

Legal Development Concerning the Creation Of Digital Currency In The Financial System

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LEGAL DEVELOPMENT CONCERNING THE CREATION OF DIGITAL CURRENCY IN THE FINANCIAL SYSTEM

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ABSTRACT

Purpose: This research delves into the legal dimensions surrounding the creation of Digital Rupiah, a digital currency, in response to the evolving landscape shaped by technological innovations and shifting consumer behaviors. The primary objective is to scrutinize the legal development necessary to facilitate the integration of Digital Rupiah within the Indonesian financial system.

Theoretical Reference: Grounded in a normative legal research approach, specifically doctrinal research, this study draws on legal theories and frameworks. By examining existing legal principles, the research aims to generate arguments, theories, or new concepts that address the multifaceted challenges associated with the introduction of digital currencies in the financial sector.

Method: Utilizing the normative legal research methodology, the study critically evaluates the current legal structures, substances, and cultural aspects relevant to the financial system. This approach enables a thorough analysis of the legal prerequisites essential for the successful implementation and regulation of Digital Rupiah.

Results and Conclusion: The study's findings affirm that the strategic plan to introduce Digital Rupiah represents a significant advancement in the Indonesian financial system. However, the realization of this digital currency's potential hinges on addressing various legal considerations. Specifically, the convergence of legal structure, legal substance, and legal culture is imperative to establish a cohesive framework supporting the integration of Digital Rupiah.

Implications of Research: This research highlights the pivotal role of legal developments in shaping the trajectory of the Indonesian financial system amidst the rise of digital currencies. The implications extend beyond the financial sector, influencing regulatory policies and guiding future legal frameworks to accommodate the intricacies of digital currencies like Digital Rupiah.

Originality/Value: Contributing to both academic discourse and practical insights, this research enriches the understanding of legal dynamics associated with digital currencies in the Indonesian context. The identification of essential elements—legal structure, legal substance, and legal culture—provides valuable insights for policymakers, legal practitioners, and scholars navigating the complexities of financial technology.

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DESENVOLVIMENTO JURÍDICO RELATIVO À CRIAÇÃO DA MOEDA DIGITAL NO SISTEMA FINANCEIRO

RESUMO

Finalidade: Esta pesquisa aprofunda as dimensões legais em torno da criação da Rupia Digital, uma moeda digital, em resposta ao cenário em evolução moldado por inovações tecnológicas e mudanças nos comportamentos dos consumidores. O principal objetivo é examinar o desenvolvimento jurídico necessário para facilitar a integração da Rupia Digital no sistema financeiro indonésio.

Referência teórica: Fundamentado em uma abordagem normativa de pesquisa jurídica, especificamente pesquisa doutrinária, este estudo se baseia em teorias e enquadramentos jurídicos. Ao examinar os princípios legais existentes, a pesquisa visa gerar argumentos, teorias ou novos conceitos que abordam os desafios multifacetados associados à introdução de moedas digitais no setor financeiro.

Método: Utilizando a metodologia normativa de pesquisa jurídica, o estudo avalia criticamente as atuais estruturas legais, substâncias e aspectos culturais relevantes para o sistema financeiro. Essa abordagem permite uma análise completa dos pré-requisitos legais essenciais para a implementação e a regulamentação bem-sucedidas do Digital Rupiah.

Resultados e Conclusão: As conclusões do estudo afirmam que o plano estratégico para introduzir a Rupia Digital representa um avanço significativo no sistema financeiro indonésio. No entanto, a concretização do potencial desta moeda digital depende da abordagem de várias considerações jurídicas. Especificamente, a convergência da estrutura legal, substância legal e cultura legal é imperativa para estabelecer um quadro coeso que apoie a integração da Rupia Digital.

Implicações da pesquisa: Esta pesquisa destaca o papel fundamental dos desenvolvimentos legais na formação da trajetória do sistema financeiro indonésio em meio à ascensão das moedas digitais. As implicações vão além do setor financeiro, influenciando as políticas regulamentares e orientando os futuros quadros jurídicos para acomodar as complexidades das moedas digitais, como a Rupia Digital.

Originalidade / Valor: Contribuindo para o discurso acadêmico e conhecimentos práticos, esta pesquisa enriquece a compreensão da dinâmica jurídica associada com moedas digitais no contexto indonésio. A identificação de elementos essenciais – estrutura legal, substância legal e cultura legal – fornece percepções valiosas para formuladores de políticas, profissionais da área jurídica e estudiosos que exploram as complexidades da tecnologia financeira.

Palavras-chave: moeda digital, sistema financeiro, desenvolvimento jurídico.



1 INTRODUCTION

The advancement of information and communication technology has permeated various aspects of life, including the financial sector. The internet plays a crucial role in financial transactions, Transactions, which once heavily relied on bartering using goods, has now evolved, prompting humans to create legitimate currency as a means of exchange. From its inception, the form of currency has continuously evolved, with the initial forms being metallic and paper money, commonly known as cash, which is still in use today.

Cash facilitates transactions efficiently, but as technology progresses, its practicality is mostly limited to small-value transactions. However, using a significant amount of cash for substantial transactions is deemed challenging and impractical. Moreover, carrying large sums of cash is increasingly considered unsafe due to the prevalence of theft, robbery, and counterfeiting, leading people to fear storing or carrying substantial amounts of cash.

