Cryptoization and Shadow Currency: 
Legal Overview of the Importance of Digital Rupiah in Indonesia

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**Abstract**
Cryptoization in Indonesia can be seen in the number of investors and crypto asset transactions. As of January 2024, the total number of crypto asset investors reached 18.83 million investors. Meanwhile, the total accumulated value of crypto asset transactions throughout 2024 was recorded at IDR 48.82 trillion. Various types and developments in crypto assets trigger shadow currency risks. Shadow currency is a currency function that can be replaced by another form. In this regard, research is needed regarding the relationship between crypto assets as shadow currency in financial stability and the importance of regulating digital rupiah in Indonesia. The approach used is the statute approach. This research will examine various laws and regulations relating to crypto assets, fintech, financial systems and currencies. The research results show that the crypto asset transaction process occurs outside the official monetary system and can develop into a digital currency area outside certain jurisdictions. The materialization of this risk can threaten a country's monetary sovereignty, thus triggering the risk of shadow currency. Therefore, it is recommended that the Digital Rupiah be a Central Bank Digital Currency (CDBC) which is officially implemented in Indonesia. However, there needs to be regulatory and policy support needed so that CBDC can be implemented in Indonesia, one of which is through a revision of the Indonesian Act on Currency.
I. Introduction

The paradigm shift from the conventional financial industry to a digital-based financial industry cannot be separated from the phenomenon of disruptive innovation.¹ The use of technology in the financial sector has succeeded in disrupting the financial industry globally, starting from the industrial structure, intermediation technology, and marketing models used to attract consumers. This is in line with technological developments and an increasingly demanding society. The demand referred to in this case is the need for financial services that can be accessed easily and with more practical requirements.²

Disruptive innovation in the financial sector has created the phenomenon of "cryptoization", a phenomenon where people are starting to switch to using crypto assets³ instead of local currency.⁴ The decentralized financial system (DeFi) used in crypto assets is a fundamental change in the current financial system. Through the blockchain network, crypto asset transactions are not controlled by one central banking institution or particular company but by scattered servers.⁵ This means that the nature of crypto assets is decentralization in the financial system, meaning that no one party acts as an intermediary during transactions.⁶

In Indonesia, the development of crypto asset activity shows a quite positive trend. The number of domestic crypto asset investors and transactions is on an increasing trend


³ Crypto assets is the most common term and cryptocurrency is the most widely used form of crypto asset, these two terms are often used interchangeably. Technically, crypto assets can be further divided into (i) non-fungible tokens (NFTs), which are mostly used by artists to monetize and control their work, or in play-to-earn games, and can be resold in NFT markets, and (ii) private digital currency. The latter can be divided into cryptocurrencies, i.e. private digital currencies that have no backing and whose value fluctuates relative to a monetary unit depending on supply and demand, and stablecoins, i.e. private digital currencies whose value is pegged to a fiat currency (such as the dollar) or backed by collateral. United Nations Conference on Trade and Development (UNCTD), “Crypto Assets and Central Bank Digital Currencies: Potential Implications for Developing Countries”, UNCTD, 2023. Available at: https://unctad.org/publication/crypto-assets-and-central-bank-digital-currencies-potential-implications-developing


and currently Indonesia is ranked seventh as the country with the largest number of crypto asset investors in the world. As of January 2024, the total number of crypto asset investors was 18.83 million investors or an increase of 320 thousand investors compared to the previous month. Meanwhile, the value of crypto asset transactions in the same period was recorded at IDR 21.57 trillion or an increase of 77.68 percent yoy. The total accumulated value of crypto asset transactions throughout 2024 was recorded at IDR 48.82 trillion.\(^7\)

However, crypto assets show a high level of speculative bubbles. The collapse of various crypto assets in May 2022 and crypto exchanges in November 2022 triggered a fairly large decline in crypto asset valuations. The market experienced a decline, Stablecoins and lending platforms, dragging the total market capitalization down to EUR 1 tn in July 2022 (Chart 1). In July 2022 the market has collapsed more than 60% in just half a year showing its cyclicality and high volatility.\(^8\)

![Chart 1. Crypto Asset Market Capitalisation](image)

Source: European Securities and Markets Authority, 2022

The United Nations Conference on Trade and Development (UNCTAD) stated that crypto assets cause disruption to official currencies. Technological innovation and changes in societal behavior are the main drivers of this dynamic. The presence of new technology, especially Web 3.0 and Distributed Ledger Technology, has increasingly escalated the massive development of cryptoassets and stablecoins with various opportunities and

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This phenomenon has the potential to increase inclusion and efficiency of the financial system, including cross-border payments, as well as becoming the foundation for decentralized finance that offers instant access to a variety of financial products. On the other hand, cryptoassets and stablecoins also carry risks of money laundering and terrorism financing as well as illicit transactions. Its massive use can also influence the effectiveness of central bank policies covering financial stability risks, shadow currency and shadow central banking, as well as having implications for the international monetary system. In connection with this background, legal issues arise regarding crypto assets as shadow currency. Therefore, a study is needed from a legal perspective regarding the relationship between crypto assets as shadow currency in financial stability and the importance of regulating digital rupiah in Indonesia.

