduced transaction fees, streamlined registration processes, and be directly supported by the central bank. This can make even quite formal financial services more accessible to populations which were previously excluded from such services. The benefits will become noticeable mainly in rural areas, as there is an absence of bank branches in such places. If payments can be received, made, and government payments can be accessed without going to a certain place, then mobile-based CBDC platforms can diminish geographical barriers. In addition, women can benefit from the use of CBDCs, as in many developing countries they lack access to financial inclusion due to legal, societal, and economic restrictions. Women can have access to their own secure digital accounts and they can receive salaries and government transfers to them.

Informal workers can also be considered additional beneficiaries of CBDCs. Many Global South economies have large informal sectors which operate almost exclusively on cash but which have limited access to social protection programs, credit market access and savings products. CBDCs can contribute to the slow transition to the more formalized system of finance, providing secure digital payments which have significantly less administrative burden compared to the previous generation of banking services. Apart from contributing to the development of economy, financial inclusion also can improve monetary and fiscal policy workings, because a larger part of economic activity runs through regulated financial systems.

5.4 Better Fiscal Capacity

CBDCs also offer opportunities to strengthen fiscal capacity and public financial management. Effective taxation and government spending are core components of state authority and, by extension, monetary sovereignty. Yet in many developing nations there still remains a certain degree of revenue leakage in the form of tax avoidance, informal economy, and simple inefficiency.

CBDCs will allow for money transfers to become more transparent and verifiable, which in turn should increase efficiency in terms of tax collection and reduce the occurrence of fraud and illegal financial activities. It is true that privacy rights must be protected, but a properly designed digital payment system will enable the government to enforce taxes without burdening citizens excessively. Better revenue collection helps governments to cover public needs using their own resources and limits their reliance on external loans.

Another potential advantage of CBDCs is that they can enhance welfare distribution mechanisms. Direct transfers to the beneficiaries' digital wallets can cut the time, administrative costs and leakages that occur through an intermediary institution, such as government benefits, pensions, disaster assistance and subsidy payments. The pandemic COVID-19 highlighted the need for speedy electronic payments to reach those in need during times of crisis. Generally, countries with more sophisticated digital financial infrastructure had a quicker distribution of supports compared to those with mainly cash-based systems (IMF, 2023). This can enhance the fiscal efficiency of the financial system by making it more transparent, facilitating better monitoring of expenditure and making public finance more effective in reaching those who have been targeted.

5.5 Reduced Dependence on Foreign Payment Networks

Another key opportunity ties to a lessening in reliance on foreign-dominated payment systems. Multinational firms like Visa and Mastercard still play a major part in the retail transactions made with cards in international payment systems and SWIFT is still the network used to communicate in the international financial market. These systems have greatly helped to facilitate global trade, but they also pose external risks of operation, regulation and geopolitics for countries.

CBDCs can provide a platform to enhance national payment autonomy and reinforce the domestic payment system, supported by central banks. Governments can create sovereign digital payment systems with mainstream national payment systems and domestic instant payment systems, not just relying on foreign payment providers. This is particularly significant for countries attempting to cut transaction costs, improve their financial infrastructure resilience, and gain more influence over vital financial infrastructure.

At the international level, interoperable CBDCs could reduce reliance on correspondent banking by enabling direct cross borders settlements between participating central banks. While some of the initiatives remain in the pilot phase, there are other initiatives, such as Project mBridge, that indicate the opportunity offered by CBDCs in providing a variety of international payment channels that coexist with the existing system (Bank for International Settlements Innovation Hub, 2024). In case of further development of these initiatives, they will probably help increase monetary sovereignty by reducing the dependence on an external mediator and increasing the strategic control over payment systems.

5.6 Improved Crisis Management

Finally, CBDCs may improve the crisis management capabilities of the government. In cases of an economic uncertainty, epidemics, natural disasters, and banking crises, the need for fast liquidity access may become crucial. Avoidable delays occur in traditional methods of cash transfer and banking related transfers due to logistical challenges or infrastructure damage.

CBDCs give governments the power to issue emergency relief in the form of a secure digital wallet to individuals and businesses. This capability can speed up the process for payments on pandemic, disaster recovery and temporary income support, while minimizing administrative delays. The Bahamas are among Small Island Developing States (SIDS) that have emphasized the need for resilient digital payment systems after hurricanes have caused disruptions in traditional banking systems. In part, the Sand Dollar has been marketed as a way to maintain financial services during times of natural disaster (Central Bank of The Bahamas, 2023).

In the same way, CBDCs can boost the central banks' ability to provide emergency liquidity during financial crises, including in times of disruptions in commercial banking activity, by enabling fast settlement and ensuring the stability of payment systems. While macroeconomic crises cannot be prevented by CBDCs, they can enhance the speed, efficiency and inclusiveness of government response. For the developing economies where economic volatility, and those external shocks, happen pretty often, these capabilities give something like an opportunity to construct institutional resilience, and also strengthen monetary sovereignty , through more careful crisis management.

When taken into consideration, all these benefits imply that CBDCs are more than just an effort towards the digitalization of money. They have the potential to effectively integrate the issuance of the currency with the states, make policies more effective, promote financial inclusion, strengthen fiscal governance, increase the degree of autonomy of the payment systems, and finally boost crisis resilience. However, as is the case with any other monetary policy tool, realizing the aforementioned benefits requires an adequate institutional arrangement, proper legal and digital infrastructures, and trust from the citizens. Without these supportive measures, the benefits of CBDCs can remain untapped or even be counterproductive as is explained in the following part.

