



Legal Aspects in Issuing Central Bank Digital Currency in Indonesia as a Currency

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Abstract—The existence of the Digital Rupiah (D-Rupiah) as a Central Bank Digital Currency (CBDC) has been accommodated in Law Number 4 of 2023 concerning Development and Strengthening of the Financial Sector (UU P2SK) that amended the Indonesian Currency Law, however, is the regulatory formulation in this law adequate enough to make the D-Rupiah as currency? This is what will be discussed in this article, apart from that the method used by the author in writing is a normative or doctrinal (dogmatic) approach. In discussing the feasibility of the D-Rupiah as a currency, the author uses an approach based on 5 (five) important legal mechanisms on currency to measured legality of D-Rupiah as a currency according international standard.

Keywords—CBDC, Currency Law, Digital Rupiah, Central Bank

I. INTRODUCTION

The emergence of the idea of a central bank digital currency (CBDC) that utilizes Blockchain technology was followed by changes to the Currency Law and the idea of the Garuda Project. The background to the emergence of CBDC in the form of Digital Rupiah (D-Rupiah) can be seen from the statement of the Governor of Bank Indonesia Mr. Perry Warjiyo in the White Paper: D-Rupiah as follows, that the central bank is at a crossroads towards the future, this is due to the flow of Digital innovation not only changes the banking system but also has a wider impact, namely disrupting the official currency and the position of the central bank itself. This digital innovation gave rise to the phenomenon of private digital currencies or what are usually called crypto assets and stablecoins.[1]

According to Perry Warjiyo, updates in the field of technology and changes in people's behavior are the main causes of this phenomenon. The presence of new technology, especially Web 3.0 and Distributed Ledger Technology (DLT), is increasingly increasing the use of private digital currencies by society, which at the same time creates various opportunities and risks for society, the banking system, central banks and the government. On the one hand, this condition has the opportunity to increase openness and participation as well as the efficiency of the financial system, including the financial transaction traffic system between countries, as well as being the basis for creating conditions for financial decentralization which provides opportunities for improving the community's economy, such as fast access to various financial products and services currently available. This is still difficult to access for some community groups, especially poor people or people in remote areas. On the other hand, private digital currencies also have the risk that they can be used for criminal acts such as money laundering and terrorism financing as well as transactions that are prohibited by law. There are concerns that excessive use of private digital currencies could affect the success of Bank Indonesia's policies as the central bank, which could pose a risk of damage to financial stability, the existence of illicit currency practices and unauthorized central banks, and even these conditions could have negative impacts on international monetary system at the global level. Perry Warjiyo said the global central banking community would certainly not remain silent. Likewise with Bank Indonesia, in response to this, several central banks reviewed their policy approaches by starting to research opportunities for issuing CBDC as a promising answer to these problems in order to anticipate future challenges. In line with this, in Indonesia's G20 Presidency in 2022, the G20 central bank together with international institutions will address these

dynamics by formulating regulations and supervision of private digital currencies by adopting the principle of "same Activity, same risk, same Regulation".[1]

However, according to Perry Warjiyo, for the central bank, implementing CBDC issuance is not an easy matter because the central bank needs to first formulate and focus the CBDC design in a measurable manner and pay attention to the balance between benefits and the risks of negative impacts that arise. For example, there are three things that Bank Indonesia needs to pay attention to when creating a CBDC.[1] First, the CBDC design must prioritize the interests of society and Bank Indonesia's duties as the central bank. This is a consideration for Bank Indonesia in designing a CBDC, whether to issue a retail CBDC that has a direct impact on society or to issue a wholesale CBDC that is useful for transactions between banks and other financial institutions and can also later become the basis for being developed into a retail CBDC. The second thing that Bank Indonesia needs to pay attention to is the role of CBDC in supporting financial openness and participation that can reach communities in outermost, frontier and underdeveloped areas; the costs required to create a cheap but high quality CBDC, as well as the use of data that is managed and stored precisely and in detail. Third, Bank Indonesia must pay attention to suitability and harmony in efforts to combine CBDC with domestic and cross-border payment systems as well as current financial market facilities and infrastructure. In this context, Perry Warjiyo said Bank Indonesia would develop D-Rupiah which refers to three main driving factors.[1] First, based on the legal mandate that Bank Indonesia is the only institution authorized to issue Rupiah currency in Indonesia, while private parties are not allowed to. Second, Bank Indonesia consistently makes improvements and improvements in carrying out the task of regulating currency circulation, in response to economic growth and an increasingly decentralized digital financial ecosystem. Third, Bank Indonesia is preparing cross-border payment facilities and infrastructure to face global trade and financial transaction activities in an era of disruption using information and communication technology.