2. Research Method

This research is legal research that uses a statutory approach. The legal approach is carried out by examining all statutory regulations relating to the legal issue being studied. This research will examine various laws and regulations relating to crypto assets, fintech, financial systems and currencies. The legal materials used are legal materials consisting of primary legal materials and secondary legal materials. The main legal material used is Act Number 7 of 2011 concerning Currency as last amended by Act Number 4 of 2023 concerning Development and Strengthening of the Financial Sector and Financial Services Authority Regulation Number 3 of 2024 concerning Implementation of Financial Sector Technological Innovation. The secondary law used is legal journals, research results, papers and books that discuss crypto assets. Data collection techniques were carried out by literature study and document observation. The analysis used is qualitative juridical analysis, namely analysis based on legal interpretation, legal reasoning and legal argumentation.

3. Results and Discussion

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Crypto adoption has grown rapidly. Between 2020 and 2021, the number increased more than fivefold to reach a total transaction volume exceeding $15 trillion.\textsuperscript{12} As already mentioned, 2022 was marked by considerable losses in the valuation of cryptocurrencies and stablecoins as well as bankruptcies of crypto exchanges, but these events are unlikely to mean the end of crypto. Estimates for the period 2022–2027 (figure 1) show very large absolute increases in cryptocurrency turnover in several developed countries (such as the United States, Japan, the United Kingdom, and Germany) and India, and large relative increases in Pakistan, Nigeria, Argentina, and Vietnam.\textsuperscript{13}

![Figure 1. Crypto currency turnover 2022 and 2027 estimates.](source: Statista (https://www.statista.com/outlook/dmo/fintech/digital-assets/cryptocurrencies/worldwide#revenue), accessed 4 December 2022.)

Crypto assets affect the monetary and financial system mainly in three ways. First, the increasing accessibility, speed and ease of digital payments can provide new solutions to financial inclusion and the cost of financial services, even without providing an


\textsuperscript{13} Statista, “Share of respondents who indicated they either owned or used cryptocurrencies in 56 countries and territories worldwide from 2019 to 2021, 2022. Available at: https://www.statista.com/statistics/1202468/global-cryptocurrency-ownership/ (accessed on May 2, 2024).
alternative monetary foundation.\textsuperscript{14} Second, the centrality of data in the digital economy raises new challenges regarding privacy.\textsuperscript{15} Third, cryptoization has an impact on competition which has a strong influence on sovereignty and monetary architecture.\textsuperscript{16} Each of these three issues has domestic and international dimensions.\textsuperscript{17}

Existing research on domestic implications highlights the benefits of digital payments, including the potential for increased financial inclusion and more efficient payment systems. It also points to potential risks related to privacy (as reflected in consumer protection challenges) and competition issues (as expressed in Cryptoization). Cryptoization involves replacing domestic central bank money with crypto assets, which can adversely impact financial stability, the effectiveness of monetary policy and bank-based financial intermediation, as well as government revenues.\textsuperscript{18}

The benefits of crypto assets on an international dimension emphasize faster, cheaper and safer cross-border payments.\textsuperscript{19} This can provide benefits, for example for remittances. However, it can also pose risks by magnifying the transmission of economic shocks across countries and changing the dynamics of capital flows, adversely impacting the effectiveness of domestic monetary policy and capital controls or, related to privacy concerns, by facilitating illicit financial flows (IFF), including money laundering and terrorist financing.\textsuperscript{20} Competition issues relate to the increased risk of currency substitution, i.e. increased accessibility of foreign cryptocurrencies, stablecoins or CBDCs for domestic use may lead to the substitution of a country’s national currency, as well as the implications for a country’s currency.

\textsuperscript{17} UNCTD, Op.Cit.
\textsuperscript{19} UNCTD, Op.Cit.
The various variations and developments in crypto assets as described in the previous sub-chapter have sparked concerns about the risk of shadow currency. Shadow currency is a currency function that can be replaced by another form.\(^{21}\) In fact, the cryptoization phenomenon can also create shadow central banking. Shadow central banking is a condition where the central bank’s functions are carried out outside the formal monetary system.\(^{22}\) The process of creating, circulating and controlling crypto assets occurs outside the formal monetary system and can develop into a digital currency area outside certain jurisdictions. The materialization of these risks can threaten a country's monetary sovereignty, resulting in disruption of monetary policy transmission.

