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Research Article

A Review of Central Bank Digital Currency Application in Indonesia: Prospect and Possibilities in Islamic Perspective

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ABSTRACT

The study explores the prospects and possibilities of applying a Central Bank Digital Currency (CBDC) in Indonesia, which is widely discussed by Bank Indonesia (BI), using a critical approach from an Islamic perspective. As digital payments and technological disruptions radically change people's behaviour and the way they conduct transactions, the issue is critical to the existing literature and policy promotion. The CBDC description and implementation, followed by the comparison with other types of digital money, have been explored deeply from extensive references as foundations for analysis in the first part of the study. Using a descriptive-qualitative method, the study identifies the existing literature and the implementation challenges in the Indonesian context, further enhanced by incorporating Islamic viewpoints as a core value. The study revealed that cash-like money still dominates the existing currency distribution, and the socio-economy, including infrastructure in daily transactions, still relies on the traditional monetary system. The implementation of CBDC in the short term remains risky. From an Islamic perspective on the monetary system, Indonesia does not adopt gold and silver standards as underlying assets for currency issuance. It makes the possibility of adopting the CBDC shortly have not changed the fundamental aspect. This deviation from Sharia rules is a core issue for the monetary system.

1. INTRODUCTION

Technological disruption has made the use of technology a decentralised model of data and information. Blockchain is a technological mechanism that allows data distribution to be carried out on every device that accesses information so that data management is not centralised on one central server. This condition allows anyone who has a device to access information and verify it. With a large number of users, the information accessed on the blockchain network is unique and cannot be faked because each account (device) functions as a storage medium as well as a verification medium.

Data are distributed among devices through certain mechanisms that everyone can access easily, effectively, safely, and freely (Faiz, 2020a). It is called blockchain, and its main characteristic is a decentralized mode of data management (Ozili, 2019). The data verification can be performed by all users whenever it is accessed. It means data security is improved with almost impossible disappearance since it is distributed on all devices.

With a huge number of users, the data accessed through blockchain is unique and cannot be manipulated since every device works as a store platform as well as a verification medium. The Central Bank Digital Currency (CBDC) as a recent tremendous issue of monetary policy in the banking and finance industry has not been discussed proportionally, particularly from a critical perspective and a shariah compliance point of view. Criticism intends to get the most appropriate condition, mainly the worst risk, that CBDC will be applied in Indonesia by Bank Indonesia as the national central bank.

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Several preconditions encourage the development of Central Bank Digital Currency (CBDC), including the increase in electronic transactions, the digitalization of the economy and finance, and the rapid growth in the level of adoption of crypto assets throughout the world (DJPb, 2022). In general, the challenges of an increasingly large economy, the need for money as the blood of the economy, as well as the increasing use of technology in financial transaction models and the demands for the protection of personal data, are the main reasons for digital money issuance policies. In some remote countries, Pacific islanders, for instance, with limited digital infrastructure and insufficient financial literacy, Didenko and Buckley (2021) recommend developing sufficient studies around the potential consequences of applying the CBDC.

In common, economic development and its challenges are the main reasons for the urgency of digital money policy. Bank Indonesia suppose there is no significant difference between the current monetary system, including the technical aspect, and the CBDC concept that will be applied later. It can be seen how society has become habitual in using e-money on any platform, such as an electronic wallet or any fintech, which significantly impacts economic transactions, and the use of QRIS has increased dramatically. The fast technology disruption wave and COVID-19 pandemic constitute electronic financial transaction adoption. It spreads widely and becomes familiar with modern tools in daily transactions, which reach old-fashioned society and their traditional market in the village. Rapid technological changes and the momentum of the pandemic have forced changes in account-based payment interaction patterns to be adopted more quickly and implemented widely in various forms of transactions. Currently, Bank Indonesia is conducting studies and various assessments of the potential for implementing CBDC in the Indonesian economy. The study combines technical and fundamental issues in the short term, applying a possibilities lens for the Indonesia case, using Islamic views of concern. Instead of conceptual and academic analysis approaches in evaluating the CBDC operation, which is less practical for decision-making, the study employs a useful way to identify how and what should be determined in the effort of CBDC implementation.

Extensive studies exploring the potential and technical aspects of CBDC have been conducted by many researchers. However, the research that focuses on how Islam's views on public finance regulate and guide future policies for achieving a better society remains limited. As a Muslim, Sharia law is the foundation for attitude and behaviour in daily activities, including in developing the socio-economic system in the country (Faiz, 2023). Moreover, the accountability type developed with Islamic values is unique in that it reflects a moral and procedural nature (Faiz, 2020b). The study examines the prospects and possibilities of implementing a CBDC, mainly shortly, with Islam as a consideration.

1.1. Definition and Concept

CBDC is a form of digital money that is issued and whose circulation is controlled by the Central Bank and is used as a legal means of payment to replace currency. CBDC is a legal payment instrument issued by the Central Bank of a country as the only authority that has the right to issue payment instruments. CBDC is a digital payment instrument, denominated in the national unit of account, that is a direct liability of the central bank (Didenko & Buckley, 2021; Ozili, 2022). The only thing that differentiates it from the currency used so far is using blockchain technology to identify and recognise it and become a transaction instrument. This blockchain system is a form of distributed ledger technology (DLT) based on a cryptocurrency.

However, CBDC is not a cryptocurrency that is known in society as being based on an open system (a public blockchain). Both have similarities: they use DLT as a transaction model to manage databases that are spread across several places or servers and do not require transaction intermediaries.

CBDC is official money issued by the Central Bank. Like fiat money in general, the existence of CBDC is supported by monetary reserves that have been agreed upon and determined by the country. These reserves can be in the form of gold or foreign currency, especially US dollars. Called official currency, apart from being issued by the Central Bank, CBDC fulfils three basic functions of money: as a store of value, a medium of exchange or payment (medium of exchange), and a means of measuring the value of goods and services (unit of account).

Accordingly, what is the difference with digital money, which has been known and developed so far? Well-known digital money in Indonesia, such as Brizzi digital money (by BRI), tap cash (by BNI), flash (by BCA), livin (Mandiri), electronic wallet Shopee Pay, gopay, ovo, and many others. All of this is e-money, which is a form of fiat money (currency) that is converted into digital form and stored on an electronic device or certain platform. In general, this money is fiat money; only it is stored by the bank and displayed in a certain nominal form in the customer's bank account. They can claim the banknotes at an ATM or through certain counters provided by the bank providing the service.

The Group of Central Banks (2020), comprised of several central banks, defines CBDC as a digital payment instrument, denominated in the national unit of account, that is a direct liability of the Central Bank. The European Central Bank (2020) describes CBDC as a central bank liability offered in digital form for use by citizens and businesses for their retail payments.

1.2. Core Features of CBDC

There are fourteen core features identified by the Group of Central Banks based on foundation principles, which is configured in Table 1.

