

# An Introduction to The Impact of India's Use of Central Bank Digital Currency on the International Financial System

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**Abstract:** In the course of global research and development of Central Bank Digital Currency (CBDC), researchers are increasingly aware of the importance of CBDC. India, one of the important economies in the world, has obtained many fruitful results in the research process of CBDC. This study draws on data and findings from previous studies by exploring the good policies and possible risks faced in the process of introducing CBDC in India. Based on the research data, it explores the impact of the introduction of CBDC in India on international monetary policy and the implications for other countries. The study shows that the introduction of CBDC may receive some hindrance due to the inadequate infrastructure and the difference in the quality of the population's education level. In the course of global research and development of Central Bank Digital Currency (CBDC), researchers are increasingly aware of the importance of CBDC. India, one of the important economies in the world, has obtained many fruitful results in the research process of CBDC. This study draws on data and findings from previous studies by exploring the good policies and possible risks faced in the process of introducing CBDC in India. Based on the research data, it explores the impact of the introduction of CBDC in India on international monetary policy and the implications for other countries. The study shows that the introduction of CBDC may receive some hindrance due to the inadequate infrastructure and the difference in the quality of the population's education level.

**Keywords:** Central bank digital currencies, Indian digital currencies, digital currencies in developing countries, CBDC impact.

## 1. Introduction

Blockchain technology plays an essential role in developing digital finance as the concept of digital finance continues to spread, and the level of technology continues to improve [1]. Along with this wave of digital finance, governments are beginning to invest in research into cryptocurrencies with blockchain technology[2]. Central bank digital currencies (CBDCs) are a new type of electronic currency controlled and issued by central banks, derived from blockchain technology, and about 90 per cent of the world's countries are actively researching and implementing CBDCs[3]. As one of the critical components of the world's financial system, India is currently at the forefront of research and implementation of CBDCs [4]. As early as 2021, the Central Bank of India's (RBI) Banking Trends Development Report made the point that CBDC will play an essential role in the future of trade[5]. Some scholars have argued that the spread of CBDC in India may pose a problem for Indian finance in terms of monetary sovereignty [6-8]. However, it is undeniable that CBDC will play an essential role in developing Indian finance.

However, the scholarly research that currently exists focuses on the possible impact of the introduction of CBDCs in India on India's own economy, while relatively little research has been conducted on the impact of Indian CBDCs on international CBDCs from an international financial perspective, particularly on developing countries. This study will therefore examine the possible impact of the large-scale adoption of CBDCs in India on the international monetary policy system from the perspective of the introduction of CBDCs in India and discuss the implications of the introduction of CBDCs in India for other developing

countries. This research will first review the development of the CBDC model and identify the efforts made to study and implement CBDC in India. Next, the design perspective of the study and the research methods used will be described, and then the research will present and discuss the findings from the study. Finally, the main findings and possible limitations of the study are summarized.

## 2. Literature Review

As one of the representative products of the new financial technology, blockchain has won the recognition of the financial sector for its outstanding cryptography and reliable security [9]. The CBDC is the product of research by central banks of governments to formalise digital cryptocurrencies, a digital form of national sovereign currency [10-11].

The CBDC model has been widely discussed in the financial field since its inception, and CBDCs promoted under the auspices of the government as a national subject have various far-reaching implications for a country [7][12-13]. In recent years, India has had to take CBDC research exceptionally seriously. In 2018, India issued a crypto ban, cracked down on private crypto coins, and began developing a state-owned CBDC. Institutionally, the RBI hopes to follow China's digital renminbi scheme for its own digital rupee scheme, which a full range of CBDCs would support. On a legal level, India has enacted laws to uphold the legitimacy of CBDCs and to combat the circulation of private cryptocurrencies. This series of actions are paving the way for securing the smooth development of CBDC in India.

## 3. Methodology

The CBDC is a combination of monetary policy and

blockchain technology and is a digital form of national sovereign currency, making this study an interdisciplinary research project in nature. The data collected in this study is based on the development of CBDC in India as a case study, and the data collected is analyzed, and conclusions are drawn using a bibliometric approach.

The data for this study was obtained from the World Bank and secondary data from relevant articles. The bibliometric analysis method is used in the data analysis section to summarise and analyze the data.

## **4. Data Analysis**

### **4.1. Advantages of Cbdc Monetary Policy in India**

#### **4.1.1. Gradualist approach to the introduction**

India has adopted a gradualist philosophy to introduce CBDC as a way to reduce the impact caused by CBDC. As mentioned above, the introduction of CBDC is a change in the monetary system, and financial systems that will alter the country's financial sector system and the definition and actual meaning of money will be affected [15]. This level of impact will start with the impact on the currency due to CBDC and gradually expand to the overall economic level of the country as a whole. The Indian government has adopted a modest and gradual process of introduction of CBDC, which will be completed gradually through the deployment of policies and practical applications and the structuring of relevant sectoral institutions. The gradual process of introducing CBDC minimizes the impact of the introduction of CBDC on the Indian economy and allows sufficient time for society to move gradually to the CBDC model [14-15]. Thus, the gradual CBDC model adopted by India is of interest.

