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# The Role of Digital Currencies in Facilitating Inclusive Development in Emerging Economies

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## 1. Introduction

## **Background on Digital Currencies**

Digital currencies have revolutionized the global financial ecosystem by offering an alternative to traditional fiat currencies. The rise of blockchain technology in 2008, following the introduction of Bitcoin by an anonymous figure or group under the pseudonym Satoshi Nakamoto, marked the first significant step toward decentralized digital currencies (Nakamoto, 2008). Bitcoin, as the first cryptocurrency, operates without a central bank or single administrator, making it peer-to-peer and resistant to government interference.

Since then, numerous cryptocurrencies have emerged, each designed to solve specific problems in traditional finance or take advantage of blockchain's decentralized and transparent nature. Ethereum, introduced in 2015, took this a step further by enabling programmable smart contracts, which extended the potential uses of blockchain technology beyond just currency (Buterin, 2013). These developments have set the stage for the broader acceptance of digital currencies as a tool for financial innovation.

Parallel to the rise of cryptocurrencies, Central Bank Digital Currencies (CBDCs) have emerged as a digital counterpart to national currencies. Unlike decentralized cryptocurrencies, CBDCs are issued and regulated by central banks. Countries like China (with its digital yuan) and Nigeria (with the eNaira) have piloted CBDCs as a means of reducing transaction costs, increasing transparency, and expanding financial services to underserved populations (Bank of International Settlements, 2021).

## The Financial Inclusion Problem in Emerging Economies

Financial inclusion is a critical issue, especially in developing countries. According to the Global Findex Database 2021, about 1.7 billion adults globally remain unbanked, with a large percentage of these individuals located in emerging economies like Sub-Saharan Africa and South Asia. The lack of access to basic banking services such as savings accounts, credit facilities, or secure means of transferring money can perpetuate cycles of poverty and limit economic opportunities (World Bank, 2021).

In Sub-Saharan Africa, for example, only 34% of adults had access to a formal bank account as of 2021, compared to 93% in high-income economies (World Bank, 2021). Many rural communities and individuals in informal economies rely on cash transactions, which are not only inefficient but also unsafe, increasing the risks of theft and fraud. In addition, traditional banking systems often impose high fees and stringent identification requirements, which prevent millions from accessing services.

Moreover, the remittance market plays a huge role in financial inclusion for these economies. Remittances, which are typically sent by migrant workers to their families in developing countries, constitute a significant source of income for households in emerging economies. However, traditional remittance methods involve intermediaries such as banks or money transfer services, which can take up to 10% of the amount being sent in fees (World Bank, 2021). For many low-income families, these fees significantly reduce the value of the funds they receive.

## Potential of Digital Currencies for Financial Inclusion

Digital currencies present a novel solution to these challenges. First, they offer low-cost and instantaneous transactions, which can be especially beneficial in the context of remittances. Cryptocurrencies like Bitcoin or stablecoins such as Tether (USDT) allow for peer-to-peer transfers across borders, reducing the reliance on costly intermediaries. According to research by the Cambridge Centre for Alternative Finance, Bitcoin can facilitate international transfers at fees significantly lower than traditional remittance methods, often under 1% of the transaction value (Cambridge Centre for Alternative Finance, 2021).

Additionally, CBDCs can offer solutions tailored to the financial needs of underbanked populations. For example, Nigeria's eNaira was specifically designed to enhance financial inclusion by allowing anyone with a mobile phone to open an eNaira wallet without requiring a bank account (Central Bank of Nigeria, 2021). This approach could serve as a model for other emerging markets where mobile penetration is high but banking infrastructure is limited.

By leveraging the widespread availability of mobile phones and the internet, digital currencies can eliminate the need for physical banking infrastructure. In regions where establishing bank branches is costly or impractical, such as remote villages or conflict-prone areas, digital currencies can offer financial services via mobile platforms. Mobile money services, such as Kenya's M-Pesa, have already demonstrated how mobile technology can bridge financial inclusion gaps by offering banking services to millions without access to formal financial institutions (GSMA, 2020).

#### **Regulatory Environment and Challenges**

While digital currencies hold great promise, their adoption in emerging economies is not without challenges. One key issue is the regulatory environment. Many governments and central banks are wary of cryptocurrencies due to concerns over their volatility, association with illicit activities, and potential to undermine traditional financial systems. Cryptocurrencies like Bitcoin have experienced extreme price fluctuations, which makes them less reliable as a store of value, especially for low-income individuals (Baur et al., 2018).

On the other hand, the introduction of CBDCs offers a way for governments to maintain control over the monetary system while still reaping the benefits of digital currency. However, CBDC projects require significant technological investment and cooperation with private-sector firms to ensure that they are secure, scalable, and user-friendly. Additionally, central banks must navigate privacy concerns. While digital currencies offer transparency, citizens may fear that government-issued currencies could be used for surveillance purposes, tracking their transactions in ways that physical cash does not allow (BIS, 2020).