Table 1. CBDC Features by the Group of Central Banks

Instrument Features		
1	Convertible	To maintain singleness of the currency a CBDC should exchange at par with cash and private money
2	Convenient	CBDC payments should be as easy as using cash, tapping with a card or scanning a mobile phone to encourage adoption and accessibility
3	Accepted and available	A CBDC should be usable in many of the same types of transactions as cash, including point of sale and person-to-person. This will include some ability to make offline transactions (possibility for limited periods and up to predetermined thresholds).
4	Low cost	CBDC payments should be at very low or no cost to end users, who should also face minimal requirements for technological investment
System features		
5	Secure	Both the infrastructure and participants of a CBDC system should be extremely resistant to cyber-attacks and other threats. This should also include ensuring effective protection from counterfeiting.
6	Instant	Instant or near-instant final settlement should be available to end users of the system.
7	Resilient	A CBDC system should be extremely resilient to operational failure and disruptions, natural disasters, electrical outages and other issues. There should be some ability for end users to make offline payments if network connections are unavailable.
8	Available	End users of the system should be able to make payments 24/7/365
9	Throughput	The system should be able to process a very high number of transactions.
10	Scalable	To accommodate the potential for large future volumes, a CBDC system should be able to expand.
11	Interoperable	The system needs to offer sufficient interaction mechanisms with private sector digital payment systems and arrangements to allow easy flow of funds between systems.
12	Flexible and adaptable	A CBDC system should be flexible and adaptable to changing conditions and policy imperatives.
Institutional Features		
13	Robust legal framework	A central bank should have clear authority underpinning its issuance of a CBDC.
14	Standards	A CBDC system (infrastructure and participating entities) will need to conform to the appropriate regulatory standards (eg entities offering transfer, storage or custody of CBDC should be held to equivalent regulatory and prudential standards as firms offering similar services for cash or existing digital money).

Source: Group of Central Banks (2020)

1.3. Benefits and Impact of CBDC

There are several benefits of CBDC conveyed by the Directorate of State Cash Management of Bank Indonesia (DJPb, 2022), including:

1. Implementation of transaction restrictions. Bank Indonesia can implement a transaction restriction mechanism to anticipate various types of crime by utilising transaction mobility, including money laundering and anti-terrorism financing. Restricting various types of transactions is a preventive measure to reduce criminal acts.
2. Enhanced transaction transparency. Transaction mobility data enables direct tracking of transactions, thereby preventing crises by identifying unusual payment patterns made by retailers.
3. Reduced rush money. The action of taking money on a wide scale at the same time (rush money), which occurred during the 1997–1998 economic crisis, can be reduced because every digital dollar is safely held at Bank Indonesia. People do not have to worry about losing their money. Financial institutions have invested in it, and it will not be available for use shortly.
4. Reduces the need for government guarantees. The current currency digitization mechanism requires government guarantees for the existence of currency in every deposit held. The transition from currency to digital money will reduce the need for government guarantees for these savings. This condition can reduce the moral hazard of the existing financial system.

The implementation of CBDC can have a better impact on the economy and payment system, including the following:

1. Act as an enabler for online and digital commerce. The purpose of the enabler here is that digital money can encourage transactions to occur more quickly, efficiently, and effectively than current conventional payment models. There is no longer a need for input and output mechanisms for converting currency to digital money, which require time, costs, and risks in each transaction.
2. Monitoring the money supply is more effective. In a financial system based on the use of currency, it is difficult for Bank Indonesia to control the amount of money circulating in the economy because money creation is based on deposits as loans. By using digital money, Bank Indonesia can monitor money supply more effectively because the amount of money supply is based on account information held by each person whose behaviour is known.
3. Lower costs. The existence of digital money will reduce the costs that arise from the current conventional financial system, including the costs of issuing, circulating, and handling paper money. The use of digital money will also significantly reduce transaction costs between countries (cross-border transactions).
4. Improved traceability aspects. Every person who has digital money can automatically have their money usage behaviour tracked so that it will increase traceability in every transaction made. This traceability data is important because, apart from being able to detect the owner's behaviour, it can also make it easier to trace the orientation of the use of the money they have.
5. One of the consequences of implementing CBDC is that the interaction patterns and core operations of commercial banking have changed. In the traditional monetary system scheme, the central bank's primary job is to issue money that is valid in a country. Banking and financial institutions act as intermediaries between parties involved in payments and savings.

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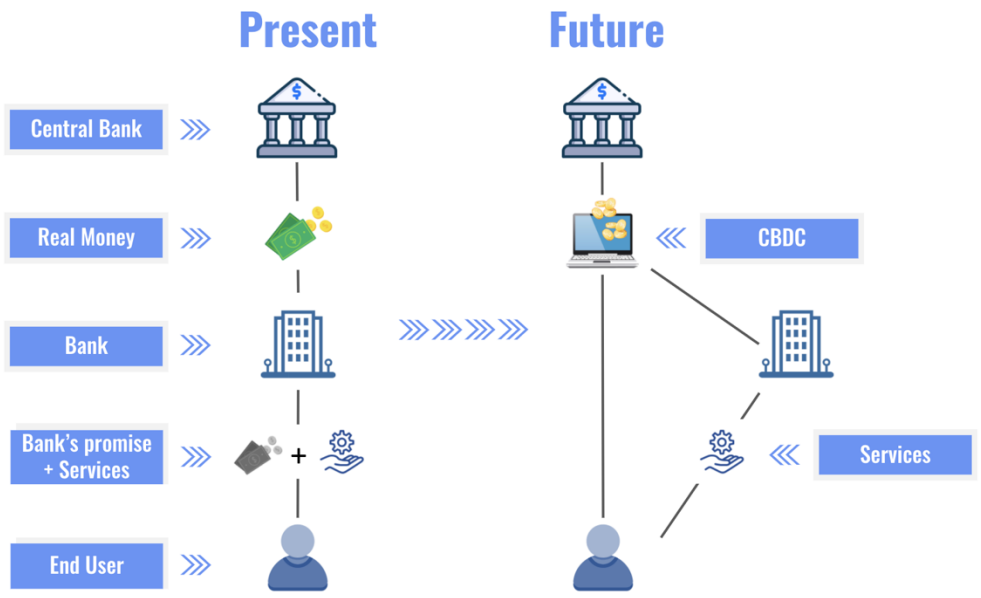


Figure 1. Differences between current and future financial and banking systems
Source:https://blog.digitalasset.com/developers/what-is-a-central-bank-digital-currency-and-why-should-people-prefer-cbdc-over-bank-accounts

Account holders no longer need to worry about the issue of bank bankruptcy as the Central Bank will directly handle the ongoing transaction mechanism. Besides, it provides convenience and reduces transaction costs because banks do not need to interact with each other. This model is also considered capable of increasing financial inclusion because someone who previously did not deserve banking access due to insolvency (bankruptcy) or was not bankable will be given the right to get a CBDC account.

1.4. CDBC model

In general, there are three types of CBDC models: direct, indirect and hybrid. In the first model, the direct CBDC scheme, bills are made directly to the Central Bank. In this model, there is a revolution, a major change, in the financial and banking system because everyone who has an account, both individual and corporate, can have an account

directly at the Central Bank. This condition resulted in fundamental changes in the banking system, in terms of the role's disappear of commercial banks in carrying out the function of knowing customers' conditions in detail, known as Know Your Customer (KYC). Every transaction made by customers will be processed and validated directly by the Central Bank. This model is also known as the 1-Tier Model

The second model is indirect CBDC. In this model, there is no difference from the current financial system. The role of the Central Bank is still to function as the last lender of resort. Financial transactions by individuals are carried out through commercial banks, while the Central Bank functions to release CBDC and distribute it to various financial and banking institutions. Commercial banks still play a role in verifying, making payments for CBDC transactions and knowing customers in detail (KYC). Billing for CBDC can only be done by commercial banks, while the central bank functions to make payments to commercial banks. Customer accounts are connected indirectly through their commercial bank accounts. This model is also known as the 2-Tier Model

The third model is a hybrid CBDC. This model is a combination of the two previous models. In this model, bills are made to the Central Bank while payments are made through commercial banks. This scheme allows customers to have a central bank account like the direct CBDC model. It's just to find out the customer's character (KYC) and all payment processes are carried out by commercial banks according to the indirect CBDC model. The three forms or models of CBDC appear in Figure 2.