These challenges have given rise to innovations in creating non-cash payment instruments that are more convenient and efficient. Various forms of non-cash payment instruments are available. Firstly, there are paper-based instruments such as checks and promissory notes, while a giro represents a negotiable instrument issued by a bank to facilitate fund withdrawals for customers who possess checking or current accounts. Secondly, there are also card-based instruments such as credit cards and debit cards. In this case, the money accessed is not physically represented on the card itself, but rather, it remains under the management of the bank until the customer authorizes a payment. Thirdly, there is electronic money or e-money, which is of a prepaid nature. The monetary value is recorded in the electronic medium, and complete control over the funds resides with the consumer.⁴

In the present day, non-cash payments have further advanced with the emergence of digital payment methods utilizing *QR Code* or two-dimensional matrix codes, which was first developed by the Japanese company Denso-Wave in 1994. The term "QR" stands for "*Quick Response*," reflecting its purpose of enabling digital cameras to swiftly and easily read the information contained within the code, be it text or data. The

⁴ <https://sikapiuangmu.ojk.go.id/FrontEnd/CMS/Article/20533> accessed 13 May 2023.

implementation of QR payment systems aims to expedite transactions, enhance efficiency, and promote a cashless environment.⁵

According to Carney, innovations within the financial sector may reshape the foundation of central banks and bring about a revolution for all financial service users.⁶ As digital technology continues to evolve and introduces new transaction methods, one of the global developments that has garnered significant attention in the financial system is the advancement of digital currency. As elucidated by the Bank for International Settlements (BIS) in 2015, digital currency refers to assets stored in electronic form that essentially serve the same purpose as physical currencies, facilitating payment transactions.⁷

Currently, the only widely circulated form of digital currency is virtual currency created by individuals or private entities. According to Accenture's definition, digital currency or cryptocurrency is a token distributed through a distributed consensus ledger (DCL), commonly referred to as distributed ledger technology (DLT), representing a **medium of exchange** and a **unit of account**.⁸ Cryptocurrency transactions are recorded on the DCL, and users are identified only by their virtual addresses, providing a pseudo-anonymous nature. In comparison to cash transactions, cryptocurrency transactions are more transparent. The security of cryptocurrencies is ensured by the underlying technology of DCL and/or blockchain.⁹

Cryptocurrency and electronic money (e-money) differ substantially, particularly concerning their flow and distribution. With e-money, the central bank typically distributes funds to the market through commercial banks. However, in the case of cryptocurrency, the central bank can distribute funds directly to the public. This was previously not feasible due to the involvement of commercial banks as middlemen in transactions.¹⁰

Several **central banks around the world, including Bank Indonesia (BI)**, are currently exploring the development of the Rupiah currency, commonly known as **Central Bank Digital Currency (CBDC)**. BI has launched the Garuda Project, which encompasses

⁵ *Ibid.*

⁶ Mark Carney, "Enabling the FinTech transformation: Revolution, Restoration, or Reformation?" *BoE Speech*, 16 June 2015.

⁷ Berry A. Harahap et al., "Perkembangan Financial Technology Terkait Central Bank Digital Currency (CBDC) Terhadap Transmisi Kebijakan Moneter Dan Makroekonomi", *Working Paper*, Bank Indonesia, 2017, pp.15.

⁸ Accenture, "The (R)evolution of Money: Blockchain Empowered Digital Currencies", 2017.

⁹ Berry A. Harahap et al., *Op.cit.*, pp.16.

¹⁰ *Ibid.*

various exploratory initiatives regarding the design and architecture options for Indonesia's CBDC, named Digital Rupiah.¹¹

Digital Rupiah is a form of the Indonesian Rupiah that exists in a digital format and can be used similarly to physical cash (banknotes and coins), electronic money (chip and server-based), and card-based payment instruments (debit and credit cards) commonly used today. Digital Rupiah is solely issued by BI as the central bank of the Republic of Indonesia. It is important to note that Digital Rupiah is not considered a cryptocurrency or a stablecoin.¹²

Digital Rupiah can be accessed through two methods: accounts and/or tokens.¹³ There are two types of Digital Rupiah: wholesale Digital Rupiah (w-Digital Rupiah), which has limited access and is distributed solely for wholesale transactions such as monetary operations, foreign exchange transactions, and money market transactions; and retail Digital Rupiah (r-Digital Rupiah), which has open access to the public and is distributed for various retail transactions, including payments and transfers, by individuals as well as businesses (merchants and corporations).¹⁴

While the process of issuing Digital Rupiah may be a complex journey, it is an inevitable development. Digital Rupiah offers numerous advantages and is poised to become a fast, convenient, cost-effective, secure, and reliable currency in the future digital ecosystem. Moreover, it ensures that the Rupiah remains the sole legitimate currency in the Republic of Indonesia.

Comparatively, Digital Rupiah as a general-purpose currency brings benefits over conventional money, including reduced printing and storage costs, as well as the potential to mitigate the emergence of shadow banking activities commonly observed in developing countries. The progress of inclusive finance in Indonesia is also promising. As of 2017, approximately 48.9% of Indonesia's total population (aged 15 years and above) held bank accounts, as reported by the World Bank's Global Financial Inclusion data for 2017.¹⁵

¹¹<https://www.bi.go.id/id/publikasi/ruang-media/cerita-bi/Pages/Rupiah-Digital-Uang-Masa-Depan-Kita.aspx> accessed 13 May 2023.

¹² *Ibid.*

¹³ C.M. Kahn and W. Roberds, "Why Pay? An Introduction to Payments Economics", *Journal of Financial Intermediation*, 2009.

¹⁴ *Ibid.*

¹⁵ Agung Mulyono, "Menuju Era Uang Rupiah Digital", <https://djp.kemenkeu.go.id/portal/id/berita/lainnya/opini/3950-menuju-era-uang-rupiah-digital.html>, accessed 23 March 2023 at 1.00 PM.