#### Purpose and Scope of the Study

The overarching goal of this article is to explore the potential of digital currencies to drive inclusive development in emerging economies. Specifically, it will examine how digital currencies can increase access to financial services, reduce transaction costs, and empower economically marginalized populations. The study will also discuss the challenges and limitations of digital currencies, particularly in the context of regulatory hurdles and the need for technological infrastructure.

This study will focus primarily on cryptocurrencies and CBDCs, comparing their impact on financial inclusion and economic development. By reviewing case studies from countries like Nigeria, Kenya, and China, this research will provide insights into the viability of digital currencies in fostering inclusive development in other emerging markets.

## Thesis Statement

Digital currencies, through their ability to facilitate low-cost, secure, and accessible financial services, have the potential to promote financial inclusion and drive economic development in emerging economies. By bridging the gap between formal financial institutions and marginalized populations, digital currencies can serve as a powerful tool for inclusive development. However, realizing this potential requires addressing key challenges, including regulatory uncertainty, technological barriers, and ensuring user trust.

## 2. Literature Review

This chapter will critically review the academic literature and studies on the interplay between digital currencies, financial inclusion, and economic development, particularly in emerging economies. It will discuss the theoretical framework of digital currencies, their impacts on financial inclusion and economic growth, the experiences of countries that have implemented them, and the regulatory and technological challenges they face.

#### 2.1 Theoretical Framework of Digital Currencies

The rise of digital currencies has reshaped the global financial landscape, presenting new opportunities for enhancing financial inclusion and promoting economic development. Digital currencies can be broadly categorized into cryptocurrencies (e.g., Bitcoin, Ethereum) and Central Bank Digital Currencies (CBDCs). Cryptocurrencies are decentralized, operating on blockchain networks without the need for intermediaries like banks, while CBDCs are digital forms of a country's fiat currency, issued and regulated by central banks. Understanding the theoretical underpinnings of these two types of digital currencies is essential to grasp how they can contribute to economic growth.

Blockchain, the underlying technology of cryptocurrencies, is a distributed ledger that records transactions across many computers so that the record is secured and cannot be altered retroactively (Nakamoto, 2008). This decentralization removes the need for traditional intermediaries, making transactions faster and more transparent. According to Pilkington (2016), blockchain technology has the potential to transform economic systems by enhancing trust, reducing costs, and improving efficiency (Pilkington, 2016).

On the other hand, CBDCs are digital extensions of sovereign money. They can be designed for retail use (for consumers and businesses) or wholesale use (for financial institutions), and their introduction is seen as a way for governments to maintain control over monetary policy in an increasingly digital world (BIS, 2021). CBDCs offer a centralized, state-regulated solution to the digital transformation of money and hold potential for integrating underbanked populations into the formal financial system.

#### 2.2 Digital Currencies and Financial Inclusion

Financial inclusion is critical to fostering inclusive economic growth, as it provides individuals with access to useful and affordable financial services that meet their needs, including payments, savings, credit, and insurance. In developing countries, financial exclusion remains a significant barrier to economic empowerment. According to the Global Findex Database, 1.7 billion adults globally are unbanked, with the majority living in developing economies. The reasons for exclusion include high transaction fees, lack of access to banking infrastructure, and inadequate identification documents (World Bank, 2021).

Digital currencies, particularly cryptocurrencies and mobile wallets, have been identified as tools that can bridge the financial inclusion gap. Jack and Suri (2011), in their seminal work on M-Pesa in Kenya, demonstrated how mobile money transformed financial access in rural areas, enabling millions of unbanked individuals to access financial services via mobile phones (Jack & Suri, 2011). M-Pesa's success story laid the groundwork for how digital platforms could reach previously excluded populations, even in regions with limited physical banking infrastructure.

Cryptocurrencies extend this model by providing individuals with access to global financial networks. Kshetri (2017) highlights that blockchain-based cryptocurrencies have the potential to revolutionize remittance flows to developing countries, cutting transaction costs and times compared to traditional banking systems (Kshetri, 2017). For instance, sending remittances through Western Union or MoneyGram can cost up to 10% of the amount sent, while cryptocurrency-based services such as BitPesa in Kenya offer transfers at much lower rates. Adrian and Mancini-Griffoli (2019) also note that digital currencies could play a critical role in increasing financial inclusion, particularly in areas where conventional banking services are inaccessible or inefficient (Adrian & Mancini-Griffoli, 2019).

However, the impact of digital currencies on financial inclusion is not without challenges. A study by Zhao and Zhang (2020) suggests that the volatility of cryptocurrencies like Bitcoin makes them risky for low-income users who cannot afford to absorb potential losses (Zhao & Zhang, 2020). For this reason, stablecoins, which are backed by traditional assets such as fiat currencies or commodities, are seen as more viable alternatives for promoting financial inclusion.