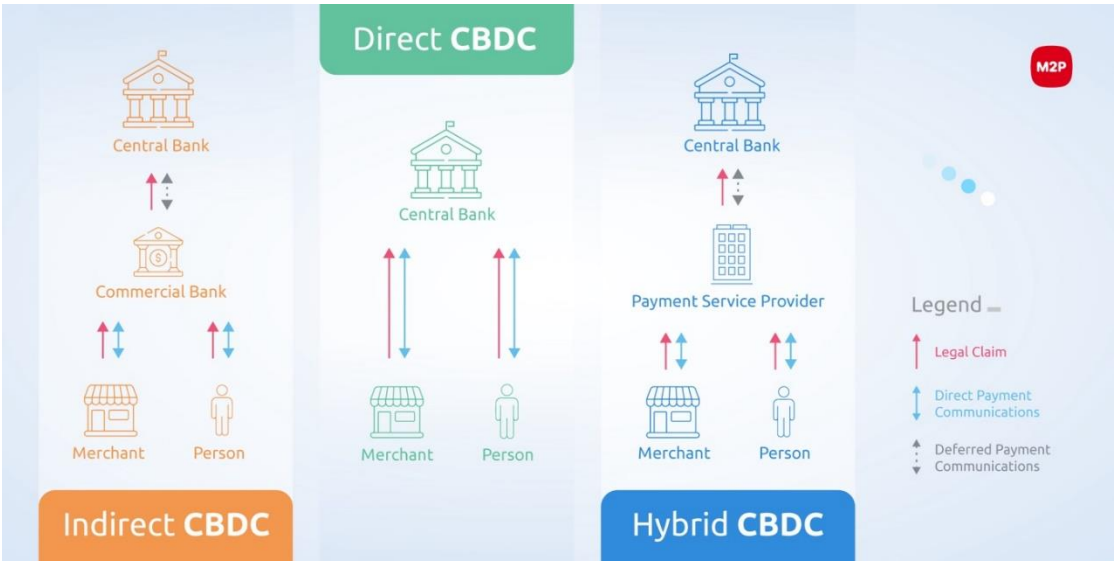


Figure 2. Three forms of CBDC model
Source: https://m2pfintech.com/blog/central-bank-digital-currency-cbdc-101-a-primer/

1.5. CBDC developments in various countries

Many countries worldwide have yet to apply CBDC to their monetary systems. Most of them are still in the research stage. Countries that have fully implemented CBDC are China via E-CNY (digital Yuan) and 9 other countries, including Nigeria, the Bahamas and 7 Caribbean countries (as shown in Figure 3).

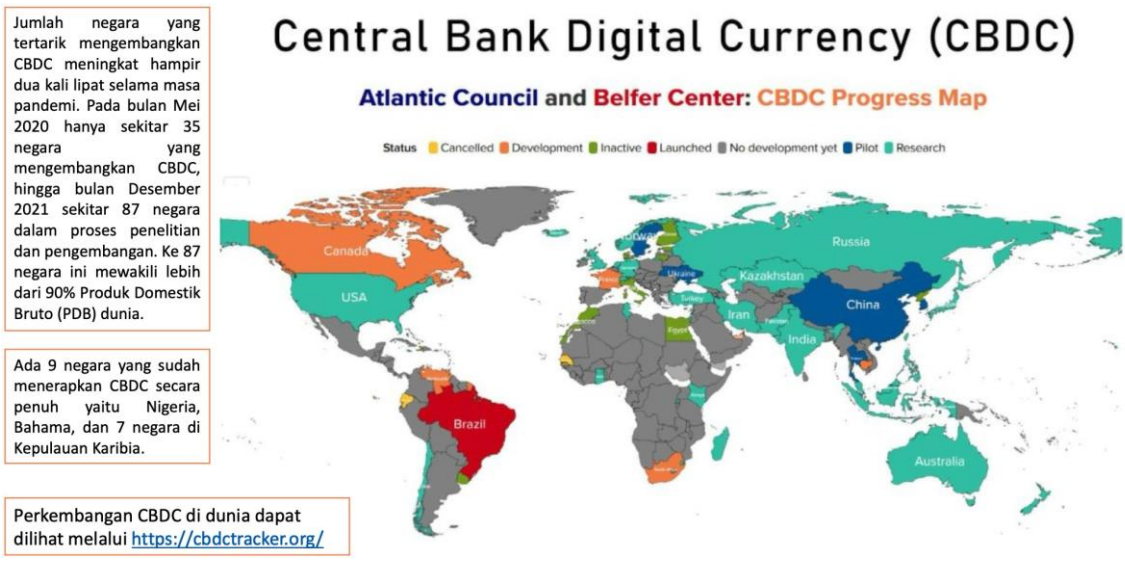


Figure 3. Distribution of CBDC in world countries
Source: BI (2022)

The main reason most countries are still in a state of research is the need to identify the various impacts on the economy as well as the regulatory requirements needed to run a CBDC with strong legal support. In general, the presence of CBDC is more due to the need for an easy, fast, and cheap transaction model and reducing various obstacles to conventional payment models. Any challenges and disruptions caused by the massive emergence of cryptocurrencies in various parts of the world are not the main issues. Most of them focus more on preparing legal conditions and instruments that support the creation of a sufficient ecosystem for the operation of a full CBDC scheme. Table 2 shows the differences in stages of CBDC implementation in several countries.

In Indonesia, changes are needed to Law No. 7 of 2011 concerning Currency which still refers to conventional currency. There is a need for additional definitions that provide coverage of the definition of digital rupiah money. In the law, the types of Rupiah need to be expanded, from paper and metal to including digital ones. There need to be additional characteristics of digital rupiah, beyond just paper and metal. Besides, additional articles regarding sanctions or punishments for perpetrators of crimes against digital rupiah currency are needed. Moreover, information securities related to the digital rupiah need to be strengthened, mainly for those who have access to tracing and securing the information.

Table 2. Comparison of CBDCs in several countries

Country	Central Bank	Objective	Status	Legislative Changes
Russia	Bank of Russia	Help reduce costs for households and businesses, increase the speed of payments, and develop innovative products and services for the financial industry and the economy in general	Research. Russia will have a prototype digital ruble platform ready by early 2022	At least 8 Federal Laws and 5 codes (sources of Russian civil law) – Civil Code, Tax Code, Budget Code, Criminal Code and Administrative Code – must be amended so that the digital ruble can apply, such as the BoR being authorized to circulate the Digital Ruble, its acceptance as a means of payment, etc.
United States	US Federal Reserve	Providing secure digital payment options for households and businesses as payment systems continue to evolve and can lead to faster payment options between countries	Research. The Federal Reserve wants to move “very carefully and transparently” rather than quickly. It's not important to be first, the important thing is to do it right	It requires support from Congress, from the Administration, from broad elements of the public. The White House, Central Bank, and Parliament are among the major parties that must agree to a consensus before a CBDC is developed. Ideally in the form of a Special Authorization Act
Singapore	Monetary Authority of Singapore	Helping make online transactions faster and safer and building an inclusive payment ecosystem	Research. Singapore's monetary authority is conducting technical and policy studies of a retail CBDC although it sees “no urgent need” for now through Project Orchid	Regulations must be able to ensure that electronic payments meet the minimum standards desired by end users. Such as setting electronic payment fees or how transaction privacy should be protected.