The creation of Digital Rupiah requires support and development in various fields, including the legal domain. According to Lawrence M. Friedman, the legal system comprises three essential elements: legal structure, legal substance, and legal culture.¹⁶ Legal structure refers to the permanent framework of the legal system that maintains the processes within defined boundaries, consisting of institutions, agencies, and their mechanisms. Therefore, the establishment of Digital Rupiah necessitates specific institutions, authorities, and oversight mechanisms to foster synergies among these entities. Legal substance can be described as the norms, rules, and actual human behaviors within the system. Comprehensive legislative regulations governing Digital Rupiah are crucial to provide legal certainty for its existence. Legal culture encompasses attitudes and values related to the law and the legal system, both positive and negative, influencing behavior related to the law. It is vital to enhance public legal knowledge and awareness of the conception of Digital Rupiah as a response to technological and informational advancements in Indonesia's financial system.

Legal changes can have a significant impact on social transformation, aligning with one of the functions of law, namely, **the function of law as a means of social change or social engineering**. This concept of "law as a tool of social engineering" was first introduced by the renowned American legal scholar, Roscoe Pound.¹⁷ In the Indonesia context, this concept has been adapted and further developed by Mochtar Kusumaatmadja to suit the country's situation and conditions. According to Mochtar Kusumaatmadja, the conception of law as a means of societal renewal in Indonesia has a broader scope and coverage compared to its birthplace in the United States. This is due to the prominence of legislation in the legal renewal process in Indonesia, although jurisprudence also plays a role. He rejected the application of mechanistic mechanisms associated with the concept, as they might lead to similar outcomes as the much-opposed legalistic approach in Indonesia.¹⁸ Mochtar Kusumaatmadja preferred to use the term "sarana" (means or instrument) rather than "tool," as used by Roscoe Pound, to avoid mechanistic connotations.¹⁹ Thus, the creation of Digital Currency within Indonesia's financial system should be in line with the aspirations of national legal development through the parameters of legal development aspects.

¹⁶ Lawrence M. Friedman, *The Legal System: A Social Science Perspective*, New York: Russel Sage Foundation, 1975, pg.14.

¹⁷ Munir Fuadi, *Teori-Teori Besar (Grand Theory) Dalam Hukum*, Jakarta: Kencana Prennamdeia Group, 2013, pp.248.

¹⁸ Mochtar Kusumaatmadja, *Hukum, Masyarakat, dan Pembangunan*, Bandung: Binacipta, 2006, pp.9.

¹⁹ Shidarta, *Karakteristik Penalaran Hukum Dalam Konteks Ke-Indonesiaan*, Jakarta: Utomo, 2006, pp. 415).

Based on the aforementioned issues, the author intends to comprehensively discuss the legal development aspects related to the creation of digital currency in Indonesia in an article entitled "Legal Development Concerning the Creation of Digital Currency in the Financial System."

2 LITERATURE REVIEW

A. Digital Currency in Several Countries

Current developments show that several central banks around the world are actively exploring the implementation of digital currencies that will serve as legal tender and be accessible to the general public. Some countries have already launched their Central Bank Digital Currencies (CBDCs), including:²⁰

1. The Bahamas:

The Central Bank of The Bahamas introduced the Sand Dollar in October 2020, making it the world's first national digital currency.

2. Nigeria

In October 2021, Nigeria became the first country in Africa to launch the digital currency eNaira. The eNaira is stored in digital wallets and can be used for contactless in-store payments and fund transfers.

3. Eastern Caribbean:

Several Eastern Caribbean countries, namely Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Kitts and Nevis, Saint Lucia, and St. Vincent and the Grenadines, created their own digital currency to expedite transactions and cater to the unbanked population. _ _ _ The Eastern Caribbean Central Bank introduced "DCash," the world's first blockchain-based currency within a currency union. This system enables users, even those without bank accounts, to utilize downloaded applications for QR code payments.

4. China

China became the first country in Asia to launch its digital currency, known as Digital Yuan. Users can access this digital currency through smartphone applications and use it as a legitimate uang digitalpayment methodChina. As of now,

²⁰ <https://www.kompas.com/tren/read/2022/07/18/140000565/deretan-negara-yang-mengembangkan-uang-digital-selain-indonesia?page=all> diakses pada tanggal 13 Mei 2023.

the usage of digital currencies has continued to grow exponentially, doubling in adoption since October 2021.²¹

Apart from the countries mentioned earlier, there are several other countries in the process of developing digital currencies, including:

⁶ 1. India

In February 2022, India's Finance Minister, Nirmala Sitharaman, announced that the Reserve Bank of India (RBI) would introduce the digital rupee around the financial year 2022-2023.

2. Reserve

The Central Bank of Russia first announced plans to launch a digital ruble in October 2017. ⁶ The digital ruble will be built on a hybrid platform combining Distributed Ledger Technology (DLT) and central control by the Bank of Russia. Unlike other countries developing digital currencies, Russia plans to make its digital currency available offline.

⁶ 3. Brazil

Brazil has been exploring digital currency since at least 2020, following the launch of PIX, an instant payment system created by the Central Bank of Brazil (BCB). ⁸ The BCB indicated that they would launch a digital currency pilot in 2022, with the final version expected in 2024.