In 2023 the government and parliament (Dewan Perwakilan Rakyat/DPR) agreed to surpass a new legislation, that is Law Number 4 of 2023 concerning Development and Strengthening of the Financial Sector (UU P2SK).[2] Article 10 in UU P2SK which amends Article 2 paragraph (2) Law Number 7 of 2011 (Indonesia Currency Law) which reads "Types of Rupiah consist of paper rupiah, metal rupiah and digital rupiah" and the explanation which reads "What is meant by "digital Rupiah" is the Rupiah in digital form issued by Bank Indonesia and is a monetary obligation of Bank Indonesia. "The digital rupiah has the same function as the paper rupiah and metal rupiah, namely as a legal means of payment in the territory of the Unitary State of the Republic of Indonesia, a medium of exchange (alat tukar) and a store of value (alat penyimpanan nilai)."[3]. But, is the regulatory formulation in this law adequate enough to make the D-Rupiah as currency?

II. LITERATURE REVIEW

Previous research related to the D-Rupiah includes, among others:

1. Research "The Urgency of Legal Regulation of Central Bank Digital Currency in the Anti-Money Laundering Dimension", written by Go Lisanawati and Erly Aristo and published in the *Veritas et Justitia Journal* in 2022. This article discusses problems regarding the digitalization of payment systems requiring adjustments from the state to accommodate and responded, one of the issues related to the use of virtual currency (digital currency/crypto currency) and CBDC, so accommodative and responsive legal instruments are needed to regulate. The article in question states that the payment system policy in Indonesia has not yet addressed the issue of digital money as a payment method, on the other hand, CBDC is a digital form of paper money. Furthermore, through PBI No. 18/40/PBI/2016 [4] and PBI No. 19/12/PBI/2017 [5] it is understood that the use of virtual currency as a means of payment is prohibited in Indonesia. CBDC has various forms of crypto/digital/virtual currency which are not issued by the state, but are still referred to as virtual currency/crypto money, on the other hand the use of virtual currency has been widely exploited by money launderers to carry out money laundering and terrorism financing, this is because virtual currencies have no underlying asset or responsible authority or administrator, are volatile, risky and speculative.[6]
2. Research "Legality of Implementing Central Bank Digital Currency (CBDC) in Indonesia", written by Rafli Fadilah Muhammad and Rianda Dirkareshza and published in the *USM Law Review Journal* in 2023. This research discusses the issue of legality of implementing CBDC in Indonesia first of all after the enactment of UU P2SK (Law Number 4 of 2023). The background of this research is that the plan to implement CBDC cannot be separated from the presence of crypto digital currency which has the potential to replace the legal currency, namely the rupiah. In implementing CBDC, a strong legal basis is certainly needed. The presence of the UU P2SK is felt to be a strong legal basis for implementing CBDC. The results of this research concluded that the UU P2SK had provided a legal basis for the introduction of D-Rupiah (CBDC). However, this is not completely sufficient because further regulations regarding technical aspects are still needed, which can be addressed by Bank Indonesia through BI Regulations.[7]

This research discusses the legal aspects of the CBDC issuance plan, namely the Digital Rupiah (D-Rupiah) as currency. "D-Rupiah" refers to the Rupiah that Bank Indonesia issues in digital format, which is a financial

obligation of Bank Indonesia. What is different from previous research is that in this research the author assesses the suitability of the D-Rupiah as a currency by testing it using 5 (five) important legal mechanisms as stated by Wouter Bossu, Masaru Itatani, Catalina Margulis, Arthur Rossi, Hans Weenink and Akihiro Yoshinaga in IMF Working Paper, namely, first, The monopoly of issuance by the State or its agent; second, Cours force; third, Legal tender status; fourth, Privileges under private law; and fifth, Protection under criminal law [8] regarding the conditions of existing laws and regulations in Indonesia as the basis for the issuance of the D-Rupiah, so that we can obtain a formula as to whether the basic regulatory framework prepared through the Indonesian Currency Law is appropriate or not for the issuance of the D-Rupiah.