#### **4.1.2. Centralized blockchain technology**

India has a good base of digital transactions. The study by Zeya and Majumder states that payment methods in India transformed in 2018-2021[8]. The study's survey data shows that the percentage of transactions completed using digital payment systems in India rose by 68 per cent between 2020-2021, according to RBI, and this percentage is growing rapidly [8]. The National Payments Corporation of India (NPCI) has developed India's digital payment system through a combination of public and private banks. Its coverage has taken into account the different needs of different classes of users in India. Its digital payment services have also contributed to a change in the transaction habits of Indian users [16]. In addition, NPCI's business is also internationally connected, as it has partnered with the world's leading e-commerce platforms, such as Apple Pay and Google Pay, to further popularise and strengthen users' digital payment habits [16]. Thus, the introduction of CBDC in India cannot be separated from its substantial digital payment habit formation, a habit that has led to a relatively easy acceptance of CBDC as a new means of digital payment by the Indian people. From a user perspective, India has a large number of cryptocurrency owners; Tiwari's study mentions that over 7.3 per cent of India's population holds and uses cryptocurrencies[17], and Jani's study also highlights the normalized nature of the use of digital cryptocurrencies in transactions in India[18]. Therefore, based on the above information, consumers and merchants in the Indian market are knowledgeable about digital payment systems and have a certain level of acceptance of digital cryptocurrencies.

#### **4.1.3. Legalization of the digital rupee**

The legal nature of the 'digital rupee' has been recognized at a legal level in India. As mentioned earlier, the Reserve Bank of India expects to launch the 'digital rupee' in 2020-2023, which could help India create a more efficient and cost-effective model of currency management [5]. In order to maintain and ensure the legitimacy and validity of the 'digital rupee', the Government of India has made it clear in the Financial Amendment Bill 2022 that the 'digital rupee' issued by the RBI will circulate and be used in India as a legal tender, with the same monetary functions as paper currency rupees [4][19]. Furthermore, the RBI has also highlighted the security of the 'digital rupee' in a related report, stating that the 'digital rupee' is more risk-resistant in the face of financial shocks [5]. Therefore, the legal legitimacy of the Indian 'digital rupee' has further determined that the CBDC can be introduced in India.

### **4.2. Risks encountered by CBDC in India**

#### **4.2.1. Shortcomings in the Indian banking system**

After the introduction of CBDC, India's banking operating system may experience shocks. In the study by Ozili, he pointed out that the risk faced by India in introducing CBDC as a basis for building a cross-border payment platform could be a shock to the country's banking operations[20]. The profit-seeking nature of the capital markets could lead to an influx of capital and resources into the CBDC system, resulting in a lack of adequate funding for traditional banking operations [21]. In addition, the Indian banking market is characterized by numerous non-performing assets and corporate failures, which can lead to a weakened banking sector and the need for large amounts of capital to weather these problems [21]. Therefore, if the existing banking system cannot address these market issues effectively, consumers are more likely to invest in this stable financial product after the introduction of CBDC.

#### **4.2.2. Regulatory issues for CBDC**

The laws regulating CBDCs and virtual currencies in India need to be more robust. As mentioned above, the legal aspects of CBDC "digital rupees", are recognized as having legal benefits in India [5]. However, there are several legal gaps in the regulation of virtual currencies. The question of whether private virtual currencies should be banned after the introduction of CBDC in India is raised in Yadav's study[22]. Due to the cryptographic nature of virtual currencies, banning private virtual currencies has a high degree of an enforcement difficulty. On the other hand, a ban on private virtual currencies may lead to their going underground, leading to a series of grey crimes, such as drug dealing [6][22]. The relevant authorities need to address these issues at the legal level to ensure the smooth use of CBDC in India.

#### **4.2.3. Infrastructure and literacy levels**

The overall digital infrastructure in India is poor, and the number of digitally illiterate people in India is high. According to World Bank statistics, 26% of India's literacy rate was illiterate in 2018 [23]. "Digital India" is one of India's slogans for the 21st century, and India has many digital illiteracy problems[24-25]. The spread of CBDC as a digital virtual currency in India is likely to affect the access of digitally illiterate residents. On the other hand, the penetration of digital technology infrastructure in India varies across different regions of the country [24-25]. In a study by Tewathia et al., it is argued that the disparity between the rich and the poor in India has, to some extent, contributed to the uneven distribution of IT equipment in India, with those with

lower living standards and lower literacy levels not having access to the full range of IT services[26]. This point is undoubtedly detrimental to India, which wants to achieve universal access to CBDC.

## 5. Conclusions

As one of the most important economies in the world, India's exploration and discovery in the field of CBDC is of great importance to the international financial system. The study of monetary policy for the introduction of CBDC in India found that a moderate introduction policy is conducive to the popularisation of CBDC, and that a large user base and potential user base for digital transactions will help the people to accept CBDC, while the process of introducing CBDC also requires attention to infrastructure development and the eradication of digital illiteracy. Overall, the introduction of CBDC in India is of strategic importance and its monetary policy is of value to other countries internationally. Due to the limitations of the research data and the time constraints of the survey, there are certain research limitations in this study, which may be limited to the particular case of India as the study focuses on the introduction of CBDC in India. In future research, this author will look at the different ways CBDCs have been introduced in more countries to gain a deeper understanding and study the impact of CBDCs on the international financial system.

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