6. CBDCS AND MONETARY SOVEREIGNTY: CHALLENGES AND RISKS

There are numerous opportunities for CBDCs, central bank digital currencies, to improve monetary sovereignty; however, they pose a number of economic and institutional, as well as technological and political, challenges that might jeopardize their intended goals. The practicality of CBDCs is determined not just by the way the system is conceptualized and not just by its design but also by the broader context of governance in which it is implemented. Issues like a lack of adequate digital infrastructure, vulnerability of regulatory institutions, lack of public trust, and dependency on foreign financial channels might limit greatly the scope of possible CBDC achievements in many countries of the Global South. And sometimes they can generate effects nobody predicted. So , any sensible, balanced assessment of CBDC benefits and risks has to be handled with care.

6.1 Digital Divide

The digital divide, which still remains a challenge across many developing economies, is among the most important issues for actually getting a CBDC implemented successfully. Even though digital technologies have grown a lot over the last 10 years, access to dependable digital financial services, smartphones, and Internet services is distributed in a very uneven way between and inside countries. The International Telecommunication Union (2023) says that in 2023, about one third of the world’s population still had no access to the internet, and the worst connectivity gaps are in low-income countries, plus rural areas. In the same way, smartphone adoption is also not balanced , and this is especially visible for older people, women and low-income families.

These kinds of differences matter a lot for CBDC take-up. If CBDCs rely on internet-connected phones, then it can unintentionally leave out the people that policy makers are trying to include. Inability to access sufficient power supply, poor mobile networks,

and inadequate digital devices – usually in rural areas – make it much more difficult for people to engage in digital monetary transactions. Additionally, digital competency is another critical barrier. Insufficiency in the knowledge about the usage of digital wallets, security measures, electronic payment methods and many more are very common among the potential users, and they lead to various problems of fraudulent activities, mistakes in transaction, or even unwillingness to use the system.

Hence, if CBDCs are not properly designed, considering the above-mentioned problems, they would worsen the situation and perpetuate financial inequalities. Economists advise using CBDCs only alongside traditional cash money, and not to replace them, till all the money becomes digital (Bank for International Settlements [BIS], 2020). Hence, the proper implementation of such CBDCs through offline payments and digital literacy programs is vital for financial inclusion.

6.2 Privacy and Surveillance

One of the most talked-about themes related to CBDCs is that of Privacy. While digital currencies do not share the anonymity of traditional paper currencies, transaction records in digital form provide opportunities for increased transparency and reduction of financial crimes but also involve questions regarding state surveillance and protecting civil liberties.

The problem emerges because governments will both be the issuers and regulators of CBDCs. One of the main threats with regard to surveillance by states is that of reduced privacy and freedom of legitimate financial transactions as well as additional ways to politically misuse financial data (Kahn et al., 2020). These concerns are especially acute in countries where democratic institutions are weak and where there is no judicial independence and data protection.

Thus, the discussion here is not just about technologies but also about data governance. It is vital to establish clear legal frameworks, which would precisely define the types of organizations, which will have access to transaction data, the conditions of such access, data retention period, and the regulators responsible for it. Indeed, public trust can turn out to be one of the key factors in the introduction of CBDCs, according to the International Monetary Fund (IMF), in 2023. In case people treat the sovereign currencies as a tool of surveillance rather than payment solution, they will hardly support them. Therefore, it means that one of the top governance issues connected with CBDCs is the issue of transparency and privacy protection.

6.3 Cybersecurity Risks

Digitalization of money systems is happening almost consistently and efficiently, which, in one way or another, is always accompanied by cybersecurity threats. Despite the presence of physical cash even during the technological disruptions, CBDCs require reliable digital infrastructure, communication channels, and their constant functioning. Services of payment, financial stability, and people’s trust could be adversely affected in case these elements face failures or disruptions of any kind.

The cyberattacks could range from cyberattacks against the central bank's infrastructure to those against the digital wallets, comprising distributed denial-of-service attacks, ransomware attacks, as well as other malicious manipulations of the payment systems. In spite of the fact that the cybersecurity of the central banks' systems is rather advanced, no digital system could possibly be technologically protected to its maximum. The disruption of the payment process might result from technical problems, including software and hardware malfunction and network failure, especially at high transaction volumes and during the emergencies.

According to the BIS (2023), cybersecurity preparedness needs to become one of the cornerstones in designing the CBDC, which implies an adoption of the multilayer architecture approach, continuous monitoring, encryption, and contingency planning. However, some developing countries have limited resources and constraints, which make the investments in state-of-the-art cybersecurity technology and trained staff rather problematic. The success of the cyberattack against the national CBDC infrastructure would harm not only the trust in the digital currency, but also the trust in the monetary system as a whole. Thus, the cybersecurity preparedness becomes an essential prerequisite of monetary sovereignty in the digital world.

6.4 Banking Sector Disintermediation

Another major issue is the risk of disintermediation of the commercial banking system. In a conventional monetary system, commercial banks are the key players in financial intermediation, taking deposits, extending credit and transmitting monetary policy. As CBDCs are direct creditors of the central bank, households and businesses could feel that they are safer than commercial bank deposits, especially in times of financial uncertainty.

A massive move of deposits from commercial banks to CBDCs would lead to a decrease in banks' funding bases and hence constrain their capacity to supply credit to households and businesses. More limited availability of credit could slow the economy as well as raise the cost of funds for the financial system. When the financial system is under stress, CBDC balances in the commercial bank could be easily moved to digital money, causing bank runs as digital money is transferable within seconds (Brunnermeier & Niepelt, 2019).

To mitigate these risks, a number of central banks have put forward two-tier CBDC models, where commercial banks remain responsible for customer-facing functions, but the central bank is still in charge of currency issuance. Other suggested measures

are restrictions on the amount of CBDCs that can be held, non-interest-bearing retail CBDCs, and a gradual deployment plan that would ensure that the stability of traditional banking systems is not jeopardized (Bindseil, 2020). The design considerations underscore the need to balance innovation and the continued viability of commercial banks in order to maintain financial stability.