III. METHOD

The research method in this paper uses a normative or doctrinal (dogmatic) approach, namely a top-down thinking approach. According to F.X. Adji Samekto, law is conceptualized as legal rules that originate from generally agreed values, as values that are the guiding stars of life. These values are therefore called meta-juridical in nature. Thus, this normative study is a priore in nature, placing legal regulations as the major premise, with deductive analysis. It is said to be a priore because law is an instrument for upholding values that are useful for controlling human behavior and human behavior must not conflict with these legal regulations. Furthermore, according to F.X. Adji Samekto, in the normative approach, what is called law is a concrete regulation in written form, which is made based on the agreement of the community (through its representatives) to bind the community, and is ratified by the highest legitimate authority, and contains clear orders. In the normative approach, law is conceptualized as controlling social behavior, and therefore the law must be enforced. Law is conceptualized as the only solution to resolve concrete problems in society. As a basis for analyzing problems or cases in society, we use: first, primary legal sources, namely legal principles, second, legal regulations that describe legal principles, actions, judge's decisions and secondary legal sources, namely expert opinions.[9]

According to Amsal Bakhtiar, deduction is a method that concludes that empirical data is further processed in a coherent statement system. What must be present in the deductive method is a logical comparison between the conclusions themselves. There is an investigation into the logical form of the theory with the aim of whether the theory has an empirical or scientific nature, there is a comparison with other theories and there is testing of the theory by empirically applying the conclusions that can be drawn from the theory.[10]

The aim of this legal research is to find legal principles that underlie the implementation of legal regulations or judges' decisions.[9] The data collection method used is collecting data in the form of legal documents which can take the form of statutory regulations, judge's decisions which have permanent legal force as primary legal material. To obtain a more in-depth explanation or description of primary legal materials, the explanations and theoretical analysis can be traced in the minutes of the legislative regulation drafting session; academic manuscripts for drafting statutory regulations.[9]

IV. RESULT AND DISCUSSION

A. *Digital Rupiah (D-Rupiah) as CBDC, Electronic Money and Crypto Currency*

Blockchain technology are used in crypto currencies and CBDC, according to Tao Zhang and Zhigang Huang, there is three kind of blockchain, that can be compare such as follows:[11]

1) Public Blockchain

It had a high openness and decentralization, but low on velocity, scalability, fee, and throughout, also don't require any permission to operate. Instance: Bitcoin, Ethereum.

2) Consortium Blockchain

It had a medium openness, velocity, scalability, decentralization, fee, and throughout, but it also required a permissioned to operate. Instance: Fabric, Corda, Quorum.

3) Private Blockchain

It had a low openness and decentralization, but high on velocity, scalability, fee, and throughout, also required a permissioned to operate. Instance: E-krona a CBDC project by Swedish central bank.

From an accounting perspective, the most important thing in digital currency regulation is how the currency is reflected in accounting. The development of an open, verifiable regulatory structure could significantly help the creation of accounting standards for digital currencies. A robust regulatory framework that considers crucial elements like consumer protection, privacy, and anti-money laundering regulations is necessary for digital currencies. These fields need to be extended in order to combat new risks, safeguard investors and boost their confidence, and give more financial stability to the unstable cryptocurrency market.[12]

To know better about D-Rupiah as CBDC we must understand the differences between electronic money and D-Rupiah according to Association of National Banks (Perhimpunan Bank Nasional/Perbanas) in Indonesia, as follows:[13]

No.	D-Rupiah as CBDC	Electronic Money
1.	D-Rupiah as a legal means of payment as a substitute for currency	Electronic Money as a means of payment in electronic form
2.	The central bank sets the monetary value of the D-Rupiah and regulates its circulation.	Before using electronic money for transactions, users must first deposit the money with the issuer. Electronic money has a monetary value that is stored on specific electronic media.
3.	As the monetary authority, Bank Indonesia issues D-Rupiah.	Either non-banking entities or private parties issue electronic money.

