

## REGULATION OF LOSS-INDUCING CRYPTO ASSET INVESTMENTS: CHALLENGES IN REGULATION, PROTECTION AND SUPERVISION

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### Abstract

Cryptocurrency has become evidence of the rapid growth of the digital economy. This phenomenon has left countries worldwide in a dilemma regarding the legal status of cryptocurrencies. Specifically in Indonesia, cryptocurrency is regulated in a limited manner, creating a gap in legal protection for investors. This research employs a normative research method with a legislative and conceptual approach. The findings of this research indicate that Indonesia tends to position cryptocurrencies in a "limited" capacity, restricting them to being considered investments rather than currency. Nevertheless, due to the legal gaps, there is a need to establish standardized, periodic, and embedded security measures overseen by Bappebti to ensure maximum protection provided by every cryptocurrency wallet service provider. Additionally, it should be mandatory for every service provider to comprehensively insure digital assets to offer financial protection to individuals.

### Keywords:

Regulation of  
Crypto  
Investments,  
Protection,  
Challenges of  
Supervision.

### INTRODUCTION

Achieving order within society, it is hoped that human interests will be protected" (Mochtar Kusumaatmadja, 2012). According to Sudikno Mertokusumo, aside from protecting human interests from threats, legal principles also regulate relationships among humans. By regulating these relationships, in addition to creating order or stability, it is hoped that conflicts or disruptions of these interests can be prevented or resolved (Darusman & Wiyono, 2019). Satjipto Rahardjo further elaborated that the presence of law serves to integrate and coordinate conflicting interests among individuals (Satjipto Rahardjo, 1991).

To achieve a legal objective and anticipate conflicts in society, it is imperative to initiate the creation of laws in the form of legislation by authorized bodies, including the legislature (DPR), regional representative council (DPD), or regional legislative council (DPRD), which perform legislative functions. Legal command dictates that the legal needs of society are one of the components of the content of a regulation. The fulfillment of societal demands signifies a responsive and aspirational approach in the crafting of laws. This means that public participation in the process of lawmaking involves the public, academics, practitioners, and various civil society groups concerned with law and public policy.

Here are the key concepts related to the role of law in national development created as "a means of societal renewal" or "a means of development": Firstly, law is a tool for societal renewal based on the assumption that there needs to be order or discipline in the efforts of development or renewal, which is desired or even deemed essential. Secondly, if law can indeed serve as a tool (regulator) or development tool, it implies directing societal activities towards the desired direction of development or renewal. These two roles are expected to be carried out by law in addition to its conventional function, which is to ensure certainty and order. (Aulia, 2019).

In the context of achieving well-being, certainty, and order, efforts are required to optimize the functions of law from both internal (inside) and external (outside) sources. This means that the law needs coherent and continuous elements, one of which is social control. The legal protection system promised by the state must be contextually present and must include guarantees of certainty, justice, and benefit. The state strives to maximize these three guarantees in order to realize its aspirations as a nation.

The significant task undertaken by the state needs to be implemented across various aspects of society, primarily in the field of economic governance. This is crucial because it directly intersects with human livelihoods. The direction of economic development is sought to encompass a wide range of economic activities, including international trade, natural resource exploitation, and technological advancements. The advancement of technology not only brings forth various solutions but also introduces numerous variations in new economic activities.

The emergence of blockchain technology in the last five years signifies that technology can become a source of a new economy, similar to the general industrial world. Blockchain technology, based on hashing, forms the foundation of platforms for cryptocurrency trading and is executed through "smart contracts" (M. Di Pierro, 2017). In response to this technological innovation, there is a need for adequate legal instruments because such trading is not without the risk of losses.

Blockchain technology as a digital economic industry offers popular products like cryptocurrencies, which are known as virtual currencies used for payments like regular money. They are characterized by their decentralized nature, meaning they are fully controlled by users without the interference of any central authority. The introduction of cryptocurrencies was first popularized by Satoshi Nakamoto's paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System," with the intention of reducing reliance on institutions/governments in cross-border transactions.

Indeed, countries around the world have varying views on cryptocurrencies, leading to a lack of a standardized definition. In other words, some countries position cryptocurrencies as part of commodity futures, as currencies, as investment assets, while others place cryptocurrencies in a different category altogether. This diversity of views creates inevitable challenges because the differing positions on cryptocurrencies in each country can result in legal uncertainty, and cryptocurrency investors are often the ones at risk. Therefore, the law needs to be shaped to address these conditions and provide legal clarity in the cryptocurrency space.