4. USA

United States:

Although the United States does not have confirmed plans to launch a digital currency, the Federal Reserve Bank has shown interest in it. In January 2022, The Fed released a report providing economic context and weighing the benefits and risks of digital currency. The report was described by The Fed as a "first step" in issuing a CBDC and aims to facilitate broad discussions about the implications of digital currency or CBDC in the United States. _

B. ¹ Advantages and Disadvantages of Digital Currency

The activities within the Web 3.0 ecosystem, including crypto asset transactions, add complexity to financial system control, both in terms of micro and macro-financial risk mitigation. In many cases, crypto asset services tend to operate beyond the reach of

²¹ <https://www.pikiran-rakyat.com/internasional/pr-013769305/buat-bitcoin-dan-kripto-ketar-ketir-china-makin-gencar-luncurkan-mata-uang-digital> accessed 13 May 2023.

financial authorities' policies and regulatory parameters (unregulated) or, at best, fall under limited policy coverage and supervision (under regulated). This is due to the unclear existence of legal entities responsible for the creation, distribution, and control of crypto activities. Meanwhile, the current forms of money (central bank money and commercial bank money) cannot be used in this ecosystem.

The main challenge faced by central banks in this context is to find a sustainable future-proof solution that maintains public trust in the central bank's mandate in the digital era. This solution should have three elements: first, meeting the public's need for risk-free digital money; second, preserving monetary sovereignty; and third, ensuring the effective implementation of the central bank's mandate to maintain monetary stability, financial system stability, and efficiency and security in the payment system. Therefore, it is essential for central banks to consider issuing trusted digital money that can be widely accessed by the public.

Central Bank Digital Currency (CBDC) emerges as a prospective solution to address these challenges. CBDC is a new form of central bank money, which is also a liability of the central bank and shares the same denomination as the official currency, usable as a medium of exchange, unit of account, and store of value. The development and adoption of the digital ecosystem would be more optimal with the support of a native digital currency.

The majority of central banks worldwide and various international organizations are intensively working to find solutions in response to the development of digital currencies. Meetings of the Group of Twenty (G20) in Saudi Arabia (2020), Italy (2021), and including the G20 Presidency of Indonesia (2022)²² have mandated the Financial Stability Board (FSB), Bank for International Settlements (BIS), International Monetary Fund (IMF), and the World Bank to study and recommend necessary steps at the international level to respond to the development of digital currency. In line with these efforts, the majority of central banks worldwide, including Bank Indonesia (BI), are intensifying the development of CBDC. A 2021 BIS survey found that 81 global central banks were in the experimentation and piloting phase.²³

²² The G20 Presidency of Indonesia in 2022 organized the G20 TechSprint 2022 with the theme of CBDC. The event was conducted collaboratively, inviting the world's best talents to address three challenges related to CBDC development.

²³ A. Kosse and Mattei Ilaria, "Gaining Momentum—Results of the 2021 BIS Survey on Central Bank Digital Currencies", *Bank for International Settlements Papers*, No 125. May 2022.

The Digital Rupiah project complements various initiatives by Bank Indonesia (BI) in promoting the national digital transformation agenda, particularly in integrating digital economy and finance end-to-end. These efforts align with the goals set out in the Blueprint for Indonesia's Payment System 2025 (BSPI 2025) and the Blueprint for Money Market Development 2025 (BPPU 2025). Digital Rupiah offers distinct advantages over previously issued currencies, including ⁴ stability, security, and efficiency, while remaining relevant in addressing challenges within the digital economic ecosystem.

Despite central banks' efforts in experimenting and piloting digital currencies, the World Bank evaluates that digital money will not directly impact financial inclusion in society. The presence of digital currencies does not guarantee an automatic increase in the public's access to financial services²⁴. The World Bank views CBDC as a program led by public authorities. According to the World Bank, digital currencies will undoubtedly address some longstanding issues responsible for lower access and usage. However, the World Bank also acknowledges that there are fundamental problems that need to be addressed as part of a successful launch.

There are at least three considerations besides the specific features and the CBDC ecosystem that may disrupt the previous financial system. Firstly, the entry of new players and new business and distribution models. This is based on the influx of non-bank players and the emergence of agent-based services and other models that may have more essential, simplified, and scalable client requirements. Secondly, CBDC must be compatible with various form factors and instruments that are already convenient for individuals and businesses. In some contexts, it may require a simulated structure that can be accessed through mobile phones or other digital devices. Thirdly, data protection and privacy will be crucial, particularly in terms of data privacy protection. This does not necessarily mean full anonymity but rather ensuring comfortable transactions without misuse of transaction data.

The IMF also assesses that digital currency does not benefit both the public and the banking sector, as the current concept of CBDC does not differ significantly from commercial banks' digital wallets. CBDC does not offer interest rates to the banking sector or the public who hold their funds in the form of digital central bank money. This is in contrast to the current situation, where individuals holding funds in banks receive

²⁴ <https://diginomi.sumutprov.go.id/2022/07/20/urgensi-di-balik-rencana-bank-indonesia-kebut-mata-uang-digital/> accessed 13 May 2023.

interest on deposits, and commercial banks holding funds with the central bank also earn interest. While commercial bank deposits may be equally secure, they offer higher imbalances.