According to Bank Indonesia the D-Rupiah is different from the Rupiah which is in Electronic Money (chip and server based) and in Card Payment Tools (Alat Pembayaran Menggunakan Kartu/APMK) such as Credit Cards, ATM Cards and/or Debit Cards, the differences are as follows:[1]

No.	Information	D-Rupiah	Rupiah in Electronic Money or in Card Payment Tools
1.	Source	Similar to banknotes and coins, the central bank (Bank Indonesia) issues D-Rupiah, but in digital form.	Rupiah in Electronic Money (EM) and Card Payment Tools comes from money recorded or circulating in commercial banks.
2.	Obligation/claims	The D-Rupiah represents the holder's direct obligation or claim to the central bank, Bank Indonesia, acting as the Issuer.	Electronic Money and money in Card Payment Tools constitute the holder's claim against the commercial bank/Banking Service Provider (Penyedia Jasa Perbankan/PJP) that issued it.

And then, we must know the differences between CBDC and Crypto Currency, as follows:[14]

No.	CBDC (Central Bank Digital Currency)	Crypto Currency
1.	Central Bank Digital Currency uses a centralized structure and an official (private) blockchain.	Cryptocurrencies operate on a decentralized (public) blockchain so they do not use authority permissions.
2.	The identification of the Central Bank Digital Currency user will be connected to an active bank account and contain the owner's personal data.	Cryptocurrency users are anonymous.
3.	For the Central Bank Digital Currency network, the Central Bank serves as the regulatory body.	Cryptocurrency authority is vested in its user base, who make choices by consensus.
4.	The only uses for Central Bank Digital Currency are payments and other financial activities.	Cryptocurrencies are useful for both payments and speculation.

The importance to know the difference between CBDC and crypto currencies because the main motivation of CBDC is to increase security, resilience and efficiency of payments, reduce issuance costs and increase transaction convenience.[11]

D-Rupiah is not included in crypto currencies or crypto assets or stablecoins, because D-Rupiah is a CBDC which is the currency of the Republic of Indonesia.[2] In this way, the value of the D-Rupiah cannot fluctuate like crypto assets, this is because the process of issuing the D-Rupiah is through the conversion of Bank or Non-Bank Institution (Lembaga Selain Bank/LSB) Giro at Bank Indonesia so that the D-Rupiah will be a complement to the money that currently exists and the D-Rupiah is a direct claim to the central bank so that the value of the D-Rupiah will not fluctuate against the Rupiah.[1]

B. The Garuda Project

According to Bank Indonesia website The Garuda Project is an umbrella initiative to research the design of an Indonesian CBDC named Digital Rupiah (D-Rupiah). D-Rupiah is Bank Indonesia's contribution to the country in the struggle to maintain the sovereignty of the Rupiah in the digital era.[1] This project complements various Bank Indonesia initiatives in pushing the national digital transformation agenda, especially efforts to integrate the digital economy and finance end-to-end which are currently being pushed through the Indonesian Payment System

Blueprint 2025 (BSPI 2025) and the Money Market Development Blueprint 2025 (BPU 2025). The principles of the Garuda Project as a CBDC design development are based on 3 (three) things, namely:

- 1) does not interfere with the execution of the central bank's (Bank Indonesia) main duties in the monetary and macroprudential fields ("do no harm")
- 2) able to coexist with money that already exists and is currently available ("coexist")
- 3) encourage innovation and efficiency.

This is in accordance with the standards presented by the Bank of International Settlement (BIS) as a guideline for central banks in designing CBDCs.[15]

The definition of D-Rupiah according to Bank Indonesia is Rupiah currency in digital format which is used like physical money (paper money and coins), electronic money (chip and server based), and money in payment instruments using cards/APMK (debit cards and credit cards) that we use. use it now. D-Rupiah is issued only by Bank Indonesia as the Central Bank of the Republic of Indonesia.[1] The existence of the D-Rupiah will be a complement and is not intended to replace money that already exists, circulates and is used by society today, including banknotes and coins. The function of the D-Rupiah is the same as the function of the Rupiah as the currency of the Republic of Indonesia, the Rupiah in digital form according to Bank Indonesia also functions:[1]

- 1) As a medium of exchange;
- 2) As a means of storing value;
- 3) As a unit of account.