6.5 Cross-border Competition

Whereas CBDCs can help build robust domestic monetary systems, they can also create a greater degree of cross-border monetary rivalry. The introduction of several sovereign CBDCs in different countries may mean that users could have more options to use foreign CBDCs that have more stability or lower transaction fees or better international acceptance. This may especially be relevant in smaller developing nations, where already the national currency is in competition with strong foreign currencies.

The digital yuan, or e-CNY, has garnered a lot of focus due to its possible involvement in regional trade and cross-border payments. While most of the current implementation is directed at the domestic market, some researchers speculate that the digital yuan could be widely adopted internationally and gradually increase the power of China's currency in the future, especially in countries that have close trade ties with China (Prasad, 2021). Similarly, stablecoins in other currencies, such as the US dollars, have also become increasingly common in many emerging markets as they offer relatively stable digital assets, enabling cross-border transactions and safeguarding users from their local inflation. Dollar denominated stable coins may pose a more immediate challenge than foreign CBDCs recent US legislation providing a regulatory framework for stable coins known as the GENIUS act (enacted in 2025), could further increase their availability and legitimacy in emerging markets, intensifying the risk of digital dollarisation.

The developments pose concerns about “digital dollarisation” – the use of foreign digital currencies in payments, cross-border transactions, and the accumulation of savings, to the exclusion of domestic currencies. Domestic central banks might lose the control over monetary policy and seigniorage revenues if their domestic currency is not preferred by households and firms over foreign CBDCs and stablecoins. In their absence, CBDCs, therefore, would not be able to replace external monetary dependence unless they were supported by macroeconomic stability and institutional credibility and confidence in national currencies.

6.6 Institutional Capacity

Perhaps, the performance of the nation’s institutions would matter the most when it comes to the success of CBDCs, to be honest. The very goals that CBDCs pursue can’t come about automatically, they need proper governance, proper regulatory frameworks, as well as efficient public institutions. On the other hand, such things as regulatory complexity may become an issue for those countries which are characterized by poor administration, political instability, or lack of experience with digital currency regulation. The importance of central bank independence lies in the reliance and trust in monetary authorities for the public's acceptance of CBDCs. Just as political interference in currency management has the potential to affect confidence in traditional fiat currency, it can affect the confidence in sovereign digital currency. Likewise, a lack of legal and regulatory oversight of digital identity and consumer protection, cybersecurity, data privacy, and financial crime can create risks for the operation and reputation of CBDC systems.

Regulatory readiness also applies to the coordination of several public institutions such as financial intelligence units, commercial banks, cybersecurity agencies, telecommunication regulators and financial ministries. It is important to note, therefore, that institutional collaboration, not only technological innovation, needs to be comprehensive to achieve success. The International Monetary Fund (2023) notes that nations should lay the groundwork for their CBDC with a solid legal and regulatory framework, especially in developing economies where institutional capabilities are not fully developed.

Overall, the problems outlined in this part of the paper reveal that CBDCs do not represent an “all-encompassing” response to the monetary and financial challenges that the countries of the Global South face. This is because CBDCs depend on attempts to deal with the fundamental structural barriers regarding digital infrastructure, governance, cybersecurity, financial regulation, and trust. In case some of the enablers are absent, CBDCs could produce unanticipated effects that put the monetary sovereignty at risk, among other examples such as introducing new vulnerabilities, exacerbating financial fragmentation, and undermining trust in monetary systems. Therefore, the above mentioned implications have to be taken into account along with the opportunities outlined in the previous parts of the paper. This shows that the impacts of CBDCs go beyond being merely a technologically innovative phenomenon.

7. COMPARATIVE CASE STUDIES

The four cases were selected to capture variation in region, economic size and policy objectives. India and Brazil represent large emerging economies with well developed fast payment systems, Nigeria offers an example of a nationwide launch that has struggled with adoption, and the Bahamas illustrates the priorities of a small island developing state. The analysis draws mainly on central bank publications and reports by IMF and BIS. Case studies on comparative basis provide insights about how CBDCs could

be implemented within various economic systems, practices and technical conditions. Despite the fact that the ultimate purpose behind CBDCs remains more or less similar in many countries – namely enhancement of speed of payment and expansion of financial access, there is a noticeable difference in terms of design and implementation of CBDCs. And those differences simply show national preferences, existing financial infrastructure, capacity of the government and even monetary policy framework. Consequently, if one wants to understand how CBDCs affect monetary sovereignty, then one should focus on how CBDCs impacted monetary sovereignty in India, Nigeria and Brazil.

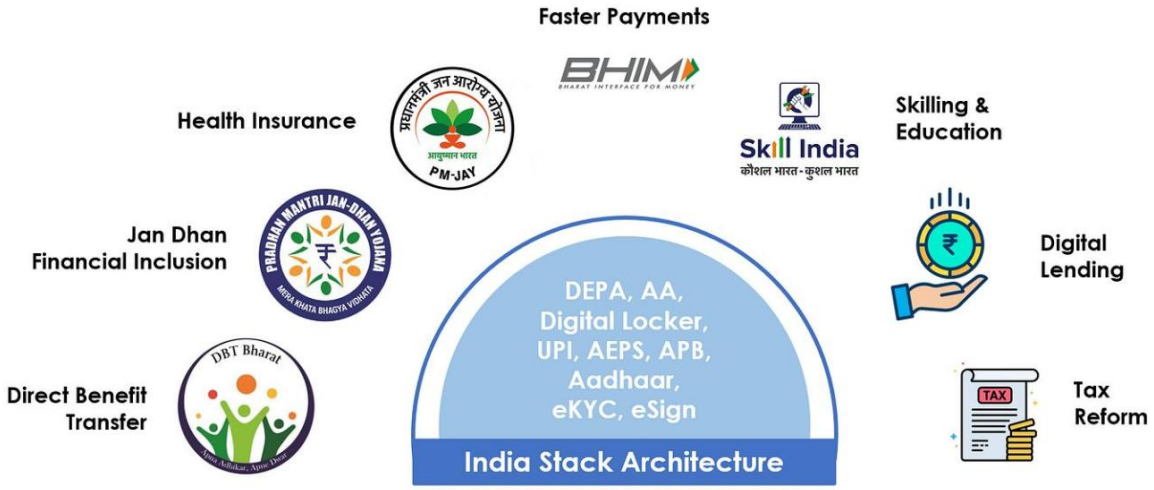
Case Study 1: India – Digital Rupee (e₹)