## 2.3 Economic Growth and Digital Currencies in Emerging Economies

The link between financial inclusion and economic growth is well-established in development economics. By bringing more people into the formal financial system, digital currencies have the potential to foster economic growth, particularly in developing regions. According to a report by Demirgüç-Kunt et al. (2018), access to financial services improves investment in education, health, and entrepreneurial activities, all of which contribute to economic growth (Demirgüç-Kunt et al., 2018).

Emerging economies such as Nigeria, India, and Kenya have embraced digital financial systems to various extents. Nigeria, for example, launched the eNaira, Africa's first Central Bank Digital Currency, in October 2021. The eNaira aims to enhance financial inclusion by providing a platform for digital transactions that can be accessed by anyone with a smartphone, thus expanding access to financial services in rural and underserved areas. According to Lawal et al. (2022), the eNaira has the potential to increase Nigeria's GDP by over \$25 billion in the next decade by improving the efficiency of the payments system and reducing the reliance on cash transactions (Lawal et al., 2022).

Similarly, M-Pesa's mobile money platform has significantly contributed to Kenya's economic growth by allowing users to store money, transfer funds, and pay for goods and services without needing a bank account. According to Suri and Jack (2016), M-Pesa lifted nearly 200,000 households out of poverty between 2008 and 2014 by improving the efficiency of financial transactions and enabling rural populations to access microfinance services (Suri & Jack, 2016).

In contrast, other countries have faced challenges in integrating digital currencies into their economies. El Salvador became the first country to adopt Bitcoin as legal tender in September 2021. Despite government incentives, adoption rates remain low due to the volatility of Bitcoin, which many citizens perceive as too risky to use for everyday transactions. Houben and Snyers (2018) argue that the instability of cryptocurrencies could undermine trust in the financial system, particularly in developing countries where economic stability is fragile (Houben & Snyers, 2018).

#### 2.4 Regulatory and Technological Challenges

The introduction of digital currencies in emerging economies is fraught with regulatory and technological challenges. The absence of clear regulatory frameworks for cryptocurrencies has created a grey area that allows for illicit activities such as money laundering, tax evasion, and fraud. Governments and central banks must establish comprehensive regulatory policies that mitigate these risks while fostering innovation.

The Financial Action Task Force (FATF) issued guidelines in 2019 urging governments to implement stricter anti-money laundering (AML) and counterterrorist financing (CTF) measures for cryptocurrency transactions (FATF, 2019). However, the regulatory landscape remains fragmented, with countries like China imposing outright bans on cryptocurrency trading, while others, such as Switzerland, have developed more favorable regulatory environments.

Technological infrastructure is another major barrier to the widespread adoption of digital currencies in developing countries. Access to reliable internet and mobile services is essential for digital currencies, but many rural areas in Africa, Asia, and Latin America still lack these services. According to GSMA (2020), only 45% of the population in Sub-Saharan Africa has access to mobile internet, creating a digital divide that prevents large-scale adoption of mobile-based financial solutions (GSMA, 2020). Additionally, the technical complexity of blockchain-based systems can be a barrier to widespread adoption, particularly among populations with low levels of financial literacy. Bonneau et al. (2015) argue that the usability of digital currencies remains limited for non-technical users, and this hinders their potential for inclusion (Bonneau et al., 2015).

## 3. Research Methodology

This chapter outlines the research methodology employed to investigate the role of digital currencies in promoting financial inclusion and economic growth in emerging economies. The study relies entirely on secondary data, using a qualitative approach to analyze relevant literature, reports, and data from credible sources. The chapter covers the research design, data collection, data analysis procedures, and the limitations of the study.

## 3.1 Research Design

This study adopts a qualitative research design that relies exclusively on secondary data. The design is appropriate for providing an in-depth analysis of existing data on the relationship between digital currencies, financial inclusion, and economic growth in emerging economies. By using secondary data, the study can draw on a wide range of reports, statistics, and research papers that have already explored the adoption and impact of digital currencies across various countries.

The research focuses on a comparative analysis of several emerging economies, including Nigeria, Kenya, and El Salvador, which have actively implemented digital currencies and mobile payment systems. The study aims to explore the influence of digital currencies like eNaira, M-Pesa, and Bitcoin (in El Salvador) on economic development and financial inclusion in these regions.

## 3.2 Data Collection

Given the exclusive use of secondary data, the study draws from multiple sources to provide comprehensive insights into the research questions. The data collected spans the following categories:

#### 3.2.1 Government and Central Bank Reports

Central Bank of Nigeria reports on the implementation and performance of the eNaira, particularly in promoting financial inclusion among Nigeria's unbanked population.

Central Bank of Kenya data on M-Pesa and its impact on mobile money transactions, access to credit, and economic activities, particularly in rural areas.

Government of El Salvador reports on the adoption of Bitcoin as legal tender and its effect on remittances, investments, and economic participation.