The D-Rupiah is planned to be issued by Bank Indonesia in 2 (two) types, namely:[1]

- a) Wholesale Digital Rupiah (W-Digital Rupiah) with limited access coverage and only distributed for the settlement of wholesale transactions such as Monetary Operations (OM), forex market transactions, and money market transactions; and
- b) Retail Digital Rupiah (R-Rupiah Digital) with access coverage that is open to the public and distributed for various retail transactions, both in the form of payment and transfer transactions, by persons/individuals and businesses (merchants and corporations).

C. Legal Aspects of Blockchain Technology in the Financial Sector in Indonesia

According to Ali M. Kutan there is two, recommendation for preconditions for growing blockchain technology and central bank digital currency in ASEAN, the first, implementing a policy of "Regulations First, Business Later"; and second, a roadmap that outlines the present uses of blockchain technology in each of the ASEAN nations and addresses the institutional and regulatory concerns that are essential for the adoption of blockchain technology.[16] By this statement we can see what is happening in Indonesia, "the de facto leader" of ASEAN, as a member of G20, Indonesia is eager to the adoption blockchain technology, such as central bank digital currency and crypto assets. Indonesia is adopting public blockchain technology and private blockchain technology. In public blockchain technology Indonesia is accommodating bitcoin, ethereum, etc., as a crypto assets not as a crypto currencies,[17] because the only legal tender in Indonesia is Rupiah,[3] so there is consequence if payment service provider such as bank or institutions other than banks accepts bitcoin or ethereum as money.[18] The private blockchain technology will be adopted in issuing D-Rupiah as a central bank digital currency by Bank Indonesia as a central bank.[3]

The legal basis of D-Rupiah is the emergence of the sixth part namely Digital Rupiah, Article 10 in Law Number 4 of 2023 (UU P2SK) which amends Article 2 paragraph (2) Law Number 7 of 2011 (Indonesian Currency Law) which reads "Types of Rupiah consist of paper Rupiah, metal Rupiah and digital Rupiah" and the explanation which reads "What is meant by "digital Rupiah" is the Rupiah in digital form issued by Bank Indonesia and is a monetary obligation of Bank Indonesia. "The digital Rupiah has the same function as the paper Rupiah and metal Rupiah, namely as a legal means of payment in the territory of the Unitary State of the Republic of Indonesia, a medium of exchange (alat tukar) and a store of value (alat penyimpanan nilai)."[3] D-Rupiah is meant to be currency, but whether the legal basis is strong enough for D-Rupiah became a currency (official means of payment)? To answer this question, the author will assessed the suitability of the D-Rupiah (CBDC) as a currency under Indonesian monetary law can be tested using 5 (five) important legal mechanisms, namely:[8]

- 1) The monopoly of issuance by the State or its agent;
Currently, usually in many countries, official payment instruments are issued by the State, in this case it is usually issued by the central bank or if issued by another institution it must obtain approval from the state. This is done to maintain a country's monetary stability.[8]
In, Indonesian Currency Law Article 14A paragraph (1) in conjunction with paragraph (2) reads:[3]
"Digital Rupiah management as referred to in Article 2 paragraph (2) includes planning, publishing, circulation and administration"
"Bank Indonesia is the only institution authorized to manage the digital Rupiah as referred to in paragraph (1)"

So those formulation is suitable enough that D-Rupiah issuance is monopolized by the State or its agent.

2) Cours force;

The modern meaning of the concept of cours force is that the value of a banknote is the number of official monetary units printed by its issuer (in this context the state or central bank) and that the banknote must be accepted as payment for that value, without being exchangeable for gold coins. The second mechanism is through cours force, this is what the state uses to impose sanctions on payment instruments. This feature is what makes economists call paper money “fiat money”.^[8]

In Indonesia, the validity of the Rupiah in the form of D-Rupiah is based on law, which means that the authority of Bank Indonesia as the central bank in managing and issuing the Rupiah in the form of Digital Rupiah as a legal currency in Indonesia is based on the law, not based on the amount of gold deposits held, owned by Bank Indonesia as per Article 11 and Article 14A of the Indonesian Currency Law.^[3]