India's decision to introduce the CBDC is in line with the greater trend to enhance the development of digital public infrastructure without compromising on monetary stability. In 2022, the Reserve Bank of India conducted pilot projects for the use of wholesale and retail CBDCs, thereby positioning India as one of the most prominent emerging markets to adopt the new currency (Reserve Bank of India [RBI], 2024).

However, the primary objective of the Digital Rupee currency has been to improve the already developing digital payments platform of India rather than replace the existing one. Some of the objectives stated by the RBI included reducing costs associated with cash management, facilitating payments, promoting financial growth and preparing financial systems for a more digital world. India's CBDC project has largely been proactive in comparison to countries facing monetary instability.

Digital Rupee has been designed in two segments: wholesale and retail. The wholesale CBDC will be used for interbank settlements and government securities markets, whereas the retail CBDC will be available for use by businesses and individuals in their day-to-day activities. It is a two-level support system that allows the central bank to print digital sovereign money and leave the commercial bank business as it is.

India's Digital Public Infrastructure Supporting the Digital Rupee



Source: Reserve Bank of India (2024)

The Indian digital payment ecosystem is one of the major factors that has helped with the implementation, in a way kind of. Before the deployment of CBDC there was already a strong technological base, like the Unified Payments Interface (UPI) , the Aadhaar digital identity system, and banking reforms that are… quite vast. The Digital Rupee is not really meant to compete with UPI , instead it's more like an additional payment approach that runs alongside the existing arrangements.

In any case, although the launch of the Digital Rupee across the country is not completed yet, some positive signs are evident already. It appears to be quite technologically possible, providing valuable insights into the possibilities of its future scaling. In particular, over time, the RBI has been able to expand the coverage of the pilots by involving other banks, traders, and customers. Meanwhile, the Digital Rupee has offered opportunities for experiments with programmable payments and offline transactions, which is highly relevant in the context of low internet penetration. However, the existence of such fast payment systems such as UPI and Pix raises the question of what additional value a retail CBDC can offer. If these systems already deliver fast, low cost and widely used digital payments, the case for a CBDC may rest less on payment efficiency and more on preserving the central bank's direct role in the monetary system.

As far as the monetary sovereignty is concerned, India has shown an example that it can be achieved without clashing with the existing financial system. In the future, the Digital Rupee might decrease reliance on private digital currencies as well as bring some extra possibilities in monetary policy.

Case Study 2: Nigeria – eNaira

Nigeria in some way became the pioneer of Africa in rolling out the retail CBDC by issuing the eNaira in October 2021, and let me tell you, yes, it definitely did not take long for the initiative to make headlines. It was perceived as one of the early and nation-wide roll-outs of CBDCs in a major emerging economy, so much so that it began to receive immediate interest from everyone.

The overall focus of Nigeria seemed to be on increasing financial inclusiveness, moving the economy towards "cashless" transactions, reducing costs associated with international money transfers, and optimizing the payment process for government payments. In addition, the Central Bank of Nigeria wanted better monetary control due to increased cryptocurrency use, despite the growing number of problems related to unregulated digital finance operations (International Monetary Fund [IMF], 2023).

As for the actual architecture of the eNaira, the system uses a two-tier architecture, where the customer side is served by commercial banks and other licensed financial institutions, while the issuance of currency is carried out by the Central Bank. Digital wallets are issued for individuals and organizations, but the transaction amount is different depending on the verification level of the user.

However, the implementation of the project faced significant resistance from the audience. In particular, the knowledge level of the population was rather low, merchants saw no incentives to switch to a new payment system, and current digital payment methods were sufficient to cover the needs of the consumers. In addition, the existing restrictions on cryptocurrency trade in Nigeria seemed to be a factor contributing to the general skepticism about digital currencies.

Nigeria's eNaira Ecosystem



Source: Central Bank of Nigeria.

So basically, the findings have been somewhat ambiguous, not really a straightforward one. The adoption rates of CBDC have turned out to be significantly lower than initially predicted despite all the government's efforts in terms of awareness campaigns and ties between the new currency and social welfare programs. As highlighted in the current literature, it seems that merely possessing the technology is not sufficient for people to adopt it despite their availability. Trustworthiness, convenience and perceived value play a similar role in case of CBDC adoption as much as the application and platform do.

An analysis of the Nigerian case provides some important insights into the issues of monetary sovereignty. On the one hand, the development of the eNaira demonstrates the state's commitment to keeping monetary sovereignty in the era of digital economy. However, the low popularity of the currency implies that the sovereignty will not necessarily become stronger simply because the digital currency was launched. It will be determined by the public trust and institutional credibility along with user benefits as compared to cash, traditional commercial banking, and other digital currencies.