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The risks of shadow currency and shadow central banking from the cryptoization phenomenon require the Government to calibrate its policies in the digital era. Changes in people's transaction preferences require the Government to examine the possibility of issuing digital-based trusted money as a means of payment that can be accessed by the public. The escalation of the risks of shadow banking, shadow central banking and shadow currency requires the Government to find a solution that ensures the Rupiah remains the only legal currency in the Unitary State of the Republic of Indonesia (NKRI) in the digital era. The United Nations Conference on Trade and Development (UNCTAD) in its report entitled "Crypto Assets and Central Bank Digital Currencies: Potential Implications for Developing Countries" recommends the existence of a Central Bank Digital Currency (CDBC).

According to the International Monetary Fund (IMF), CDBC is digital money issued and whose circulation is controlled by the central bank, and is used as a legal means of payment to replace currency. CBDC will act as a digital representation of a country's currency. CBDC fulfills the 3 (three) basic functions of money, as a store of value, a medium of exchange and a means of measuring the value of goods and services (unit of

\[^{21}\text{Bank Indonesia, Op.Cit.}\]
\[^{22}\text{Bank Indonesia, Op.Cit.}\]
According to Ahnert et al, several main reasons for the importance of CBDC include:

First, CBDC is supported by the full trust of the central bank of the issuing country. Therefore, they maintain the monetary stability of the current financial system, as well as the trust, security, liquidity and finality of traditional central bank money settlements. By issuing CBDCs, central banks can complement cash as public money, ensure the availability of a risk-free means of exchange, and maintain payment efficiency, even in a world where consumers and companies are increasingly turning to electronic payments.

Second, the issuance of a CBDC will help central banks ensure monetary sovereignty and their function as lenders of last resort that maintain financial stability because they can print unlimited amounts of domestic currency to support financial institutions experiencing difficulties.

On the other hand, the use of cryptocurrencies and stablecoins and quoting prices in different units of account may pose financial stability risks because, for example, liquidity support against stress is no longer effective if liabilities are denominated in units other than public money. By offering digital versions of sovereign money, central banks will maintain monetary sovereignty even in situations of the use of global stablecoins or the issuance of private digital money by digital platforms with global reach.

By exploiting their customer base, global digital platforms can quickly become dominant private digital money issuers. They can combine payments with their digital services, such as online marketplaces, messaging apps, and financial services (e.g., loans and insurance). CBDCs can ensure that public money remains in use in practice, and thus help ensure monetary sovereignty.

Third, for developing countries the use of CBDC as a single platform for payments to

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25 Ibid. See also, UNCTD, Op.Cit.


and from the Government can facilitate tax collection. This also enables the Government to reach every citizen anywhere and at any time. This means that the existence of a CBDC can support the Government's program in collecting taxes. The increasing number of e-commerce and digital economy transactions that use CBDC can help increase government revenue from the tax sector.

However, there needs to be regulatory and policy support needed so that CBDC can be implemented in Indonesia. In the regulatory context, to support and realize efforts to develop and strengthen the financial sector in Indonesia, the Government has passed Act Number 4 of 2023 concerning Development and Strengthening of the Financial Sector (P2SK). But unfortunately, the law does not yet regulate CBDC. Then, Act Number 7 of 2011 concerning Currency only recognizes banknotes and coins as types of currency that are legally enforceable in Indonesia.

The Indonesian government needs to accommodate CBDC in the Currency Act and P2SK Act as a digital rupiah that can be used in the Web 3.0 ecosystem. Law-level regulations are needed that can become the basis for Digital Rupiah to have legal tender status (legal means of payment). This status is needed for Digital Rupiah to become an anchor in various Web 3.0 ecosystem use cases including DeFi and Metaverse. In this regard, Act Number 23 of 1999 concerning Bank Indonesia as last amended by Act Number 6 of 2009 is considered adequate to become the basis for Bank Indonesia in issuing Digital Rupiah in Indonesia.

4. Conclusion

Cryptoization occurs outside the formal monetary system and can develop into digital currency areas outside of certain jurisdictions. The materialization of this risk can threaten a country's monetary sovereignty because it triggers the risk of shadow currency. The risk of shadow currency requires the Government to calibrate its policies through the issuance of Central Bank Digital Currency (CDBC). CBDC will help the central bank ensure monetary sovereignty and its function as a lender of last resort that maintains financial stability because it can complement cash as public money, ensure the

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availability of risk-free means of exchange, and maintain payment efficiency. CBDC needs to be supported by a strong regulatory framework, one of which is through the Currency Act. Act Number 7 of 2011 concerning Currency needs to be revised because it only recognizes banknotes and coins as types of currency that are legally enforceable in Indonesia with the aim of accommodating and regulating CBDC.

References