C. Rationalization of Digital Rupiah

The issuance and circulation of trusted money are classical functions of central banks²⁵, including Bank Indonesia. Central banks have the sole authority to issue this trusted money, known as central bank money. Central bank money represents the monetary liabilities of the central bank. In addition to central banks, commercial banks and non-bank private sectors also act as issuers of money (private money). However, central bank money differs from private money as it carries the lowest credit risk, thereby providing the highest level of certainty in transaction settlement for its users.²⁶

Central bank money serves as a means of payment and serves as the basis for the money supply process, as well as an instrument for implementing monetary and macroprudential policies. It plays an instrumental role for central banks in carrying out their public policy objectives, providing the safest means of payment to the general public, businesses, and the banking sector.²⁷

Through these functions, central banks strive to meet the transactional needs of society while also controlling the behavior of economic agents, including the creation and circulation of money by entities other than the central bank, in order to maintain monetary stability and financial system stability.²⁸

The central bank also provides the supporting infrastructure for commercial bank money and non-bank private money. This strategy is achieved through three main approaches: Firstly, providing services to commercial banks to settle interbank transactions using central bank money; secondly, facilitating convertibility between private money and central bank money through the issuance of physical currency (banknotes and coins) as an anchor; and thirdly, ensuring the provision of contingency liquidity through the function of lender of the last resort.²⁹

²⁵ Bank for International Settlements, "The Future Monetary System", BIS Annual Economic Report 2022. June", Chapter III. *Bank for International Settlements* Juni 2022.; See also Roberds, W. dan Velde, F. R., "Early Public Banks", *Working Paper*, No. 2014-03, August 2014. Federal Reserve Bank of Chicago.

²⁶ CPSS-IOSCO, "Principles for Financial Market Infrastructures". *Bank for International Settlements*, April 2012.

²⁷ Bank for International Settlements, 2022, *Loc.cit.*

²⁸ A.S Blinder, "How Central Should the Central Bank Be?", *Journal of Economic Literature* *American Economic Association*. Vol. 48 No. 1). 2010; See also C. Goodhart, "The Changing Role of Central Banks", BIS Working Papers No. 26. Bank for International Settlements. November 2010.

²⁹ Bank for International Settlements, "Central Banks and Payments in the Digital Era", *BIS Annual Economic Report* 2020. Chapter III. Bank for International Settlements 2020.

Central bank money plays a crucial role as the anchor of **the monetary system**, instilling **confidence in private money**. **Financial institutions** can convert private money into an equivalent value of central bank money through the liquidation of obligations to the public, **financial transactions with other financial institutions**, or through their **accounts at the central bank**.³⁰

The issue arises when the general public lacks access to digital **trusted money**. **Currently, central banks issue physical cash** (banknotes and coins) and giro accounts. Unlike physical cash accessible to the entire public, electronic giro accounts are limited to specific parties, such as banks. Digital payment instruments widely used by the public, such as interbank transfers, electronic money, and card-based payments, are issued by private entities, including commercial banks and non-bank institutions.

Moreover, the various variations and developments of **cryptocurrencies**, as discussed in the previous section, raise concerns about the risks of **shadow currency and even shadow central banking**. **The creation, distribution, and control of cryptocurrencies occur outside the formal monetary system**, which, as Brunnermeier warns, could lead to the emergence of digital currency areas beyond any specific jurisdiction. The materialization of these risks could threaten a country's monetary sovereignty, disrupting the transmission of monetary policy.³¹

Digital Rupiah, as a digital currency in Indonesia, emerges as a **prospective solution to address these challenges**. It represents **a new form of central bank money** and carries the same denomination as the official currency, serving as a means of exchange, **unit of account, and store of value**. The development and adoption of the digital ecosystem would be more optimal with the support of a native digital currency.³²

3 METHODOLOGY

This legal study was conducted using a normative typology, also known as doctrinal research. Normative design was selected to generate new arguments, theories, or concepts in addressing the legal development issues concerning the creation of digital currency within the financial system.

³⁰ Warjiyo, P. dan Juhro, S. M., "Chapter 10: Monetary Policy Credibility and Time Consistency. Central Bank Policy: Theory and Practice". Emerald Publishing Limited, 2011.

³¹ Brunnermeier et al., "The Digitalization of Money". Working Paper 26300. National Bureau of Economic Research, 2011.

³² Digital native indicates that CBDC is only available in digital form and does not represent physical form..

This study used statute and the conceptual approaches. The statute approach involves examining all relevant legal regulations, while the conceptual approach delves into discussions of concepts, theories, and doctrines related to the issues at hand. The research was conducted in two stages: literature review and field research, with the latter serving a supportive role.

The data analysis method employed was qualitative legal analysis, in which both secondary and primary data were interpreted without using statistical formulations. Instead, the analysis is conducted through hermeneutical interpretation

4 RESULT AND DISCUSSION

A. An Analysis of Regulation and Supervision

Technological innovations and shifts in societal behavior serve as the primary drivers of these dynamics. The emergence of new technologies, particularly Web 3.0 and Distributed Ledger Technology, has significantly escalated the development of cryptoassets and stablecoins, bringing forth various opportunities and risks. On one hand, these phenomena have the potential to enhance financial inclusion and efficiency within the financial system, facilitating cross-border payments, and forming the foundation for decentralized finance, providing instant access to diverse financial products. On the other hand, cryptoassets and stablecoins also carry risks related to money laundering, terrorism financing, and illicit transactions. Their widespread usage can also impact the effectiveness of central bank policies, including financial stability risks, shadow currency, shadow central banking, and implications for the global international monetary system.

The global community of central banks, including Bank Indonesia (BI), has not remained passive in the face of these developments. In response, various central banks have been adjusting their policy approaches by exploring the issuance of central bank digital currencies (CBDCs) as a prospective future-proof solution. In line with this, under the G20 Indonesia Presidency in 2022, central banks from G20 countries, along with international institutions, have responded to these dynamics by formulating regulations and supervision for cryptoassets and stablecoins, emphasizing the principle of "same activity, same risk, same regulation."