Case Study 3: Bahamas – Sand Dollar

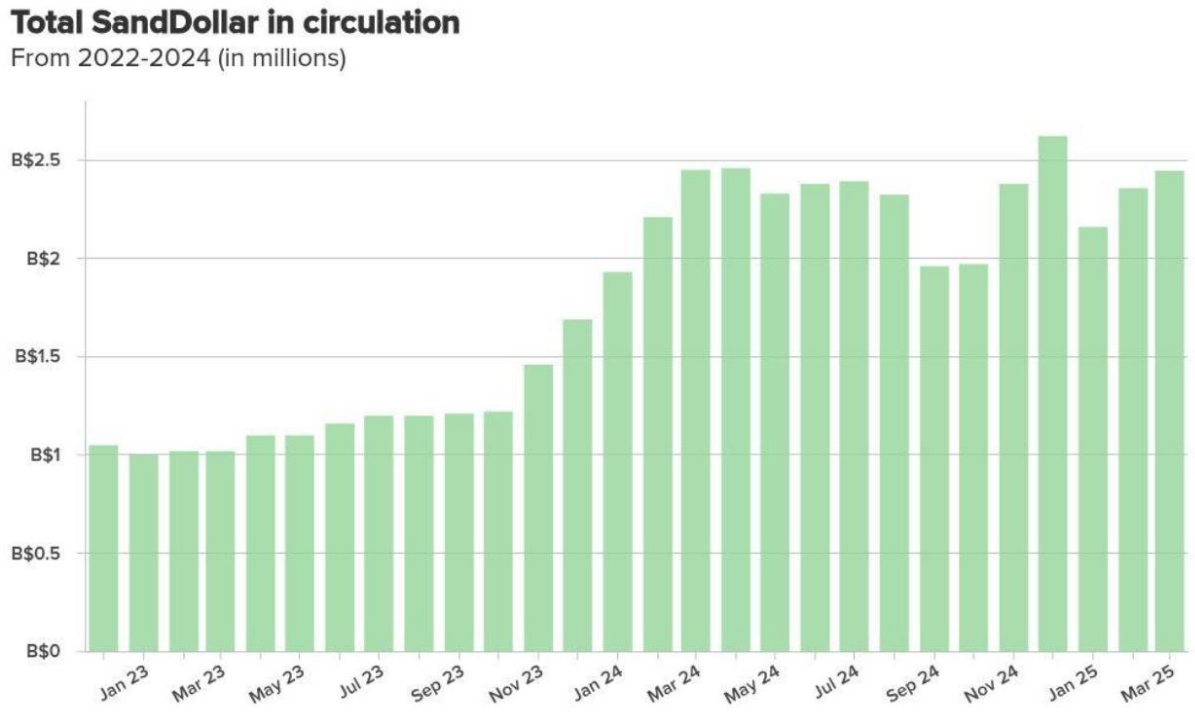
And thus, in a sense, the Bahamas can be considered to be the first nation in the world that actually operated the first fully functional retail CBDC with the release of the Sand Dollar back in 2020. And since it is a geographically dispersed nation along with

experiencing more hurricanes than one could hope for, this particular instance can be considered to be unique in regard to payment resilience and financial inclusivity being the primary concerns from the very beginning.

Indeed, the general concept of the Sand Dollar, to put it differently, was about broadening the scope of financial inclusion on remote islands along with strengthening the national payments system. Many remote communities had limited access to physical banking and ATM terminals, and therefore the problem of joining the formal financial system (Central Bank of The Bahamas, 2023) was very challenging indeed.

Design wise, the Sand Dollar depends on access and protection. The currency may be accessed through approved financial institutions and digital wallets, however, certain verification processes need to be completed at different levels. These are designed to ensure that inclusion remains widespread while meeting anti-money laundering requirements. One interesting thing about the currency is that it can operate offline. This is especially important when natural disasters occur as it allows transactions to continue rather than coming to a complete halt.

Sand Dollar Digital Payment System



Source: Central Bank of The Bahamas.

Roll out has been a little bit slow, mainly through collaborations with financial institutions, payment service providers, and merchants in the local market. During roll-out there have also been initiatives for public education that they planned to implement in some ways in order to increase awareness and adoption of the currency in somewhat distant regions.

Initial results appear to be quite encouraging. They indicate that the Sand Dollar has not only increased the availability of digital payments but also enhanced the resilience of the country's financial core. Even though the number of transactions is quite small as compared to other economies, the CBDC has managed to illustrate one thing quite clearly: sovereign digital currency can enhance financial inclusion in territories fragmented geographically.

Implications for monetary sovereignty become particularly significant. Unlike some countries that only react to competition of cryptocurrencies or geopolitical tensions, the Bahamas has used its CBDC to increase payment independence and ensure that financial services continue operating under emergency conditions. The example of the Sand Dollar shows how a CBDC can enhance the capacity of the state by increasing payment accessibility and ensuring monetary stability in areas where conventional banking systems are not well-developed.