3) Legal tender status;

What is meant by legal tender status is the power to provide currency legally with the power to legally and definitely eliminate monetary obligations. The third legal mechanism can be described as follows. By providing payment instruments with the status of legal payment instruments to creditors, debtors who have monetary obligations legally discharge their obligations. If the creditor refuses payment using legal means of payment and files a lawsuit with the court, the court will assume that the debtor has paid legally.^[8]

In this case, based on Article 1 points 1 and 2 of the Indonesian Currency Law, it is expressly stated that the Rupiah (including the Digital Rupiah) is a legal means of payment throughout the territory of the unitary state of the Republic of Indonesia.^[3] based on Article 33 of the Indonesian Currency Law, every person in the territory of the unitary state of the Republic of Indonesia is prohibited from rejecting the Rupiah as a means of payment, in fact the act of refusing the Rupiah as a means of payment is threatened as a criminal offense unless he doubts its authenticity.^[3]

4) Privileges under private law;

The State officially sanctions payment instruments is by granting them special privileges based on private law with the aim of supporting the circulation of “currency” compared to other possible means of payment, such as securities instruments such as checks or money orders.^[8] Thus, D-Rupiah, whether in the form of token-based CBDC or account-based CBDC, must be able to be used in various activities in the realm of civil law so that it can be integrated into banking activities, capital markets and other activities that can support the running of the economy, for example in banking activities. then the principle of bank confidentiality for customers must also apply to customers who make transactions using token-based CBDC or account-based CBDC, so in the author's opinion there needs to be harmonization between the Currency Law and the Banking Law in Indonesia regarding the security and confidentiality of transactions D-Rupiah when using banking institution services.

5) Protection under criminal law.

The State has protected officially approved payment instruments by imposing criminal legal sanctions on those who damage or destroy without any legal basis and counterfeit these payment instruments.^[8] So far, national and international law has focused on eradicating counterfeit or altered banknotes and coins, the same thing also happens in Indonesia according to the author even though there is already Law Number 4 of 2023 (UU P2SK) which accommodates the existence of the Rupiah as a currency in the form of Digital Rupiah ^[10] so that based on Article 34 of the Indonesian Currency Law, every person is prohibited from counterfeiting Rupiah and the perpetrator is threatened with a criminal offense.^[3] D-Rupiah is an embodiment of crypto technology as well as information and communication technology, but it seems that in the context of eradicating counterfeit Rupiah based on Article 28 of the Indonesian Currency Law, a coordinating body was formed to coordinate the eradication of counterfeit money consisting of Institutional elements:^[3]

- 1) State Intelligence Agency (Badan Intelijen Negara);
- 2) National Police of the Republic of Indonesia (Kepolisian Negara Republik Indonesia);
- 3) Attorney General's Office (Kejaksaan Agung);
- 4) Ministry of Finance; And
- 5) Bank Indonesia.

Based on the description in question, according to the author, the formulation of Article 28 of the Indonesian Currency Law needs to be refined by adding elements of Institutions that have competence in the field of information and communication technology regulators, namely the Ministry in charge of communication

and information technology,[19] as well as Institutions that have competence in the field of cyber security and cryptography, namely the National Cyber and Crypto Agency (Badan Siber dan Sandi Negara).[20]

V. CONCLUSION

Based on 5 (five) important legal mechanisms on currency according to international standards, Digital Rupiah (D-Rupiah) that's regulated in Law Number 7 of 2011 (Indonesian Currency Law) as amended by Law Number 4 of 2023 (UU P2SK) still has shortcomings, including the need for improvements formulation of Article 28 of the Indonesian Currency Law by adding elements of Institutions that have competence in the field of information and communication technology regulators, namely the Ministry in charge of communication and information technology as well as Institutions that have competence in the field of cyber security and cryptography, namely the National Cyber and Crypto Agency.

There is a need for a further legislative process for the Indonesian Currency Law, especially regulations regarding the prevention and eradication of counterfeit Rupiah either in paper or metal or digital form. Also it need harmonization between the Currency Law and the Banking Law in Indonesia, so that it can guarantee the security and confidentiality of the D-Rupiah when used by the public and financial service institutions, both banks and non-banks.

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