However, the issuance of CBDCs is not an easy task for central banks. Central banks need to formulate and navigate the design of CBDC in a measured and balanced manner, taking into account the principles of benefit and risk management. There are

three crucial aspects that central banks should consider in developing CBDC. Firstly, CBDC design should prioritize the public interest and align with the central bank's objectives. The development options may include retail CBDC, directly impacting the general public, or wholesale CBDC for interbank and financial institution transactions, which can serve as the foundation for the development of retail CBDC. Secondly, CBDC's role in supporting financial inclusion should be emphasized through features such as offline capabilities in remote areas (Terluar, Terdepan, dan Tertinggal - 3T), low-cost transactions, and the utilization of granular data. This role complements current initiatives in digitalizing payment systems, including QR standardization, Open API for payments, and the development of fast payment systems. Thirdly, CBDC should be integrated, interoperable, and interconnected (3i) with existing payment systems and financial market infrastructure, including cross-border payments.

B. The Meaning of Legal Development

In the field of social sciences, theories of development can be broadly categorized into two major paradigms: modernization and dependency. The modernization paradigm encompasses macro-level theories concerning economic growth and social change, as well as micro-level theories related to individual values that support the process of change. On the other hand, the dependency paradigm includes theories of underdevelopment, dependent development, and world-system theory.³³ From these paradigms arises the concept of development.

Development is understood as the economic, social, and cultural transformation of a society. It can also be defined as a process of deliberate and planned efforts towards change.³⁴ According to Sondang P. Siagian, development is an endeavor or a series of planned efforts in growth and change, undertaken consciously by a nation, state, and government towards modernity in the context of nation-building.)³⁵

Development encompasses all planned processes of improving various aspects of societal life. The most significant meaning of development lies in progress, improvement, growth, and measurability. Development is necessary and occurs in all aspects of society, including economic, social, cultural, political, and legal aspects, among others.

³³ Badruddin, *Teori dan Indikator Pembangunan*, <http://profsyamsiah.wordpress.com/2009/03/19/pengertian-pembangunan/> accessed 16 May 2022.

³⁴ Riyadi and Deddy Supriyadi Bratakusumah, *Perencanaan Pembangunan Daerah; Strategi Menggali Potensi dalam Mewujudkan Otonomi Daerah*, Jakarta: Gramedia Pustaka Utama, 2005.

³⁵ S.P. Siagian, *Administrasi Pembangunan*, Jakarta: Bumi Aksara, 1994.

Law is a system of ethical control that plays a role in the development process. It takes the form of norms, which are products of a central authority with the authority to create and enforce laws. Law acts as a unidirectional control system carried out by a central organ with the power to do so. Unidirectional control means that the control only takes place from a specific organ with the capacity and function for it This control system is also characterized as automatic-mechanical, guiding behavior accordingly.³⁶

There is an adage among legal experts that states "Ubi Societas Ibi Ius" (where there is human society, law applies) and "Communis opinio doctorum" (there is no society without law). This means that in all societies, no matter how simple, various sets of rules of conduct inevitably emerge, including those aimed at achieving order and meeting the demands of justice, whose compliance is not entirely left to the free will of the citizens but can be enforced by the organized or unorganized society.³⁷

Legal development refers to actions or activities intended to improve and create a more conducive legal environment. Simply put, development entails making improvements from less favorable conditions towards better ones. In this context, development can be synonymous with reform. Reform involves efforts to reorient and overhaul a particular matter through policy changes.³⁸

Legal development carries two meanings; firstly, it involves efforts to update positive law (legal modernization). Secondly, it encompasses endeavors to operationalize the law by actively bringing about social changes that correspond to the needs of a developing society. Legal development goes beyond legislative activities; it aims to make the law an instrument of social engineering. In other words, the purpose of legal development is to actualize the law within the fabric of society.³⁹

Legal development is the endeavor to establish new laws to update outdated and irrelevant ones. Updating entails replacing old laws with new ones.⁴⁰ Legal development involves constructing a legal system, along with its associated components, to govern the functioning of the legal framework. A legal framework typically comprises written laws supplemented by unwritten laws, forming a comprehensive and applicable legal system

³⁶ Endrawati, *Sistem Hukum dan Pembangunan Hukum*, Jurnal Wastu, Volume Khusus, Desember 2007.

³⁷ Mertokusumo, S., *Mengenal Hukum; Suatu Pengantar*, Yogyakarta: Liberty, 2008.

³⁸ Barda Nawawi Arief, *Bunga Rampai Kebijakan Hukum Pidana; Perkembangan Penyusunan Konsep KUHP Baru*, Jakarta: Kencana, 2010, p.17.

³⁹ Bernard Arief Sidharta, *Bahan Kuliah Teori dan Ilmu Hukum*, Universitas Diponegoro, Semarang, 2011.

⁴⁰ Hamzani dan Mukhidin, "National Law Development As Implementation of Pancasila Law Ideals and Social Change Demands", *Jurnal Dinamika Hukum*, Vol. 18, No. 2). 2018).

within a specific time and place. The applicability of such laws is contingent on a particular group of individuals and their prevailing perspectives during a defined period.

C. Legal development related to Digital Currency Creation in Financial System

As a prerequisite for legal development, at least three elements must be fulfilled, which are integral components united within **the legal system: legal structure, legal substance, and legal culture**. Based on this premise, the concept of legal development within the framework of creating digital currency in Indonesia should consider several aspects of development as follows.