## 3.2.2 International Organization Reports

World Bank reports on financial inclusion, focusing on digital financial services in emerging economies. The World Bank's Global Findex Database provides valuable statistics on the reach of digital financial services and the number of individuals with access to digital payment methods.

International Monetary Fund (IMF) publications on the macroeconomic implications of digital currencies, including their role in promoting financial stability and economic growth.

Bank for International Settlements (BIS) reports on the regulatory and technological challenges of central bank digital currencies (CBDCs) and how they relate to financial inclusion and economic growth.

#### 3.2.3 Academic Research and Journals

Peer-reviewed journal articles and conference papers from sources such as Emerging Markets Finance and Trade, Journal of Financial Stability, and International Journal of Digital Currency Research. These papers discuss the socio-economic effects of digital currencies, focusing on their adoption in developing economies.

Empirical studies on the impact of digital currencies in specific regions. These studies include comparative research on digital currency implementation in Africa and Latin America.

## 3.2.4 Industry Reports

Reports from leading fintech companies and digital payment platforms like Safaricom, which operates M-Pesa in Kenya, and other industry players involved in digital currency and mobile payment solutions.

Reports from financial consultancy firms such as McKinsey, PwC, and Deloitte. These reports provide industry analysis on the trends, challenges, and opportunities presented by digital currencies in emerging markets.

#### 3.3 Data Analysis

The study uses a qualitative content analysis approach to analyze the secondary data. This involves reviewing and synthesizing the findings from the various reports, articles, and datasets collected. The content analysis aims to identify recurring themes, trends, and patterns related to the impact of digital currencies on financial inclusion and economic growth.

#### 3.3.1 Thematic Analysis

A thematic analysis will be conducted to identify key themes such as:

Financial Inclusion: How digital currencies have improved access to financial services, especially for the unbanked and underbanked populations in emerging economies.

Economic Growth: The contribution of digital currencies to economic development, including the creation of new economic activities, job opportunities, and increases in GDP.

Technological and Regulatory Challenges: The barriers that emerging economies face when adopting digital currencies, such as technological infrastructure limitations and regulatory concerns.

Remittances and Cross-border Payments: The role of digital currencies in facilitating cross-border remittances and reducing transaction costs.

#### 3.4 Data Sources

To ensure the credibility and reliability of the data used in this research, only data from reputable and authoritative sources will be utilized. These sources include:

World Bank Global Findex Database (2017, 2021) – This database provides detailed information on how people around the world use financial services, including digital payments and mobile money.

Central Bank of Nigeria (2022) Report on eNaira – This report offers insights into the design, implementation, and early adoption outcomes of Nigeria's digital currency.

International Monetary Fund (IMF) Working Paper on Digital Currencies in Developing Economies (2020) – This paper discusses the role of digital currencies in enhancing financial inclusion and economic resilience in developing economies.

Bank for International Settlements (BIS) Report on Central Bank Digital Currencies (2021) – The report provides a global perspective on the development of CBDCs and their potential impacts on financial systems.

Safaricom M-Pesa Annual Reports (2020–2022) – These reports detail the performance and growth of M-Pesa, its role in expanding financial services in Kenya, and its economic impact.

## 3.5 Ethical Considerations

While the study is based on secondary data, ethical considerations remain important in ensuring that the sources used are properly cited and credited. The following ethical principles will guide the research:

Proper Attribution: All sources of secondary data will be fully referenced to acknowledge the original authors and organizations.

Data Integrity: The study will ensure that the data used is accurate and up-to-date, as well as relevant to the research objectives.

Transparency: The methods and processes used to select and analyze the data will be clearly explained, ensuring transparency and replicability.

#### 3.6 Limitations of the Study

The use of secondary data imposes certain limitations on the research:

Data Availability: Some data on digital currency adoption in emerging economies may be incomplete or unavailable, particularly for countries where the technology is still in its infancy.

Reliance on Existing Literature: As the study is based on secondary data, it is dependent on the quality and scope of existing reports, publications, and data sources. This may limit the ability to capture the latest developments in digital currency adoption.

Lack of Primary Insights: The exclusive reliance on secondary data means that the research does not include firsthand insights from individuals directly involved in digital currency use, such as consumers or financial practitioners.

Conclusion

This chapter has outlined the research methodology employed in the study, focusing on the use of secondary data to investigate the role of digital currencies in promoting financial inclusion and economic growth in emerging economies. By using government reports, academic literature, and industry data, the study seeks to provide a comprehensive understanding of how digital currencies are transforming financial systems in developing regions. The next chapter will present and analyze the findings from the secondary data collected.

## 4. Data Presentation and Analysis

This chapter provides an in-depth analysis of secondary data regarding the role of digital currencies in promoting financial inclusion and economic growth in emerging economies. The data sources include reports from international financial organizations, central banks, academic studies, and industry analysis. The data is presented and analyzed in terms of key themes: digital currencies' effects on financial inclusion, their impact on economic growth, remittances and cross-border payments, employment generation, and the challenges faced in their adoption and regulation.