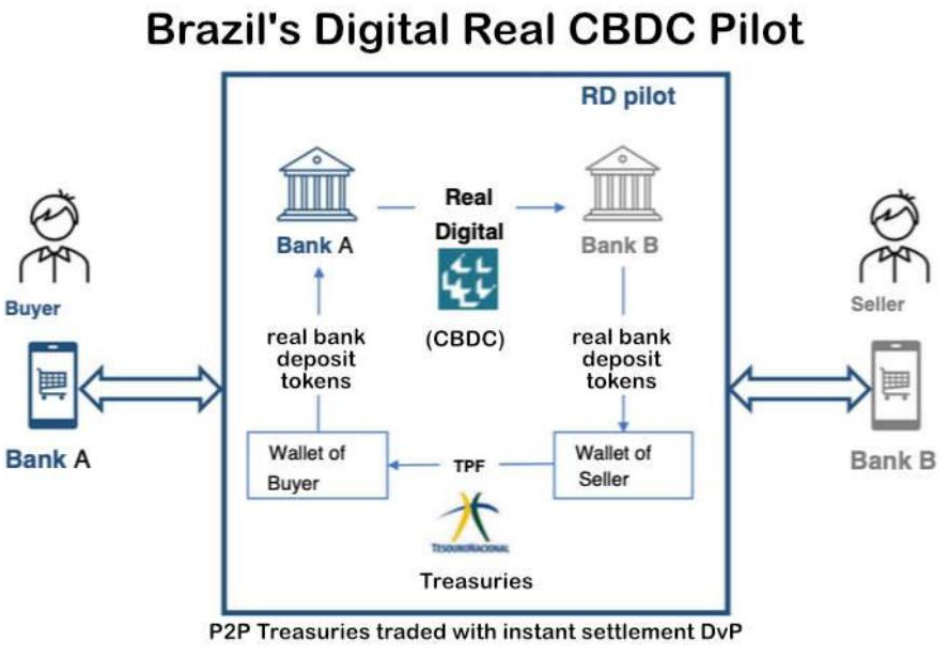
Case Study 4: Brazil – Drex

Drex, which is Brazil's CBDC project, is somewhat an unusual approach as compared to most other CBDC initiatives. As seen in most other cases, it does not appear to be geared towards replacing cash or expanding financial inclusion alone but rather aims to serve as a starting point towards more advanced innovations within the field of digital finance.

What Does the Rise of Digital Currencies (CBDCS) Mean for Monetary Sovereignty in the Global South?

The main purpose behind the development of Drex is to foster tokenized finance, enhance capital market efficiency, promote creativity, and overall strengthen Brazil's digital finance ecosystem. This is done by leveraging the momentum generated by the earlier success such as the Pix real-time payments system and Open Finance framework while the Brazilian Central Bank considers CBDCs as a part of broader financial market transformation (Banco Central do Brasil, 2024).

Drex within Brazil's Digital Financial Ecosystem



Source: Banco Central do Brasil.

On the other hand, the architecture of Drex does not quite correspond to the majority of CBDCs designed for retail use. It relies more on tokenized deposits, programmable assets, and smart contract features. Hence, Drex was not created as an analog of digital money per se; its purpose is to enable safe interaction through digital platforms in terms of financial instruments, credits, and asset tokenization.

At this point, its implementation seems to be still at the pilot stage, however, it follows the trends set by other initiatives through collaboration among the central bank, commercial banks, technology companies, and other financial organizations. This approach suits well Brazil's innovative ambitions and attempts to regulate the financial system.

Although the analysis of the complete results is underway at the moment, the pilot programs have already proved to reveal some interesting trends. Despite all doubts and concerns, integration of programmable money into the existing financial infrastructure proves to be possible and this is far more important than one may expect. According to preliminary estimates, Drex will allow improving securities market procedures, developing digital financial services and, in general, stimulating innovation activities of the private sector, kind of hidden accelerator that worked unnoticed before.

Implications for monetary sovereignty are also more complex than it may seem from first sight. Currently, Brazil is developing its own sovereign digital infrastructure which may become the basis of tokenized financial market. It means that the country wants to increase financial autonomy within its borders but, at the same time, keep control over digital financial innovations. Taken together, the project reveals how CBDCs can assist in ensuring financial competitiveness.

COMPARATIVE DISCUSSION

In light of the above discussion, it may be a little difficult to apply an approach of uniformity to CBDC cases because the priorities of nations, their institutional capacity, and the existing infrastructure play a significant role in design and policy results. In the case of India and Brazil, the CBDC initiative came after the digital payments ecosystem became relatively developed, therefore enabling innovation and monetary modernization. The priorities of Nigeria and the Bahamas were more towards financial inclusion and payment accessibility, yet the daily experience in the two countries was different as well since the institutional capacity and public trust differed as well.

A comparison across the key dimensions indicates such differences although the latter are somewhat subtle at first sight. In the case of India, the primary motivation is to develop CBDC as an add-on to the already working digital payment system and enhance

monetary policy and payment innovation. Financial inclusion and reduction of cash dependency are the primary motives of Nigeria yet this country cannot stop making mistakes due to the limited public use of its CBDC. While the Bahamas focus on broadening payments channels and increasing disaster resilience, Brazil seeks to support digital finance and tokenisation of financial assets. The process of adoption appears to be smooth wherever digital infrastructure and public trust had already been developed, such as India and Brazil. For those countries, whose readiness was lower, the results achieved in Nigeria appear to be rather limited.

Monetary inclusion has been identified as a common goal in all four nations, although the scope and effectiveness of the implementation vary significantly.

First of all, the implications for monetary sovereignty tend to differ according to the national specifics. As India and Brazil demonstrate the possibility of strengthening of monetary institutions and domestic financial infrastructure through the adoption of CBDCs, Nigeria shows that the impact of sovereign monetary authority may be somehow limited if public trust is poor, despite technological advancements. Meanwhile, the story of the Bahamas proves that improving payment system robustness and expanding financial inclusion could be almost equally beneficial for the sovereignty of money in the case of small and developing nations rather than pursuing more ambitious macroeconomic objectives.

Combining all case studies above, one cannot but appreciate the central message of this paper – CBDCs can hardly be considered intrinsically good or bad for the sovereignty of money. It all depends on many other factors such as institutional environment, citizens 'trust, technological readiness, and the nature of CBDC policies adopted in the country. The states, which implement CBDCs as part of a broader digital governance and financial reform strategy, are better positioned to support their sovereign monetary policy.

8. THE FUTURE OF MONETARY SOVEREIGNTY, IN THE DIGITAL ERA

In any case, the fast development of central bank digital currency (CBDC), in turn, seems to have kind of changed the nature of the discussion regarding monetary sovereignty. What once seemed a mere technocratic curiosity, is increasingly becoming an issue related to broader discussions concerning international financial governance and geopolitics. Even though currently existing CBDC programs are primarily intended to solve purely domestic payments problems, over time, the significance of such efforts has less to do with the application itself and more to do with their potential to completely reshape international monetary relationships, regional financial cooperation, and even the strategic autonomy of the state. In the context of the Global South, future monetary sovereignty will not only concern the matter of making it work domestically but also how CBDCs are going to develop in a new globally interconnected financial environment.