Country	Central Bank	Objective	Status	Legislative Changes
China	People's Bank of China	Providing a convenient, yet more efficient and secure retail payment system to increase financial inclusion, maintain monetary sovereignty, and provide payment infrastructure for private sector payments	Pilot. In April 2020, China became the world's first major economy to trial a CBDC.	Regulatory changes start from transaction data to monetary, tax and other regulations. Since the existence of the Digital Yuan, China has banned the use of cryptocurrencies. This not only influences administrative decisions but also court decisions.

Source: BI (2022)

1.6. CBDC implementation in China

China may become the foremost country to implement the CBDC with the digital Yuan, or E-CNY, which can be studied deeply. This currency is issued by the PBOC (People's Bank of China). E-CNY is a digital version of paper currency issued by the PBOC and operated by authorized operators. E-CNY adopts a centralized management approach and a two-tier operational system. The existence of E-CNY is the main substitute for cash in circulation (M0) and is side by side with the physical RMB. The orientation of using E-CNY is to serve domestic retail payments.

China has long conducted preparatory research for the implementation of E-CNY, beginning in 2014 with the formation of a preparatory task force. This task group was going to conduct studies on the publishing framework, the usage of key technologies, the publication and circulation environment, and set worldwide implementation benchmarks. The Digital Currency Institute was established in 2016, and it developed the first generation of digital fiat currency.

PBOC specifically formed three main related bodies, called The Certification Center, Registration Center, and Big Data Analysis Center. The Certification Center is tasked with issuing digital currency. The Registration Center records token ownership and matches digital currency with each digital identity. This agency is also tasked with regulating the circulation of digital currency starting from issuance, circulation, cleaning, and destruction. Big Data Analysis is tasked with processing transaction data through big data and cloud computing. In 2020 the PBOC officially launched the E-CNY pilot publicly in Shenzhen.

There are main characteristics of E-CNY, including.

a. Unlimited legal credit. Digital Yan has the same position in the law's position as physical currency that has previously been used, both paper and coins. All of them are used as a legal means of payment.
b. Accounts are combined dynamically. E-CNY employs a standardised account system. It means that individuals can open an E-CNY wallet without a bank account. Individuals or institutions can choose whether to link it to their bank account or not. This strategy is expected to increase usage and enhance an inclusive financial system because it may be used by anyone without requiring a bank account.
c. Controlled anonymity. Everyone can freely open an E-CNY e-wallet and get guaranteed anonymity every time they make a transaction. It maintains privacy and data protection. However, all transaction data will be stored by the Central Bank under the user's real name.
d. No interest and exchange fees. Digital yuan can be transferred into cash with no fees. Every form of transaction, distribution and exchange of services is free of charge for users. This concept will certainly improve the economy and build public financial infrastructure.

E-CNY adopts a 2-tier or two-stage CBDC model. The Central Bank will distribute Digital Yuan to commercial banks, then commercial banks can distribute it to consumers. The transaction process by users, including creating a digital wallet, can be done both online and offline. Users can choose whether to integrate with their bank account or not. Besides, offline transactions can be carried out using e-wallets in the form of physical cards that have NFC technology and can be tapped during the transaction.

Four types of electronic wallets can be used in the E-CNY scheme. Here is the detail.

1. The first wallet type contains a maximum of RMB50,000 per payment, a daily limit of RMB100,000 and an annual limit of RMB500,000
2. The second wallet contains a maximum of RMB5,000 per payment, the daily limit is RMB10,000 and the annual limit is RMB300,000

3. The third wallet is a maximum of RMB2,000 per transaction with a daily limit of RMB2,000 and an annual limit of RMB50,000
4. The maximum fourth wallet is RMB500 per transaction, daily limit RMB1,000 and annual limit RMB10,000

Due to the implementation of the CBDC Yuan, some groups have highlighted its impact on monetary policy and financial stability. On the monetary side, the implementation of E-CNY could lead to financial disintermediation, narrow banking, and credit squeeze. Another impact of the availability of CBDC is that it can increase the transmission of policy interest rates to money and credit markets.

On the financial stability side, the implementation of the CBDC Yuan could worsen bank sustainability in times of crisis. Everyone can easily convert bank deposits into CBDC causing financial disintermediation and amplifying financial volatility. It's merely that the existence of a CBDC is ineffective when a country is experiencing a financial crisis since the public will withdraw domestic funds to become the safest assets, rather than simply switching from bank deposits to CBDC.

2. Literature Review

There is an effort to overcome the difficulties in identifying the position and condition of CBDC, mainly when facing other forms of electronic payment and any form of cryptocurrency. Many laypersons deal with the intricacy of electronic payment complexity. CBDC tracker is a type of platform that provides information related to CBDC initiatives around the world in order to track their status and analyse historic trends (Mikhalev et al., 2021).

In 2019, Bank Indonesia explored the possibilities of applying CBDC in a study. By employing the Delphi-analytic network process, Zams et al. (2020) have proposed a CBDC design for Indonesia. The article shows that the cash-like CBDC model is the most suitable digital currency design for Indonesia to accommodate financial inclusion needs and reduce shadow banking. Some considerations in this study have been involved, including the benefits of payment system efficiency and security, risk, opportunity, and cost. The cash-like CBDC model has several characteristics, such as being universally accessible, ensuring anonymity, being flexible enough to operate on a peer-to-peer basis, being online, and being non-yield-bearing, which is identical with existing currencies.

Up to now, the next step for executing or calculating whether it is realistic to implement the CBDC concept in Indonesia is still ambiguous. In the urgency step after designing the CBDC, Soderberg et al. (2023) suggest the experimentation and development phase for ensuring the technical aspect of an implementation plan. This phase covers an elaborate set of key success measurements through the configuration of key performance indicators; a proof of concepts in testing multiple aspects of CBDC; a prototype for narrowing down the options; and a pilot of real-life testing.

Further, the legal challenge in applying CBDC in Indonesia is the existing regulation about currency that possibly cannot accommodate the CBDC's development, mainly Law No. 7 of 2011 on Currency. Handayani & Yuliana (2022) suggested an improvement in the legal advancement of CBDC application possibilities in terms of different implementations and type selection. Law No. 7 of 2011 should state explicitly the equal position of CBDC and rupiah. Next, there is a necessity for specific rules that BI, as the Indonesian central bank, has full power to control its distribution through a Distributed Ledger Technology (DLT) system.

It's aligned with the recommendation from Soderberg et al. (2023) in part of the legal framework, regulation, and oversight. They emphasise a sound legal basis and robust regulatory foundations when releasing a CBDC model. In supporting financial stability and ensuring accountability and transparency, it's necessary to collaborate with lawyers in central banking law, payment systems law, and financial law.

Mohamed (2020) has explored the possibilities of using CBDC with economic implications in Indonesia, including the Shariah-compliant aspect. A profound examination of benefits, opportunities, costs, and issues related to the possibilities was used to determine the best format that would be applied. Four possible formats have been discussed in his research, which simulated the format and its characteristics. It can be seen in Table 3.