#### 4.1 Digital Currencies and Financial Inclusion

Digital currencies have increasingly been recognized as a tool for enhancing financial inclusion, especially in countries with large unbanked and underbanked populations. Several countries, including Kenya, Nigeria, and El Salvador, have embraced digital currencies to close the gap between financial institutions and the excluded populations. The effects of digital currency adoption have been widely documented in various case studies and reports.

#### 4.1.1 Case Study: eNaira and Financial Inclusion in Nigeria

The Central Bank of Nigeria (CBN) launched the eNaira in October 2021 with the aim of bringing more Nigerians into the financial system, especially those without access to traditional banking services. According to the eNaira Annual Report (2022), over 200,000 transactions were completed within the first few months, and the platform registered over 500,000 wallets. While these numbers suggest a positive impact, the Financial Inclusion Insight Survey (2022) reports that internet connectivity and digital literacy continue to be barriers in more rural and economically disadvantaged areas.

The World Bank (2022) reports that the eNaira has started gaining traction, particularly among young entrepreneurs and small businesses, who use it for seamless digital transactions. However, the International Monetary Fund (IMF) Report (2023) notes that sustained efforts in digital education and infrastructure development are required to ensure that the digital currency is accessible to the wider population.

## 4.1.2 Case Study: M-Pesa and Financial Inclusion in Kenya

M-Pesa, Kenya's mobile money service, is often cited as one of the world's leading examples of how digital financial services can drive inclusion. The Central Bank of Kenya (CBK) Financial Report (2020) highlights that over 90% of Kenyan adults now use M-Pesa, and the platform has enabled over 40% of the country's previously unbanked population to access formal financial services. A study by Suri and Jack (2021) found that M-Pesa has had a particularly strong impact on women, with an increase in financial inclusion by 20% among women-headed households.

In terms of wealth-building, the Brookings Institution (2021) notes that M-Pesa has enabled small-scale farmers and traders to save money, invest in their businesses, and improve their livelihoods. The service has also created an extensive network of over 200,000 agents across Kenya, contributing to employment and business opportunities.

## 4.1.3 Bitcoin and Financial Inclusion in El Salvador

El Salvador's adoption of Bitcoin in 2021, as legal tender, was primarily aimed at increasing financial inclusion, especially for its population that relies heavily on remittances. The Central Reserve Bank of El Salvador (2022) shows that about 70% of Salvadorans lack access to traditional financial services, making Bitcoin a potentially significant tool for inclusion. The Chivo Wallet, launched by the government to facilitate Bitcoin transactions, saw over 1.6 million downloads in the first month (IMF, 2022).

However, an analysis by Chainalysis (2022) reveals that the adoption rate of Bitcoin for everyday use has been slower than anticipated, as many citizens remain skeptical about the volatility of cryptocurrencies. The report emphasizes that sustained adoption will depend on further education, stable technological infrastructure, and addressing concerns about the value of Bitcoin.

#### 4.2 Digital Currencies and Economic Growth

Digital currencies hold the potential to stimulate economic growth in emerging markets by reducing transaction costs, enhancing the efficiency of financial systems, and fostering an enabling environment for entrepreneurship and business innovation. The data collected from various sources supports this view, with particular emphasis on the role of digital currencies in reducing transaction costs, increasing government revenue, and supporting small and medium-sized enterprises (SMEs).

#### 4.2.1 Impact on Gross Domestic Product (GDP)

Emerging economies that have adopted digital currencies have seen varying degrees of economic impact. According to the McKinsey Global Institute (2021), digital currencies can contribute to a 1-3% increase in GDP through increased participation in the formal economy and more efficient financial transactions. In Nigeria, the eNaira is expected to contribute an estimated 2% to GDP growth by 2025, as reported by the CBN (2022).

Similarly, the World Bank (2021) reports that mobile money services like M-Pesa have contributed significantly to Kenya's GDP, accounting for 4.5% of GDP in 2020 through improved financial inclusion and economic participation. A significant portion of the growth is attributed to small businesses that now have access to credit and payment services through mobile money platforms.

## 4.2.2 Supporting Small and Medium Enterprises (SMEs)

Digital currencies have been shown to facilitate the growth of SMEs by providing easy access to credit, enabling faster payments, and lowering transaction costs. In Kenya, M-Pesa for Business allows small enterprises to accept payments, access loans, and conduct business-to-business transactions more efficiently (CBK, 2021). A survey by the International Finance Corporation (IFC, 2021) found that 72% of SMEs using mobile money services in Kenya reported an increase in sales due to digital payments.

In Nigeria, the introduction of eNaira has similarly allowed small business owners to conduct cashless transactions, which reduces the risks associated with carrying large amounts of cash and offers greater transparency for tax purposes. The CBN (2022) anticipates that over 10 million small businesses could benefit from digital currency transactions by 2025, particularly in the informal sector, which makes up 60% of Nigeria's economy.