1. Comprehensive Law-Making Regarding Digital Currency

The development of Digital Rupiah as a digital currency in Indonesia is an "iterative" process that involves the interplay of design and technological aspects with **regulatory and policy** considerations. **This process can be viewed from two perspectives: First, the necessary regulatory and policy support to ensure that the selected design and technology aspects can be implemented effectively. Second, the extent to which regulatory and policy aspects can provide feedback on design and technology choices simultaneously. The scope of regulation and policy in this context encompasses legal, monetary, financial market deepening, and macroprudential aspects.**

From the **regulatory** standpoint, the issuance of Digital Rupiah needs to be grounded in a **robust legal framework**. In this regard, Law Number 23 of 1999 concerning Bank Indonesia, as last amended by Law Number 6 of 2009⁴¹, is deemed adequate to serve as **the basis for BI in issuing Digital Rupiah**. The same legal basis underlies the issuance of current accounts by BI. However, existing regulations are not sufficient to grant Digital Rupiah legal tender status.⁴² Such status is essential for Digital Rupiah to serve as an anchor in various use cases within the **Web 3.0 ecosystem, including DeFi and Metaverse**. Meanwhile, **legal tender** status, as defined by Law Number 7 of 2011 concerning Currency, applies to physical banknotes and coins, which, in principle, are not compatible with the Web 3.0 ecosystem. Thus, currently, there is no specific legislation governing digital currency. The regulations concerning electronic money, as stipulated in Bank Indonesia Regulation Number 20/6/PBI/2018 concerning Electronic

⁴¹Law Number 6 of 2009 concerns the enactment of Government Regulation in Lieu of Law Number 2 of 2008 on the **Second Amendment to Law Number 23 of 1999 concerning Bank Indonesia into Law**.

⁴²Article 1, points 1 and 2, Article 21, and Article 23 of the Currency Law provide a strong legal basis for the existence of Rupiah as the currency and legal tender. As legal tender, Rupiah must be accepted in every payment transaction and fulfillment of obligations.

Money, are deemed insufficient to accommodate the issues related to the issuance of Digital Rupiah. Therefore, moving forward, the Government and the DPR (House of Representatives) in the context of law development will require revisions to Law Number 7 of 2011 concerning Currency to establish a robust and comprehensive legal framework for regulating digital currency in Indonesia.

2. The Establishment of Specific Agency to Supervise Digital Currency Transaction

Conceptually, a good financial supervision model is one that can optimize synergy and reduce conflicts of interest. Generally, financial sector supervision models can be categorized into three categories: (i) sectoral, (ii) integrated (where there is a model within the central bank-CB, or a separate agency model-SSA), or (iii) partially integrated (two agency or twin peak).⁴³

Approximately 50% of the 79 countries use the sectoral approach to financial supervision, where separate supervisory authorities exist for banking, insurance, and securities businesses. Generally, each authority has a role in microprudential oversight and the implementation of supervisory responsibilities in the sector they oversee. In the Asia-Pacific region, the majority of financial sector supervision is conducted through the sectoral approach (50%). The following table presents the details.

Table 1 -Financial Service Supervisory Model Based on the Region (Percentage, rounded off)

	Africa		America		Asia & Pacific		Europe		Middle East		Total	
Sectoral	9	100%	9	52%	7	50%	10	30%	4	66%	39	50%
Integrated-CB	0	0%	1	6%	2	14%	5	15%	1	17%	9	11%
Integrated-SSA	0	0%	1	6%	2	14%	11	33%	0	0%	14	18%
Two Agency	0	0%	3	18%	1	8%	4	12%	1	17%	9	11%
Twin Peaks	0	0%	3	18%	2	14%	3	10%	0	0%	8	10%
Total	9	100%	17	100%	14	100%	33	100%	6	100%	79	100%

Source: Daniel Calvo et al (2018)

Digital currency in Indonesia is still in the experimental and piloting phase, and as a result, a specific institution to oversee digital currency transactions has not been

⁴³ The Twin Peaks model, in which two separate supervisors are responsible for prudential oversight and conduct of business for all types of financial institutions, and the Two Agency model, in which one agency oversees prudential and conduct of business for banks and insurance companies, while the other agency oversees the capital market and securities

determined yet. Therefore, to optimize **synergies and minimize conflicts of interest in the future implementation of digital currency**, it is crucial to establish a specific institution for overseeing digital currency transactions.

Currently, Indonesia has two institutions responsible for regulating and supervising the financial sector, OJK and BI: The Financial Services Authority (Otoritas Jasa Keuangan or OJK) is the regulator of financial services industries, particularly banking, insurance, capital markets, and other financial institutions. Bank Indonesia (BI) is the institution responsible for formulating policies and overseeing the payment system. In carrying out its tasks, BI regulates and supervises entities within its jurisdiction, including those involved in the payment system, money services, money and foreign exchange markets, and other entities under BI's supervision. Of the two financial sector institutions mentioned, Bank Indonesia (BI) is the appropriate entity to oversee digital currency transactions. However, since there is currently no specific legal authority granted to BI for overseeing digital currency transactions, the development of the law necessitates a revision of the Bank Indonesia Act No. 23 of 1999 to include the necessary powers for BI as the institution overseeing digital currency in Indonesia.

3. Authorities and Supporting Facilities

One of the determining factors for the effectiveness of adopting Digital Rupiah is ensuring cybersecurity. Cybersecurity becomes a crucial **element in the development of Digital Rupiah** and needs to be managed from the outset.

In general, **Digital Rupiah** faces common information system security risks. Therefore, **similar security standards are applied to Digital Rupiah. These standards include identity and access management (authentication and authorization), business continuity management, security patching management, incident management, and development life cycle management.** Moreover, from a security perspective, distributed ledger technology (DLT) offers several advantages compared to centralized systems. Decentralized cryptographic technology makes it more difficult to breach compared to centralized platforms.⁴⁴

In addition, the decentralized data/transaction recording in DLT can also mitigate **the risk of a single point of failure.** However, Digital Rupiah is not immune to various unique cybersecurity risks. These risks are inherent in the use of consensus mechanisms,

⁴⁴ D.W.E. Allen, A.M. Lane, dan M. Poblet, "The Governance of Blockchain Dispute Resolution", *Harvard Negotiation Law Review*, 25, 2019, pg.75-101

smart contracts, management of cryptographic keys, account security, data protection, privacy, and other factors that influence system availability.