Table 3. The four formats possibly apply in CBDC for Indonesia

Format	Use Case	Characteristics
1	CBDC as a Sovereign Currency (similar to cash/fiat)	Anonymous, universally-accepted and non-interest bearing
2	CBDC as Public Deposit in Central Bank	Identified (non-anonymous), universally-accepted and non-interest bearing
3	CBDC as a Monetary Policy Instrument	Anonymous, universally-accepted and interest bearing

Format	Use Case	Characteristics
4	CBDC for Interbank Settlement	Identified, restricted use and non-interest bearing

Source: Mohamed (2020)

Using the qualitative method and 'impact analysis' approach, the research has explored the possibilities of the impact of each format on monetary policy, the wholesale payment systems' operations, and the economic systems' overall stability. In sum, the research found the best type of CBDC format to be implemented as a non-interest-bearing CBDC for the interbank settlement and wholesale payment systems. Compared to other formats, it has less disruption to the existing economy and has better monetary policy transmission eminence.

In the global context, sustainable development and cryptocurrency are among variables influence in demand of CBDC. Ozili (2023) confirmed it in his research, which found a positive relationship between global interest in sustainability and global interest in CBDC, including a positive correlation between global interest in cryptocurrency and global interest of CBDC application in several countries. Aligning with the Sustainable Development Goals (SDGs), Ozili (2023b) assesses how the CBDC is contributing to each part of the SDGs application.

What is the most significant factor in developing CBDC in the Indonesian context? From 18 respondents representing economic agents (central bank and fiscal regulator), firms (commercial banks and fintech providers), and individuals and households (academicians), Zams et al. (2020) found that the objective of CBDC, mainly in terms of the smoothness of the payment system, was the priority, followed by the benefits, risk, opportunity, and cost. Dionysopolous et al (2023) identified several aspect characters for a broad comparison among money classifications, as shown in Table 4.

Table 4. Money classification comparison

Feature	Deposits	e-Money	Crypto	P. Metals	Cash	Reserves	CBDC
Medium of Exchange	V	V	X	X	V	X	v
Store of value	X	x	X	V	X	V	?
Unit of account	V	V	X	X	V	X	V
Status	D	D	D	P	P	D	D
Convertibility	V	?	X	X	N/A	V	?
Issuer	CM	PS	N/A, PS	N/A	CB	CB	CB
Access	A	A	T, A	T	T	A	T, A
Availability	R	W, R, U	W, R, U	W, R, U	W, R, U	W	W, R, U

Note: P = physical, D = digital, CB = central bank, CM = commercial bank, PS = private sector, A = account, T = token, W = wholesale, R = retail, U = universal

Source: Dionysopolous et al (2023)

Deposits is a fund held an account at a commercial bank by a customer. eMoney is a digital currency stored electronically and issued by a private sector entity. Cryptocurrency is a digital form of money upended by a decentralized network utilising cryptography. P. Metals is naturally occurring metals, such as gold or silver, that have an economic value. Cash is physical currency. Reserves is money held at central banks status.

Ozili (2023d) has examined the determinants of global interest in CBDC concerning sustainable development and cryptocurrency issues. It found that global interest in sustainable development is positively related to global interest in CBDC. In addition, the research also explored other variables such as global interest in cryptocurrency, global interest in the Nigerian eNaira CBDC, global interest in the China eCNY, and global interest in the Sand Dollar and DCash, which resulted in various relationship results.

Themistocleous et al. (2023) have explored the possibility of CBDC interoperability in cross-border implementation based on a multivocal literature review. The authors deepen the Bank of International Settlements (BIS) scheme for cross-border interoperability and cross-border payments. BIS has proposed three types of projects that cover Helvetia Phase II, Swift, and Dunbar. Instead of technical aspects in implementing CBDC cross-border, the challenges are legal issues, regulations, jurisdictional boundaries, policy challenges, and governance.

In response to the CBDC's implementation plan, the banks may use accruals to manage their earnings, as it will reduce bank deposits and bank lending (Ozili, 2023b). Consequently, the bank managers will decrease the discretionary loan loss provisions (LLPs) to inflate the reported earnings.

In promoting financial inclusion and financial stability, Ozili (2023a) reveals that CBDC, jointly with fintech and cryptocurrency, improves financial inclusion through an alternative channel for unbanked adults that cannot access formal financial services. While both CBDC and fintech services could potentially preserve financial stability, cryptocurrency needs specific, effective regulation to mitigate its impact and achieve financial stability.

After reviewing several papers related to the CBDCs issues worldwide, Ozili (2023c) concluded that CBDC has cash-like figures and is a liability of the central bank. The issuance has many benefits, including financial inclusion, improved monetary policy conduct, and increased efficiency in digital payments. Nevertheless, there is a need to pay attention to the over-optimism of the CBDC's potential benefits and the conflicting interests of various users.

It was an interesting study from Dupuis et al. (2022) that tried to analyse the potential money laundering in the CBDC implementation around the world using a game of cats and mice approach. The exploration shows that there is a difference in the level of money laundering, while the schemes were divided into three types: CBDC wholesaler, CBDC popular, and central bank account (general purpose). Each type then contrasts against the issues of secrecy, technical aspect, utility side, competing with the existing monetary system, and public acceptance concern, which then contributes to the anti-money laundering (AML) movement.

Tata (2023) proposed a new type of CBDC that is embedded with a time-limitation design, called interval CBDC. It has a unique feature that limits the claim against the central bank to a specific period. From an exploration of the four cases used, the research reveals its advantages, including liquidity management, lending, the monetary policy of central banks, and derivative transactions. Accordingly, the interval CBDC enables reducing the counterparty credit risk, employing remuneration, and expanding the monetary and fiscal means.

Does CBDC really matter to the real household demand for money from society? Based on research conducted by Li (2023) from the Canadian survey dataset, CBDC covers 4-52% of total household liquid assets. The acceptance rate of the simulation model depends on the households' preferences towards CBDC's attributes, whether allocated to deposits or cash. The attributes could affect demand for CBDC, including budgeting usefulness, anonymity, bundling of bank services, and rate of return.

When exploring the CBDC's potential implementation in the macro-financial context, Rehman et al.'s (2023) research results show that the CBDCs do not increase inflation while endangering the financial system's integrity. By analysing time series data from three of the world's most developed nations, responding to prior instances of financial innovation, historical behaviour that considers the impact of CBDCs, and circulation velocity, the research examines the potential impact of CBDCs on inflation and financial stability. It uses McCallum's policy rule based on money growth to address monetary policy.

Agur et al. (2022) proposed various designs of CBDC possibilities for application. They make simulations in different conditions, including the circumstances where agents provide cash, CBDC, and bank deposits based on their priority for anonymity and security. The next setting is the condition where network impacts make the convenience of a payment instrument depend on the number of its users. When CBDC design bears resemblance to cash or deposits, it may motivate cash disappearance. On the other hand, if the design is attributed to interest-bearing, then it rivals the bank's deposits, which stress the bank's credit and output.

Firdiansyah and Samsuri (2021) revealed that CBDC implementation has more benefit (*maslahah*) than destruction (*mafsadat*) from a *maqashid shariah* perspective, hence the enactment is encouraged. In the five dimensions of *maqashid shariah*, Firdiansyah and Samsuri (2021) describe all elements in the context of CBDC.