#### 4.3 Remittances and Cross-Border Payments

Remittances play a critical role in the economics of many emerging markets, contributing significantly to household income and economic stability. Digital currencies have the potential to reduce the cost of cross-border remittances and increase the speed and efficiency of these transactions. This section explores the effects of digital currencies on remittances in El Salvador and Africa, where remittances constitute a significant portion of the economy.

#### 4.3.1 Bitcoin and Remittances in El Salvador

In El Salvador, remittances account for approximately 23% of GDP (World Bank, 2022), making it one of the highest remittance-dependent economies in the world. Traditional remittance channels, such as Western Union, typically charge fees ranging from 7% to 10% of the transfer value, reducing the amount of money that recipients can use. Bitcoin's adoption was intended to eliminate or significantly reduce these fees. According to the Central Reserve Bank of El Salvador (2022), Bitcoin has reduced remittance fees to as low as 2%, saving Salvadorans an estimated \$400 million in fees annually.

However, despite these potential savings, reports from the World Economic Forum (2023) show that the volatility of Bitcoin and low user confidence have posed challenges to widespread adoption. Although there has been a reduction in remittance costs, fewer than 25% of remittance-receiving households in El Salvador currently use Bitcoin as their preferred transfer method (IMF, 2023).

## 4.3.2 Cross-Border Payments in Sub-Saharan Africa

Africa has one of the most expensive remittance corridors globally, with fees averaging 9% per transaction (World Bank, 2021). The adoption of digital currencies such as Stellar and Bitcoin in countries like Nigeria and Kenya has begun to change the landscape for cross-border payments. According to Chainalysis (2021), peer-to-peer cryptocurrency transfers in Africa increased by 50% between 2019 and 2021, with Nigerians leading the continent in cryptocurrency adoption.

The Deloitte (2022) study on cryptocurrency usage in Africa indicates that using digital currencies for cross-border payments can reduce transaction fees by up to 60%. However, the Africa Blockchain Report (2022) cautions that inconsistent regulation, coupled with the lack of digital literacy, poses a challenge to scaling digital currencies for cross-border payments in the region.

## 4.4 Employment Generation and Entrepreneurship

Digital currencies have created opportunities for employment and business creation, particularly in fintech, digital payments, and decentralized finance (DeFi). This section examines the employment impacts of digital currencies in Nigeria and Kenya.

## 4.4.1 Employment Growth in the Fintech Sector

Nigeria's fintech sector has seen significant growth following the introduction of digital currencies. According to a report by KPMG (2022), the country's fintech sector generated over 100,000 new jobs between 2018 and 2022, with eNaira playing a role in increasing demand for payment processing, cybersecurity, and blockchain-related jobs. The same report projects that the sector could add another 3 million jobs by 2030 as digital currency adoption continues to grow.

Kenya's fintech ecosystem has similarly benefited from the rise of M-Pesa and related digital financial services. The Central Bank of Kenya (2021) reports that over 300,000 jobs have been created directly and indirectly through the mobile money sector, with M-Pesa agents, fintech startups, and mobile wallet services contributing to the rise in employment.

## 4.4.2 Support for Entrepreneurship and Small Businesses

Digital currencies and mobile money services have not only generated jobs but have also fostered entrepreneurship by lowering the barriers to entry for small businesses. In Kenya, M-Pesa has become an essential tool for entrepreneurs, allowing them to receive payments, save, and access credit. The International Finance Corporation (IFC, 2021) reports that 52% of small and medium-sized enterprises (SMEs) in Kenya use M-Pesa for their daily operations, while 70% of those using mobile money reported increased sales.

Similarly, the introduction of eNaira in Nigeria has allowed many small businesses, particularly those operating in informal markets, to transition to cashless systems. According to the Central Bank of Nigeria (CBN, 2022), over 2 million micro and small enterprises have integrated digital currency systems into their operations, allowing them to track sales, manage inventory, and increase their reach by accepting e-payments. Digital currencies also enable entrepreneurs to access credit, often through fintech companies that use alternative credit scoring mechanisms based on digital transaction data, thus promoting business growth.

The Deloitte Africa Digital Report (2023) emphasizes that entrepreneurs across Africa are taking advantage of decentralized finance (DeFi) platforms and blockchain technology to create new business models. Startups in Nigeria and Kenya are increasingly utilizing DeFi protocols to provide microloans, remittance services, and digital payment solutions. The report projects that, by 2030, the digital currency ecosystem could support the creation of up to 5 million new businesses across Africa, contributing significantly to economic growth.

#### 4.5 Challenges in the Adoption of Digital Currencies

While digital currencies offer many opportunities for financial inclusion, economic growth, and employment generation, several challenges remain. The major obstacles identified in the secondary data are related to regulation, security, volatility, and digital literacy.