Cockfield asserts that the negative impact of a slow legal response to technological disruption is the occurrence of gaps or mismatches when the law does not effectively address technological changes, resulting in legal uncertainty for affected parties. However, he also notes a positive aspect of a slow response, which is the opportunity for in-depth analysis and thoughtful consideration before implementing new policies. Nevertheless, making changes or updates to the law to align with technological advancements in society often requires a relatively lengthy process of legal and legislative politics, as discussions by lawmakers are generally conducted holistically. (J. Arthur Cockfield, 2004).

Indonesia has positioned itself as a country that participates in responding to technological advancements, but it has limited cryptocurrency to the level of commodity futures. Therefore, there is no specific law regulating it, and instead, it relies on Law Number 10 of 2011 on Amendments to Law Number 32 of 1997 concerning Commodity Futures Trading. The regulations under this law only cover

certain aspects, not cryptocurrency specifically. On the other hand, cryptocurrency cannot be equated with commodity futures because it involves a technology industry base that is vulnerable to hacking-based criminal activities with cross-border implications. As a logical consequence of the absence of specific regulations, all forms of losses will be treated the same as commodity futures, even though violations in the cryptocurrency realm can range from fraud and rule violations to risk management and legal uncertainty issues, as well as insider trading cases.

Therefore, this research will comprehensively address the efforts that the Indonesian government can undertake in responding to technological advancements through legal instruments that align with Indonesia's decision to categorize cryptocurrencies as part of commodity futures. Based on the above, several problems were identified, as follows: 1) How is the legal regulation regarding investments in Crypto Assets structured? 2) Have the existing regulations provided the ideal legal protection for crypto assets investors?

### **METHOD**

The type of legal research being conducted is normative jurisprudence, where the law is conceptualized as what is written in legislation (law in books) or the law is conceptualized as norms or rules that serve as the basis for human behavior and are considered appropriate (Asikin, 2012). In normative studies, the law in question encompasses not only statutes but also relates to theoretical frameworks, philosophy, comparisons with other countries, the structure, and the explanatory content of each article in the legislation.

Thus, normative legal research is no longer solely identified with legislation. Instead, it encompasses various aspects related to the normative system as its object of study, such as ideal legal values, legal theories, legal principles, legal doctrines, court decisions, and legal policies (Irwansyah, 2021). The researcher will focus on the study of the rights of indigenous communities, particularly regarding the management of natural resources. This study begins with the position of indigenous communities at various levels, from the constitution to laws and their implementing regulations, especially those related to Crypto. The researcher will use both a legislative approach and a conceptual approach. The legislative approach will help analyze the issues through the lens of legislation, complemented by the conceptual approach to provide solutions to normative problems within the law.

### **RESULTS AND DISCUSSION**

#### **1. Legal Instruments in European Countries Regarding Cryptocurrency Investments**

The information technology era has gradually evolved to serve not only as a means of connectivity but also as a valuable asset. This is a logical consequence of the emergence of blockchain technology. The decentralized control of each cryptocurrency operates through distributed ledger technology, typically blockchain, which serves as a database for public financial transactions (Che Ludin, n.d.). The development of blockchain technology was first implemented by Satoshi Nakamoto in 2008 when he published the paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System." This paper hypothesized the concept of online payments from one party to another without the need for third parties or intermediaries. The paper explained that it is an "electronic payment system based on cryptographic proof, not trust."

The fundamental nature of digital currency allows it to be easily duplicated and used more than once, creating uncertainty and posing adoption challenges. Nakamoto's paper addressed this issue by linking each transaction to previous transactions in a way that is resistant to manipulation. The manipulation-resistant method described by Nakamoto is the public ledger. With this ledger, the network can verify the transaction history of electronic coins submitted by users as payment and ensure that the coins have never been used before, thus preventing the issue of "double spending" (Lewis Popovski and George Soussou, n.d.).

Blockchain is a type of database that is replicated across many computers or "nodes." All nodes contain identical information, which is key to the success of blockchain technology. Data is stored in blocks, as the name suggests. Each block can contain multiple transactions, and each transaction has a unique reference number and timestamp. This serves as a direct pointer to previous transactions and also contains information about the transactions themselves. In this way, each node has access to all previous blocks, going back to the first block in the chain known as the "genesis" block. The timestamp provides each block with a fixed temporal position in the chain (Lewis Popovski and George Soussou, n.d.).

The evolving landscape of Blockchain technology and the emergence of new economic forms necessitate legal responses to ensure that no party is harmed and to delineate the rights and obligations of the parties involved. Initiatives in the European region through National Competent Authorities (NCAs) have opened public consultations and issued extensive reports on crypto assets (E.g. Financial Conduct Authority (FCA, 2019). On the other hand, legislators in European countries are responsive and willing to explore and promote new blockchain-based investment models by encouraging the concept of a "token economy" as a positive long-term trend while avoiding onerous regulations that could jeopardize the industry and displace investment markets. Legal protection, as understood, not only provides regulatory certainty but also ensures investor protection and fosters sustainable business development (European Securities and Markets Authority (ESMA, 2019).