Table 5. Research on CBDC issues

No	Issues	Research
1	Sustainable development and cryptocurrency	Ozili (2023d)
2	Cross-border interoperability	Themistocleous et al. (2023)
3	Earnings management	Ozili (2023b)
4	Financial inclusion and stability	Ozili (2023a)
5	Money laundering	Dupuis et al. (2022)
6	Innovation of CBDC type	Tata (2023)
7	Demand for CBDC	Li (2023)
8	Macro-financial implications	Rehman et al. (2023)
9	CBDC design	Agur et al. (2022)
10	Maqashid Shariah	Firdiansyah & Samsuri (2021)

Source: Author resume

3. RESEARCH METHODS

The study used a descriptive-qualitative research method. A qualitative method in research studies tends to answer the 'why' question instead of the 'what' and 'how' questions that address the proposed problem(s). Hence, the way to

search for the answer is by conducting a deep analysis and valid approach to a question and a problem addressed. Therefore, numerous techniques and various ways will be developed based on the topics and contexts of the research.

Secondary data in the form of numbers and extensive literature is used in the study. However, the critical perspective is the main paradigm in this study, which focuses on the framework or mindset that has been developed. The analysis will be conducted in three parts: identify the difference with cryptocurrency, provide a critical perspective on the recent possibility of applying the CBDC in Indonesia, and examine Islamic fundamental views on the monetary system, mainly currency concerns.

The research employs a normative approach (Mohd et al., 2017) when analysing the Islamic perspective on the current monetary system that is applied in the country. The method is reliable and suitable for determining the Sharia status of the existing position in adopting the currency. In the Islamic economic research method, Hossain (2008) highlights the urgency of the fundamental goals of Islamic society as a focus, both in material and non-material aspects. So do ethical standards, which are the ultimate priority in determining the research agenda.

In the context of public policy, the research uses a policy brief approach. It means that the research focus is to determine how the prospects of future policy should be arranged. It developed a framework that accommodates certain schemes under specific conditions that will be analysed. Generally, the aim is to project the best scheme to be implemented in the future for a certain condition.

4. RESULTS AND DISCUSSIONS

4.1. CBDC versus Cryptocurrency

There are differences between CBDC and cryptocurrency types. In basic terms, the difference between the two lies in the type of blockchain used. CBDC uses a special type of blockchain, called a private blockchain, while cryptocurrency uses a public blockchain. The use of private blockchain requires that the user's identity (account) be tied to his bank account. This identity is fully controlled by the Central Bank in determining the amount of supply and network distribution. The public blockchain that has been used in cryptocurrency is anonymous; that is, the identity of the owner is not known. The commodity's movement is only monitored from one device to another without it being clear the identity and the activities' aims. Therefore, cryptocurrency is often used as a medium for speculation and the avoidance of transactions that can identify the owner. The high-risk transactions globally known, for instance, are crime-oriented and tax-avoidance activities.

On the other hand, as digital money is a private blockchain, the transactions involved allow for the traceability of each transaction from various platforms, which enhances security and avoids speculation when using anonymity. CBDC will be attributed to the specific identity of the banking account owner; therefore, the transaction can be clearly identified.

Initially, the emergence of cryptocurrency was initiated by a distrust of the current monetary system and its mechanisms, which were fully controlled by the central bank. The central bank has the only authority to issue and control the circulation of fiat money. The critical issue is how the central bank has monopoly power over the currency. The adage says that power tends to corrupt; absolute power corrupts absolutely.

This situation creates the prospect of moral hazard due to the institution's absolute power. It is impossible to determine with certainty what and how a country's system for creating new currency is unless it is solely under political and government control. This situation leads some groups to believe that it is critical to build a fair monetary mechanism using a decentralised financial system paradigm. Prior to the market, each party was in the same state. The amount of money in circulation, in the case of cryptocurrencies, is predetermined, and the transfer mechanism is carried out via a blockchain scheme, allowing everyone to monitor one another. Market mechanisms will also help to create healthy and fair transactions.

There is limited support available to banks and financial institutions across the globe for the challenge of the financial system's decentralisation. One way to address the demand for decentralisation is the impetus behind the issuance of digital currency. The CBDC network's regulations, including supply levels, will be set by the Central Bank due to its private blockchain. Requirements for decentralisation are also met by the usage of digital money since the market for digital money itself is the ultimate authority within the network.

The primary purpose of CBDC is to serve as a transaction medium, which is the fundamental role of money. The only difference between this CBDC and cash is that it is issued digitally. This function will consider the requirements and modes of exchange that exist inside a nation's market and economic structure. In other words, the existence of CBDC will mirror actual market circumstances found in society. not the same as cryptocurrency. Its use is currently focused more on speculative functions than on reflecting actual economic situations. How the comparison between

CBDC and cryptocurrency is seen in Table 6 below. Compared to crypto money, CBDC has the advantage of a high level of stability. Crypto is a type of asset that has a very high level of volatility, as it is often used for speculation.

Table 6. Summary of the differences between CBDC and Cryptocurrency

Aspects	CBDC	Cryptocurrencies
Blockchain type	Private blockchains	Public blockchain
Anonymity	Partial anonymous	Fully anonymous
Decentralization	Decentralization with Central Bank regulations	Full decentralization
Function	Medium of exchange (payment)	Speculative means

Source: BI (2022)

4.2. Critical Analysis

Before considering whether the government should completely implement CBDC, an in-depth review of the system's limitations is recommended. This examination is not only technical, but it also addresses the safety of using digital money. However, understanding the principles of this digital money system's adoption is required, including features of infrastructure readiness and communal aspects. This examination must, of course, be objective and not biased towards glorifying or frightening. Critical assessment addresses the discussion of potential disadvantages of CBDC application.

First, personal privacy violations concern. Some literature depicts the negative repercussions for workers who deploy rupiah digital money, including Zhang et al. (2024) and Murphy et al. (2024). It covers local, for instance, in the US (Ross, 2024), and global context observations (Jossey, 2022). The key message to convey is that if CBDC is adopted in this country, there will be negative effects, including the loss of personal asset protection because all identification and access to personal wealth will be compelled to be taken over by the government. The first stage of implementing the CBDC programme is requiring all citizens to re-identify their digital IDs. One approach is to re-record fingerprints or other biometric technologies. The second level involves integrating all sorts of access to wealth and personal information into the digital ID.

The key concern is limiting access to personal wealth if someone opposes the government or banking institutions. The government or banks have full access to a person's assets. If it is thought that the account owner has performed actions against the wishes of the government or banking, accounts can be instantly stopped and assets or property seized. Full authority to access and control an account does not require a court to determine guilt but rather simply an 'allegation' by the bank or government. The account-blocking event occurred in both Australia and Canada.

The debate on this issue implies how an account was blocked simply because the owner opposed something about his civic rights. The objection resulted in the suspension of his account and access to his digital assets. Following the blocking, the account owner finally ceased protesting and was granted full access to his fortune.

This condition will undoubtedly be terrifying. How is it possible that we possess goods and property while other parties (in this example, the banking system and the government) can swiftly revoke these rights? If this occurs, it will undoubtedly harm society as a whole. The government and banking system will be able to act totalitarianly because of their absolute authority. As a result, some communities encourage everyone to reject the installation of CBDC in our Rupiah currency. If enacted, we shall become slaves to the current government and financial system. There will be a powerful force in charge of us and our possessions. Calls to reject initiatives can be made by legal, political, or mass protests.