8.1 CBDCs and De-dollarisation

The issue of the extent to which CBDCs could be instrumental in mitigating the dominance of US dollar in global finance is one of the hottest discussions in today's monetary policies. The US dollar is still a currency in a kind of central position on the international stage in terms of world trade, foreign exchange reserves, international transactions, and international borrowing. The mentioned dominance brings about certain benefits to the United States but puts limitations on monetary flexibility of many developing countries, which are highly dependent on dollar-denominated financial transactions (Eichingreen, 2019).

CBDCs, at least theoretically, may provide some stimulation to de-dollarisation in a slow process due to facilitating domestic money usage in regional transactions and decreasing dependency on traditional correspondent banking relationships. If it becomes possible for trading partners to make their transactions through digital currencies that interoperate, the process of conversions of payments from other currencies into US dollars will become unnecessary. This fact has significant importance for emerging countries, which try to increase the ties of transactions in local currencies while at the same time avoiding currency risks.

Nonetheless, there is quite a number of assumptions made by current research about the fact that the existence of CBDCs on their own most probably would not lead to the collapse of the existing monetary hierarchy in any truly significant way. Namely, the so-called "reserve currency" designation most usually depends on certain structural factors including the macroeconomic stability of a country, well-developed and liquid financial markets, strong legal framework and, last but not least, investors 'confidence, rather than the payment technology itself (Prasad, 2021). Thus, CBDCs might be treated as complimentary tools that can accompany further de-dollarization efforts rather than substitute them. In relation to the Global South, strengthening domestic institutions and maintaining credibility of national currencies is still considered necessary for loosening the grip of external monetary power.

8.2 Regional Digital Currency Cooperation

There are also new developments in the area of regional cooperation that are expected to influence the future of monetary sovereignty. As opposed to the independent national CBDCs developed by separate countries, there are several regional organizations seeking to establish more coordinated systems that increase transaction speed, decrease the cost of payments and

improve security, especially cross-border transactions. Notably, these attempts involve maintaining the usage of domestic currencies, not switching them into external default.

In ASEAN, states' efforts at linking their instant payment systems have become more pronounced in order to facilitate cross-border transfers in a smoother way, without depending heavily on the conventional correspondent banking systems which constitute the norm in older systems . One can also note a similar sentiment in the context of BRICS talks, with increased efforts being directed towards promoting the use of local currencies in trade transactions along with other payment systems which tend to minimize reliance on the dominant international financial infrastructure.

Efforts like the Pan-African Payment and Settlement System (PAPSS) in Africa intend to facilitate intra-African trade by facilitating payments in local currencies, thereby reducing transaction costs and decreasing foreign exchange usage (African Export-Import Bank, 2024).

While it should be noted that these developments may not necessarily be CBDC driven, these clearly indicate a new approach to regional monetary cooperation through digital financial technologies. In case of successful implementation of such arrangements, they may help in improving monetary sovereignty of participating entities through minimizing transaction costs, increasing regional trade prospects and decreasing reliance on third-party payment intermediaries.

8.3 Cross-border CBDC Projects

In addition, international collaboration in the area under discussion is currently underway through cross-border trials of CBDCs; well, this is the current trend anyway. The notable attempt in this area is Project mBridge, which is managed by the BIS Innovation Hub, and the project is being implemented with the participation of some central banks. The main focus of this project is the possibility of using interoperable wholesale CBDCs to enable real-time cross-border settlements, as well as reduce the dependency on traditional correspondent banking arrangement (BIS Innovation Hub, 2024).

Apart from Project mBridge, the BIS has sponsored a series of joint ventures that focus on interoperability, standards, and legal aspects of international CBDC transactions. It can be said that these initiatives assume that the utility of digital currencies will depend on their ability to function in various jurisdictions but not to violate any regulation standards or undermine the stability of financial system.

Participation in such programs can offer some opportunities for nations of the Global South. For example, better cross-border payment mechanisms will lower remittance fees, facilitate trade finance, increase regional integration, and of course, shorten the settlement time, which is usually a problem for developing countries. But none of these effects can happen automatically, of course. They will be made possible only through alignment with international standards for CBDCs, including cybersecurity standards, legal recognition standards, anti-money laundering, and data governance standards. Without this alignment, however, incompatible CBDC ecosystems may create a new barrier rather than an opportunity for greater financial integration on the global level.

8.4 Policy Recommendations

The benefits that CBDCs can offer, particularly in relation to monetary sovereignty, will very much depend on policy choices rather than the capabilities of the underlying technology. Accordingly, governments should focus on developing holistic implementation strategies which integrate the digital currencies into broader programs of institutional reforms rather than treating them as standalone additions.

Firstly, countries have to establish effective legal and regulatory frameworks for CBDCs. This includes defining the legal status of CBDCs, establishing consumers' rights, operational obligations, and dispute resolution mechanisms. Good governance structures are crucial since they ensure steady levels of public trust and, most importantly, enable real accountability.

Secondly, governments have to protect privacy while simultaneously promoting transparent data governance. The practical implications of this policy approach are setting clear limits on access to transaction data by government bodies, independent data management, and robust cybersecurity measures. The goal here is to find a balance between financial transparency and protection of civil liberties.

Thirdly, there should be continuous investments in the creation of digital infrastructure since otherwise, it tends to fade away. This implies that we should expand broadband coverage, enhance electricity provision and ensure that offline payment function is available. It will also help to enhance the availability of smartphones since this will increase access of digital currencies even in rural areas, and other marginalized areas too.

Fourth, governments should support the promotion of interoperability through engaging in regional and multilateral initiatives. In essence, this implies that through these regional and multilateral initiatives, it is possible to develop common technical standards for cross-border CBDC transactions. Increased interoperability should help to maximize the benefits of digital currencies while at the same time minimizing fragmentation in the international payments system.