The development of Digital Rupiah will focus on efforts to mitigate these ¹ unique risks. Assessment and identification of risks arising from the aspects of people, process, and technology will be carried out in a measured manner to produce a secure, reliable, and robust design and technology for Digital Rupiah. Moreover, the design and technology selection process for Digital Rupiah will also consider the development of various features that can comprehensively mitigate cybersecurity risks.

Based on these considerations, the task of mitigating cybersecurity risks for Digital Rupiah technology should be conducted by law enforcement agencies that are capable and knowledgeable in cryptographic technology. The ideal agency, including its components, would be the Indonesian National Police (Polri) specialized in cybersecurity. This is considered important because Polri is fundamentally the law enforcement institution in Indonesia with the authority to investigate and prosecute criminal offenses, including the circulation of counterfeit money. Therefore, it is highly appropriate to grant the authority of mitigating cybersecurity risks for Digital Rupiah technology to Polri. Consequently, as a form of legal development, it is necessary to revise the Law Number 2 of 2002 concerning the Indonesian National Police by adding the authority of Polri as the agency responsible for mitigating cybersecurity risks for Digital Rupiah technology.

4. Socialization to Public

Socialization is the process of transferring ideas or concepts from the authorized authority to the general public to provide understanding and ensure that the intended purposes and objectives are achieved as expected.

The adoption of Digital Rupiah as a digital currency in Indonesia in the early stages might not be widely accepted by the public, especially those who are unfamiliar with digital technology. Therefore, as the central bank, Bank Indonesia (BI) need to ensure that Digital Rupiah can be easily accepted by the public and offer clear advantages compared to cash. Furthermore, BI should strive to enhance education and socialization efforts to inform the public about the benefits of Digital Rupiah, while also ensuring that it can be used easily and securely by the society.

5. Synergy among Institutions

With the advancement of technology and the opening up of cross-border business activities, the financial services industry has become increasingly hybrid, blurring the

lines between different business activities, making segmented approaches to regulation and supervision challenging. The financial sector ecosystem, which includes various actors, instruments, and transactions often overlap, leading to the involvement and responsibility of multiple authorities.

In the context of developing the financial sector, especially in the creation of digital currency in Indonesia, it requires the collaboration and synergy among different institutions. As discussed earlier, Bank Indonesia (BI) as the authority in the financial services sector has the mandate and responsibility for regulating and supervising digital currency transactions. Additionally, BI, as the central bank, plays a crucial role in ensuring the smooth implementation of monetary and macroprudential policies. This role of BI can be effectively executed through collaboration with the Indonesian National Police (Polri) as the entity responsible for mitigating cybersecurity risks related to Digital Rupiah. Furthermore, the government, being a stakeholder with vested interests in the direction of financial sector development that supports national development, along with financial sector regulators, should coordinate efforts to develop the financial sector more systematically, encompassing aspects of deepening, efficiency, and accessibility.

5 CONCLUSION

Digital Rupiah is another form of the Indonesian Rupiah currency, where it serves the same function as **physical money (banknotes and coins), electronic money (chip and server-based), and money in card-based payment (debit and credit cards)**. Digital Rupiah and cryptocurrencies are two distinct entities, even though both are related to digital currencies. Cryptocurrencies like Bitcoin or Ethereum are decentralized digital currencies that are not regulated by official monetary authorities, unlike Digital Rupiah.

Bank Indonesia plans to issue two types of Digital Rupiah. First, the Wholesale Digital Rupiah (w-Digital Rupiah), which will be available for limited access and used for wholesale transactions **such as monetary operations, foreign exchange transactions, and money market transactions**. Second, the Retail Digital Rupiah (r-Digital Rupiah), which will be accessible **to the public and used for various retail transactions, including payments and transfers by individuals and businesses (merchants and corporations)**. While the process of issuing Digital Rupiah may take some time, it is certain that Digital Rupiah will become a reality. In addition to its speed, convenience, affordability, ensured



security, and reliability for future digital environments, Digital Rupiah also offers a solution to maintain the validity of Rupiah as the sole legal currency in Indonesia.

The plan to create Digital Rupiah represents a significant advancement in Indonesia's financial system. However, this requires support in various areas, including the legal aspect. As a prerequisite for legal development in the financial system, it is essential to fulfill three elements that are interconnected within ¹⁰ the legal system: legal structure, legal substance, and legal culture. In the legal structure, the appropriate and specific institution with a mandate and responsibility for regulating and overseeing digital currency transactions in Indonesia is ⁹ Bank Indonesia. Additionally, as the central bank, ⁹ Bank Indonesia plays a role in ensuring the smooth operation of monetary and macroprudential policies. Bank Indonesia's role can be effectively fulfilled through synergy with the Indonesian National Police, which has the authority to mitigate cybersecurity risks related to Digital Rupiah technology. In terms of legal substance, currently, there is no specific legislation governing digital currency in Indonesia. Therefore, in the future, the Government and the House of People's Representatives will require the revision of the Law Number 7 of 2011 on Currency to serve as a robust and comprehensive legal framework for regulating digital currency in Indonesia. Regarding legal culture, in order to enhance legal awareness among the public, Bank Indonesia needs to conduct education and socialization campaigns about the benefits of Digital Rupiah. It is crucial to ensure that Digital Rupiah can be easily and safely utilized by the public.

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