The government will obtain access to the CBDC mechanism as a result of this. It's simply that this access will eventually be governed by regulations that grant limited jurisdiction over the right to violently seize assets owned by the account owner. To use this digital money, all parties (the account owner and the government, as well as the channel hub) must follow the legislation that regulates them.

Digital money identification is based on a bank account rather than a personal ID, including via biometric means. The administration is still considering whether to utilise a one-tier, two-tier, or hybrid plan. It's merely that the three CBDC implementation options rely on bank account ownership. This account is also unable to combine all transaction requirements and platforms into a single platform. Even if we do integrate, as an aggregator, it will be for payments rather than combining merchants or platforms.

The working system is similar to the existing startup aggregators. For example, Flip simplifies payment transactions by eliminating the need for several bank accounts. Just having one account in the fold as an aggregator makes it easy to make payments to various bank accounts with low fees.

Aside from opposing the introduction of CBDC, it appears to wish to encourage the public to move to a digital asset ownership scheme that is difficult to steal while maintaining privacy concerns, specifically cryptocurrencies. Bitcoin is one of the references. Accordingly, bitcoin is an open and decentralised alternative to digital assets that provides complete privacy protection. It is unclear whether the uploader is a Bitcoin activist, but this comment suggests that he intends to continue making cryptocurrencies his preferred digital asset. CBDC is an opponent who will endanger the existence of previously produced cryptocurrencies.

Apart from the issue of extensive authority that will be held by the Central Bank and access to transaction data and information on each account, other critical issues need to be discussed. As the volume of account access requests grows, so will the risk of cyberattacks. There needs to be awareness and caution when using the bank account.

CBDC implementation has also resulted in a smaller proportion of the banking market. One of the primary functions of the banking industry is to act as an intermediary entity, delivering loans to those in need. The financial system's involvement with financial institutions and banking has resulted in the establishment of demand deposits, or loan liquidity, which emerge from banking pledges to give a particular amount of cash in exchange for the creation of a certain balance in a banking account. With the implementation of CBDC, the business portion enjoyed by financial and banking institutions will decrease. This circumstance will undoubtedly slow corporate growth in the banking and financial sectors.

The reduction in banking and financial institutions has also had an influence on the limited movement of funds and business expansion that financial institutions facilitate. Doing so will cause financial and capital market volatility. Business is no longer as agile and expansive as before in the currency-based financial system management model and the creation of demand deposit liquidity.

Infrastructure readiness and community behaviour are crucial factors to consider while adopting CBDC. The usage of digital money necessitates the availability of critical infrastructure to facilitate transactions, including electricity, internet, transaction tools (devices), and network stability. The affordable facilities can only be realised in Indonesia's major cities. In remote places, network access and stability remain the primary barriers to interacting with internet services. Even though the COVID-19 pandemic and continued technological disruption have compelled most people to rely on the internet for communication, many areas of Indonesia remain unconnected to this infrastructure. This issue is undoubtedly a barrier to carrying out transactions using CBDC.

Furthermore, it appears that people's behavioural readiness to use digital money requires substantial preparation. Traditional society still prefers to use actual currency. Changes in transaction models must be accompanied by a willingness to adapt interaction patterns and behaviour while using digital money. The change to shopping interaction models during the COVID-19 epidemic has left a significant problem: individuals do not use online market media for transactions. Almost every regional government and organisation operates a marketplace and develops a digital market platform. It turned out that the system built was quiet and not used by the general population, including buyers and dealers.

Table 7. Money Supply and Factors Affecting It, August 2023

INFORMATION	2017	2018	2019	2020	2021	2022 Dec	Jul	2023Aug*
Wide Money Circulation(M2)	5,419,165	5,760,046	6,136,777	6,905,939	7,870,453	8,528,022	8,349,492	8,363,283
Narrow Money Supply (M1)	1,390,807	1,457,150	1,565,439	1,855,693	2,282,200	2,608,797	2,438,059	2,410,806
Currency Outside Commercial Banks and Rural Banks	586,576	625,370	654,764	760.112	831,234	897,799	853,336	851,678
Rupiah Current Account	804.231	831,779	910.675	1,095,580	1,450,967	1,710,998	1,584,723	1,559,128
e.g. Electronic Money	2,421	4,033	6,143	7,893	11,112	10,606	11,304	11,392
Quasi Money	4,009,996	4,282,364	4,545,357	5,027,027	5,565,578	5,894,662	5,884,767	5,924,499
Term Savings (Rupiah and Foreign Currency)	2,124,289	2,233,782	2,353,391	2,555,399	2,675,774	2,728,041	2,760,453	2,803,879
Rupiah	1,851,098	1,934,018	2,054,926	2,272,158	2,386,827	2,413,336	2,475,842	2,515,045
Foreign exchange	273,191	299,763	298,465	283,241	288,947	314,704	284,611	288,834
Other Savings (Rupiah and Foreign Currency)	1,638,333	1,769,299	1,877,909	2,108,160	2,376,835	2,504,674	2,476,093	2,465,196
Rupiah	1,520,007	1,644,863	1,757,687	1,959,945	2,218,073	2,324,524	2,310,876	2,300,813
Foreign exchange	118,326	124,436	120.222	148.215	158,762	180,150	165,217	164,383

Currency Current Account	247,374	279,284	314,056	363,468	512,969	661,947	648,221	655,424
Securities other than shares	18,362	20,533	25,981	23,220	22,675	24,563	26,667	27,978

Source: Bank Indonesia

According to Indonesian economic and financial statistics (SEKI) released by Bank Indonesia till August 2023 (Table 7), the usage of narrow money circulation (M1) remains high, particularly when compared to the use of electronic money. Table 3 shows that rupiah demand deposits continue to dominate the amount of M1 money. This suggests that money circulation in the non-real sector remains significantly higher than in the real sector. This situation is undoubtedly harmful to the economy, given that the real sector provides the majority of its support. The increased circulation of money in the financial sector (non-real) may have a negative influence on the long-term economy.

4.3. Islamic views on digital currency

According to the prior explanation and discussion of CBDC, this digital currency looks to be identical to a country's fiat money-based currency. The distinction is in the usage of digital technology as a medium for manufacturing, recognising, distributing, and destroying components. Fundamentally, CBDC does not replace the concept of a traditional monetary system based on fiat money. As a result, the discussion on how Islam perceives these phenomena will return to the fact that paper currency was developed in the capitalist monetary system.

According to Shaykh Taqiyuddin an Nabhani, money is essentially a basis of exchange for goods and services (Rifa'i, 2020). As a result, money can be thought of as a unit of measurement for products and labour. Price is a measure of goods, but wages are a measure of human labour's utility. The standards for assessment are gold and silver.

As for the implementation of a currency system in a country, An Nabhani divides it into two types, including.

A. Metal currency system

In this currency system, the currency created is based on a base currency made of certain metals. Metal forming can be based on one type (single) or two types of metal. In a single metal currency system, the currency standard is based on one particular metal, which can be gold or silver. In the two-metal system there are two types of metal that are applied simultaneously, namely gold and silver.