Finally, digital education should be integrated into CBDC strategies. Public awareness about digital wallets, cybersecurity measures and responsible use of digital finance will determine how successful their adoption will be.

Finally, implementation itself needs to be inclusive and slow. CBDCs need to supplement cash rather than replace it at once, which provides ample time for the development of infrastructure, regulation, and acceptance. Such an approach would reduce the risk of disruption and guarantee that the most vulnerable members of society are not excluded from any changes.

In truth, the fate of monetary sovereignty in the digital age will depend not only on the introduction of CBDCs, but also on governance, regional cooperation, and institutional capacity, alongside with implementation. In the case of the Global South, CBDCs represent an opportunity to increase monetary autonomy in an increasingly digital world economy. However, this opportunity will have to be seized with the help of domestic reforms and international cooperation. This study has several limitations, many CBDC projects remain at the pilot stage, so evidence on their long term effects is limited, and reliable adoption data is not always publicly available, in addition, four case studies cannot represent the full diversity of the Global South, and the findings should therefore be interpreted with caution.

9. CONCLUSION

Indeed, the rise of CBDCs is indicative of a major shift in the understanding and, hence, use of modern monetary systems. In the context of continuous digitalization of economies, national governments seem to face the challenge of sustaining the relevance of sovereign currencies in the environment of rapid technological developments, the growth of the digital payments infrastructure and relentless and continuous competition of privately issued digital currencies. Thus, this research indicates that CBDCs should not be seen as simply the improvements of the currently existing payment systems. They can serve as strategic public policy tools having the potential to redefine the relationship between states, money and monetary sovereignty especially in the context of the Global South.

In any case, as for the literature review and comparison of the cases, it becomes quite obvious that the motivation of the adoption of CBDCs by developing countries is not only linked to payment efficiency. The efforts of the governments, in this respect, are oriented at the modernization of the financial infrastructure, expanding access to financial services, improving monetary policy transmission, fiscal management and reducing dependence on foreign payment systems. Indeed, the aforementioned purposes imply a wider strategy of building up domestic monetary sovereignty in a global financial architecture of persisting dollar supremacy, increasing digitalization, and intensifying geopolitical competition. Therefore, ultimately, CBDCs will align with other approaches aimed at enhancing economic resilience and, in fact, reinforcing national sovereignty over the policy. The discussion implies that CBDCs will help to ensure the country’s monetary sovereignty if they are designed in a proper institutional manner. Should the central bank increase domestic currency usage in everyday transactions, improve monetary policy implementation, make government transfers possible, and enhance financial inclusion, then CBDCs will help to improve the state’s ability to govern its monetary system. As we can see from the examples of India, the Bahamas, and Brazil, digital currencies can be easily integrated into the overall framework of digital public infrastructure, and, provided that the governance is effective, serve as some sort of supplement to the financial system. Also, they can help to promote public sector efficiency and enhance payments' resilience. Altogether, these examples imply that CBDCs might contribute to the national monetary sovereignty without making commercial banks redundant and, generally speaking, disturbing financial institutions.

However, on the other hand, it should be noted that the paper is quite specific about the risks associated with the benefits that come with CBDCs' issuance. Factors such as persistent digital divide, poor digital infrastructure, inadequate cybersecurity measures, privacy concerns, banking sector disintermediation, as well as other institutional weaknesses may negatively affect CBDCs' effectiveness. For instance, Nigeria's experience shows that "technological innovation alone is not sufficient". It will not automatically guarantee the success of CBDCs or enhance monetary sovereignty. Public trust, regulatory credibility, and institutional readiness remain essential preconditions to ensure that digital currencies will be able to live up to expectations. Also, the continued presence of stablecoins, foreign CBDCs, and the US dollar suggests that digital currencies are unlikely to disrupt the current hierarchical order of international monetary system without additional changes on the macroeconomic and institutional levels.

A comparative analysis confirms the absence of universal model in CBDCs implementation. Different strategies were adopted by countries depending on the characteristics of their economies, financial development, governance, as well as policy priorities. While some governments prioritize the issues of financial inclusion and payment accessibility, other governments are inclined towards digital financial innovation, capital market development, or monetary modernization in general. Hence, such diversity implies that the implications of CBDCs on monetary sovereignty are extremely dependent on the specific context and one cannot evaluate them independently without taking into account the national institutional framework.

What Does the Rise of Digital Currencies (CBDCS) Mean for Monetary Sovereignty in the Global South?

Overall, this study implies that CBDCs are neither inherently positive nor negative for monetary sovereignty in the Global South. Actually, their impact on monetary sovereignty depends on how different factors interact, including, but not limited to, technical design, institutional quality, governance capability, legal environment, financial infrastructure, and public trust. CBDCs may enhance the state's control over money due to domestic payment system improvement, financial inclusion promotion, increase of fiscal efficacy, and decrease of external dependence of the state on financial intermediaries. However, in case CBDCs are launched in the context of poor institutional quality, inadequate regulation, digital exclusion, or low public trust, new vulnerabilities will arise and CBDCs may undermine the monetary sovereignty of the state.

With the continued development of the international monetary system, CBDCs will likely become an increasingly essential aspect of global financial architecture. In the long term, their importance will not depend merely on developments in digital technology, but also on the extent to which these instruments can be incorporated into broader efforts at economic reform and institution-building. In other words, for many nations in the Global South, the future status of monetary sovereignty will depend not just on the adoption of CBDCs but also on whether such digital currencies can be properly governed and regulated and integrated into resilient financial systems. It is, thus, vital to consider CBDCs as strategic instruments of policy, with successful implementation being contingent upon strong institutions, wide adoption, and a consistent effort towards buttressing the entire economic and legal foundation of monetary sovereignty.

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