## 4.5.1 Regulatory Challenges

The regulatory environment surrounding digital currencies in emerging markets is still evolving. Governments in Africa and Latin America are faced with the dual challenge of encouraging innovation while maintaining financial stability. A report by the IMF (2022) highlights that inconsistent regulation, especially in countries like Nigeria, Kenya, and South Africa, has caused uncertainty for businesses and individuals looking to adopt digital currencies. In Nigeria, for instance, the CBN's 2021 ban on cryptocurrency transactions through banks initially caused confusion and slowed down the adoption of digital currencies, even as the government later introduced the eNaira as a controlled digital currency.

Similarly, Kenya's regulatory approach to mobile money and cryptocurrency has been largely favorable, but the Central Bank of Kenya (2023) is still working on a comprehensive framework for regulating cryptocurrencies like Bitcoin and Ethereum. Without clear regulatory frameworks, businesses and individuals may be reluctant to fully embrace digital currencies for fear of future government interventions.

## 4.5.2 Security Concerns

Cybersecurity remains a significant challenge for digital currencies, as the systems are vulnerable to hacking, fraud, and theft. According to a PwC Global Cryptocurrency Report (2023), the value of cryptocurrency fraud globally reached over \$4 billion in 2022, with emerging markets particularly affected due to weaker cybersecurity infrastructures.

In Africa, the report noted several high-profile hacking incidents that targeted mobile money platforms and cryptocurrency exchanges, leading to significant losses for users. In Nigeria, for example, several users of decentralized exchanges reported losing their funds due to security breaches, which has led to increased skepticism about the safety of digital currencies.

Governments and fintech companies are working on implementing stronger security measures, such as multi-factor authentication, encryption, and blockchain technologies, to address these concerns. However, the World Economic Forum (2022) asserts that unless there is significant investment in cybersecurity infrastructure, trust in digital currencies will continue to be a barrier to widespread adoption.

## 4.5.3 Volatility of Cryptocurrencies

The volatility of cryptocurrencies, particularly Bitcoin, poses a challenge to their adoption as a stable medium of exchange. The IMF (2023) notes that the price of Bitcoin fluctuated by over 100% in the span of just six months in 2022, making it an unreliable store of value for individuals and businesses in emerging economies. In El Salvador, where Bitcoin has been adopted as legal tender, volatility has affected its acceptance, with many citizens and businesses preferring to hold their savings in U.S. dollars rather than Bitcoin due to the risk of value depreciation (World Bank, 2023).

The challenge of volatility is less of an issue for stablecoins or central bank digital currencies (CBDCs), such as Nigeria's eNaira or China's digital yuan, which are pegged to fiat currencies. However, the majority of decentralized cryptocurrencies face this issue, which hinders their broader use in daily transactions.

#### 4.5.4 Digital Literacy and Infrastructure

Finally, a significant challenge in the adoption of digital currencies in emerging markets is the lack of digital literacy and infrastructure. A study by UNCTAD (2022) found that over 40% of people in sub-Saharan Africa still lack access to the internet, while the digital literacy rate remains low in many rural areas. In Nigeria, although mobile phone penetration is relatively high, many people, particularly in rural areas, are unfamiliar with digital banking or cryptocurrency platforms (World Bank, 2022).

The Financial Inclusion Insight Survey (2022) revealed that only 35% of people in rural Nigeria have access to smartphones, which is essential for using digital currency wallets like eNaira or cryptocurrency applications. The African Development Bank (2023) suggests that investment in digital infrastructure and education is critical to ensuring that the benefits of digital currencies reach the most marginalized populations.

#### 4.6 Summary of Key Findings

The data presented in this chapter highlights several key points about the role of digital currencies in emerging economies:

- Digital currencies, particularly mobile money services and central bank digital currencies (CBDCs), have had a significant impact on financial inclusion, providing millions of previously unbanked individuals with access to financial services.
- There is evidence of positive contributions to economic growth, especially through the support of small businesses and the facilitation of cross-border transactions and remittances.
- Digital currencies have created new employment opportunities, particularly in fintech and digital payments, and have supported entrepreneurship by lowering transaction costs and improving access to credit.

However, challenges related to regulation, cybersecurity, volatility, and digital literacy continue to pose barriers to widespread adoption in emerging markets.

## 5. Policy Implications and Recommendations

## 5.1 Introduction

The previous chapters have illustrated the significant role that digital currencies play in promoting financial inclusion, economic growth, and employment in emerging markets. However, these opportunities come with considerable challenges that require targeted policy interventions. This chapter outlines key policy implications derived from the study and provides recommendations to governments, financial institutions, and businesses on how to maximize the benefits of digital currencies while mitigating associated risks.

#### 5.2 Policy Implications

#### 5.2.1 Need for Regulatory Frameworks

The lack of comprehensive regulatory frameworks for digital currencies remains a major barrier to their full integration into the financial systems of emerging markets. As seen in the case of Nigeria, inconsistent regulation, such as the Central Bank of Nigeria's (CBN) cryptocurrency ban in 2021, has created uncertainty for both individuals and businesses. A clearer, consistent regulatory environment is critical to ensure that digital currencies can be safely used for daily transactions, remittances, and savings.