B. Banknote system

The paper money system uses paper money as a medium for exchange. In general, the paper used in transactions can be based on certain assets as underlying (either partially or fully) or not. In the paper currency system, there are three types, including:

1. Substitution banknotes (*nuqud waraqiyyah naibah*) are banknotes that reflect the amount of gold and silver in the form of money or bars stored in a certain place that have a metal value equal to the nominal value of the money and can be exchanged on demand.
2. Guaranteed banknotes (*nuqud waraqiyyah watsiqah*) are banknotes agreed by the signer to pay certain coins to the bearer. The exchange value depends on maintaining the credibility and ability of the signatory to fulfil its promises. The most important form of banknotes is bank notes. It's just that these banknotes are not guaranteed the exact same value as gold, as in substitute money.
3. Paper money that cannot be exchanged for pure metal (*nuqud waraqiyyah ghira qabilatun lissharfi*) or what is called paper money. This paper currency is issued by the government of a country and is used as official currency. These banknotes cannot be exchanged for gold and silver and are not guaranteed by gold and silver reserves. It's just that the government issued a law that protects the banks that issue it so that it can force exchanges with gold and silver.

The basic question regarding the monetary system in Islam is what currency is permitted to be used in daily transactions? To answer this, Shaykh Taqiyuddin An Nabhani in his book An Nidzam al Iqtishadi fi al-Islam states that Islam does not stipulate certain goods as the principle of exchange (*al-mubjadi*) for goods and services, both in determining the laws of buying and selling and renting. (Rifa'i, 2020). The basis for the ability to carry out transactions is mutual consent. As for setting standards in currency, An Nabhani stated that Islam establishes gold and silver as the basis of currency with the following arguments.

1. Islam prohibits the hoarding of gold and silver, as Allah SWT says

وَالَّذِينَ يَكْنِزُونَ الذَّهَبَ وَالْفِضَّةَ وَلَا يُنْفِقُونَهَا فِي سَبِيلِ اللَّهِ فَبَشِّرْهُمْ بِعَذَابٍ أَلِيمٍ

And those who store gold and silver and do not spend it in the way of Allah, then tell them, (that they will have) a painful punishment (QS At Taubah: 34)

It is clear that Allah SWT has prohibited the hoarding of gold and silver with the threat of painful pain

2. Islam has made it mandatory to pay *diyat* in gold and silver, and determines a certain size for each . For example, the evidence for the determination of several *diyats* was narrated from Ibn Abbas ra. that once a man from the Bany Adiy tribe was killed and Rasulullah SAW set his *diyat* at 12,000 dirhams (HR. An Nasa'i). Besides, Rasulullah SAW once stated in his letter addressed to the people of Yemen

   " That in (the murder of) the soul there is a diyat in the form of 100 camels... and for the owner of the gold (there is an obligation) of 1,000 dinars" (HR an-Nasa'I from Amru bin Hazm)

3. Rasulullah SAW established gold and silver as currency. He set currency standards in the form of *uqiyah, dirham, daniq, mitsqal, qirath* and dinar. This can be seen in the hadith narrated by Abu Dawud from Ibn Umar that Rasulullah SAW said

   It was narrated from Usman bin Abi Syaibah from Ibni Dukain from Sufyan from Hadanah from Thawus from Ibn Umar that Rasulullah SAW said *"The scales are the scales of the people of Makkah" (HR. Imam Abu Daud)*

4. When Allah SWT requires zakat on money, Allah SWT has also required zakat on gold and silver and determines the nishab on gold and silver as well.
5. The laws regarding currency exchange (sharf) are only carried out with gold and silver. The evidence for this can be seen in the hadith narrated from Abi Bakrah ra. that Rasulullah SAW said

   "It was narrated from Suwayd bin Nasri from Abdullah bin Mubarok from Sufyan from Khalid al-Khidzak from Abi Qalabah from Abi Ats'as from 'Ubadah bin Shamit that Rasulullah SAW said... and buy and sell gold and silver as you wish" (HR Tirmidhi)

In another hadith, Rasulullah SAW said:

The Prophet said: gold with currency can result in usury, unless both parties agree (HR Imam Bukhari)

Based on An Nabhani's explanation, it appears that the fundamental problem of the monetary system is the determination of currency which must be based on gold and silver. The aspect of using paper money can be justified if it is still based on the underlying assets in the form of gold and silver, in this case, it is a substitute currency. Structuring and managing currency into digital money is one of the technical options for using digital media to facilitate transactions. The main problem with using CBDC is not the formation of restrictions on personal financial assets or the extensive authority of the Central Bank but improving the fundamentals of the monetary system that emerged along with the formation of Ribawi-based banking and financial systems. These fundamental improvements will certainly reduce the potential risks of implementing CBDC.

This fundamental change must, of course, address the core of capitalism's dysfunctional financial system, especially the usury or interest-based system, fiat money currency, and the banking and financial industry, which serve as the economy's primary blood pressure.

Regarding traceability, Islam has specific regulations that concern individual figures' protection, mainly personal security and privacy. Individual privacy rights have been protected and secure in Islam, regardless of race, sex, colour, and religious belief—nothing but human dignity (Khan & Jalil, 2015). Moreover, there is a strict prohibition of unnecessary investigations into personal offences and unjust accusations, which is called tajassus (Brown, 2017). In the social context, an intention to pry into others' private affairs may cause social disorder, which is explicitly banned in the Quran (Amri, 2023). It also applies to the organisational context; no permission to seek out others' faults (Abuznaid & Samir, 2016). It all covers ethical and legal considerations (Saputra, 2019).

The gold standard is more empirically eminent than fiat money in the monetary system (Jordan, 2015). From a historical perspective, A. C. Tunçer (2013) and C. Tunçer (2012)show that the Ottoman Empire's monetary system performed more stable under a gold standard than modern fiat systems. Fiat money is profoundly unstable and often falls short across many nations (Yeager, 1984). The argument is supported by Durani's (2015) paper that fiat money has created more vulnerability to inflation and monetary misappropriation than the gold-backed standard.

Empirical evidence studies support the gold-based monetary system's superiority over fiat money. Gold standard delivered price stability in long-term monetary policy management (Kydland & Wynne, 2002), even in economic crises (Cooper et al., 1982). It also creates an economic freedom atmosphere and reduces potential government manipulation of the money supply, thus improving stability and predictability (Bordo, 1993).

5. CONCLUSION

CBDC is a financial innovation that uses digital technology as a tool for creating, managing, distributing, and destroying a country's official currency. The proposed concept is just a complement to capitalism's current monetary

and financial structure. The debate over whether CBDC will bring new optimism to the monetary and financial systems is no longer relevant because the monetary and financial systems are still based on traditional methods. The main difference is the use of technological tools as a means of interaction. CBDC implementation will only marginally alter interaction patterns and interrupt a portion of the banking sector's business operations.

The study found that cash-like money continues to dominate the present currency distribution, and the socio-economy, including the infrastructure used in daily transactions, continues to rely on the traditional monetary system. The short-term implementation of CBDC remains problematic. Indonesia does not use gold or silver as underlying assets for currency issuances, according to Islamic monetary theory. It violates Sharia norms and is a major concern for the monetary system.

As Muslims, we must fully comprehend the facts of CBDC before deciding how to behave. Essentially, Sharia law governs all our actions and attitudes. Hopefully, this brief study provides knowledge of CBDC and its associated characteristics. Furthermore, there is an illustration of how the Islamic monetary system should be formed, which can be used as a model for how to behave. The development of this CBDC does not disrupt the core function of the capitalist monetary and financial system, so there is no need to expect significant changes in the implementation of the following CBDC.

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