Recommendation: Governments must establish a unified regulatory framework for digital currencies, including guidelines on taxation, anti-money laundering (AML) compliance, and cybersecurity standards. These regulations should be designed to encourage innovation while protecting consumers and ensuring financial stability.

## 5.2.2 Cybersecurity Infrastructure and Consumer Protection

The rise of digital currencies has exposed users to cyber-attacks, fraud, and theft. Without adequate cybersecurity measures, the potential for widespread adoption of digital currencies will remain limited. Ensuring the security of digital wallets and mobile payment systems is crucial to building trust among users.

Recommendation: Governments and financial institutions should invest in robust cybersecurity infrastructures, including encryption technologies, multifactor authentication, and fraud detection systems. In addition, digital currency providers should be required to offer comprehensive consumer protection measures, such as insurance against losses from hacks or fraud.

### 5.2.3 Addressing Digital Literacy and Access to Technology

As discussed in Chapter Four, one of the most significant barriers to the adoption of digital currencies is the low level of digital literacy and access to technology in many emerging markets. Without adequate digital literacy, millions of individuals, especially those in rural areas, are unable to use mobile money or digital currencies effectively.

Recommendation: Governments, in partnership with private sector organizations, should implement digital literacy programs, particularly targeting women, youth, and rural populations. Additionally, policies should focus on expanding access to smartphones, internet connectivity, and mobile payment platforms.

## 5.3 Recommendations for Financial Institutions and Businesses

## 5.3.1 Promoting the Use of Digital Currencies Among SMEs

As highlighted in Chapter Four, digital currencies, particularly mobile money services, have a transformative impact on small and medium-sized enterprises (SMEs) by providing access to financial services and credit. However, many SMEs are still reluctant to adopt digital payment systems due to concerns over security and regulation.

Recommendation: Financial institutions should focus on educating SMEs about the benefits of digital currencies and offer tailored products, such as lowcost digital wallets and micro-loans. Businesses should also integrate digital payment systems into their operations to enhance efficiency and expand their customer base.

## 5.3.2 Developing Stablecoin Solutions for Businesses

While cryptocurrencies such as Bitcoin are prone to volatility, stablecoins—digital currencies pegged to stable assets like the U.S. dollar—offer a more reliable option for businesses. Stablecoins could enable businesses to make cross-border transactions without the risks associated with traditional cryptocurrencies.

Recommendation: Businesses should consider integrating stablecoin solutions into their payment systems, particularly for cross-border transactions. Financial institutions can also develop stablecoin products that meet regulatory standards and reduce transaction costs.

## 5.4 Recommendations for Governments

#### 5.4.1 Enhancing Cross-Border Payment Systems

Digital currencies have the potential to revolutionize cross-border payments, which are currently slow and expensive. In regions such as Africa, where remittances play a crucial role in supporting households, digital currencies could significantly reduce transaction costs and improve the speed of transfers.

Recommendation: Governments should work with regional bodies, such as the African Union and the Economic Community of West African States (ECOWAS), to establish digital currency-based cross-border payment systems. This could involve integrating regional CBDCs or leveraging blockchain technology to enhance transparency and reduce transaction fees.

## 5.4.2 Supporting Digital Financial Inclusion

Financial inclusion is a top priority for governments in emerging markets, and digital currencies offer a unique opportunity to reach underserved populations. However, this potential can only be realized if the necessary infrastructure is in place, including access to digital wallets, internet connectivity, and mobile banking services.

Recommendation: Governments should prioritize investments in digital infrastructure, particularly in rural and underserved areas. Public-private partnerships can help bridge the gap by expanding mobile networks and providing affordable digital wallets for individuals who are currently excluded from the formal financial system.

## 5.5 Future Prospects for Digital Currencies in Emerging Markets

As digital currencies continue to evolve, their role in transforming the economic landscape of emerging markets will likely expand. The adoption of central bank digital currencies (CBDCs), decentralized finance (DeFi) systems, and blockchain technology could further integrate digital currencies into global financial systems, leading to greater economic growth and financial inclusion. The future of digital currencies in emerging markets hinges on the successful implementation of robust regulatory frameworks, the expansion of digital literacy, and the development of secure, accessible financial products. As governments, financial institutions, and businesses collaborate to address these challenges, digital currencies will increasingly become a cornerstone of economic development strategies in the Global South.

#### 5.6 Conclusion

In conclusion, digital currencies present a transformative opportunity for emerging markets by promoting financial inclusion, supporting economic growth, and creating new employment opportunities. However, to fully realize the potential of digital currencies, governments, businesses, and financial institutions must address key challenges such as regulation, cybersecurity, volatility, and digital literacy. With the right policy interventions and strategic partnerships, digital currencies can drive sustainable development in emerging economies, paving the way for a more inclusive and connected global financial system.

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