As a result of the unstoppable development of Blockchain, the EU has adopted a "wait and see" strategy with the aim of maintaining a balance between a liberal stance and decision-making in the legal domain. The "wait and see" approach is a strategy where entities or individuals postpone taking action or making decisions until they have more information or a clearer situation. This means they do not take immediate action but want to observe further developments before acting. This approach is often used in the context of government policies or organizations dealing with complex or potentially controversial issues. However, it does not mean simply waiting and watching but rather involves careful consideration and making informed decisions.

Historically, China has employed this approach in deciding budget allocations for internet financing programs. Initially, this financial innovation was well-received and even welcomed by China's typically conservative financial regulators, who simultaneously adopted a "wait and see" stance with the intention of promoting innovation and avoiding excessive regulations. However, in practice, the regulatory policy inadvertently gave rise to a new type of crime called Ponzi schemes, and ultimately, the Chinese government took action to strengthen internet finance regulations. (Xu, D., John Taylor, C., & Ren, 2022).

The approach employed by the EU is considered quite effective because it bridges the gap between international and national interests through legal enforcement to

influence jurisdictions that are not yet regulated (European Securities and Markets Authority (European Securities and Markets Authority (ESMA, 2019). This policy is based on the recognition that tokens can be sold to European investors from other countries, and it aims to provide extensive investor protection.

The second step is to identify the appropriate type of Blockchain, and this identification is based on its functional category. Essentially, digital assets based on Blockchain can be created for various purposes, and they are generally categorized into three main classes: payment tokens, utility tokens, and investment tokens. (Gabriel Söderberg, 2018).

- a. Payment tokens are a form of cryptocurrency designed for use as a digital payment instrument. They function as a substitute for fiat currency (official currency) within the blockchain ecosystem. Payment tokens enable individuals to conduct transactions and payments online without going through traditional banks or financial institutions.
- b. Utility tokens are used within a blockchain to provide access or specific rights within the ecosystem of a project or application. They are not used as a means of payment but rather as access keys to particular functions or services on a blockchain platform.
- c. Investment tokens, often referred to as security tokens, represent ownership in an asset or project, often with the aim of investment to gain profits in the future. They can represent shares in a company, ownership of property, or even voting rights in a blockchain project.

Generally, individuals hold cryptocurrency assets for two main reasons. First, they use them as a means of payment or as an investment vehicle. Additionally, some people buy cryptocurrency assets primarily to store them with the hope of preserving their value, as they anticipate that the prices will rise. The number of Bitcoin transactions worldwide per day, including purchases as investments, has increased in recent years, although it is highly volatile. During 2017, the average number of Bitcoin transactions worldwide ranged from around 275,000 per day, which can be compared to an average of 60,000 transactions in 2014. (Segendorf, 2014).

From a social problem perspective, cryptocurrency assets are also referred to as an issue because they facilitate criminal activities by enabling anonymous payments. Criminals have used them to purchase illegal goods and engage in various types of cybercrimes. According to research, as much as a quarter of all cryptocurrency users and approximately half of all Bitcoin transactions can be linked to some form of illegal activity (Foley, Sean, Karlsen, 2018). However, several innovations have made it easier to trace Bitcoin and cryptocurrency users. As a result, criminals are now shifting their operations to other cryptocurrencies that offer higher levels of anonymity. Nevertheless, Bitcoin remains the most widely used cryptocurrency for criminal purposes, possibly because it is still the largest and most established cryptocurrency (Andrén, 1964).

The EU (European Parliament) Regulation No. 600/2014 on Market in Financial Instrument Regulations (MiFIR) and Regulation No. 2017/1129 on the Prospectus to be published when securities are offered to the public (Markets in Financial Instruments Directive/MiFID II), both are legal frameworks introduced by the EU to regulate financial markets and investment services. Here are their differences:

MiFID II (Directive on Markets in Financial Instruments II)

- MiFID II It is a European Union directive aimed at regulating financial instrument markets and enhancing investor protection. It is a revision of the previous MiFID I, with a legal framework foundation:
  - Market Transparency: MiFID II encourages greater transparency in the trading of financial instruments by requiring more detailed trade reporting, including trades conducted off-exchange.
  - Investor Protection: MiFID II introduces stricter regulations related to risk assessment, best execution of trades, and execution of orders in the investor's best interest.
  - Transaction Reporting: MiFID II mandates broader transaction reporting to supervisory authorities to better monitor market activities.
  - Enhanced Security: MiFID II has stricter requirements related to security and information technology to protect customer data and trading systems.
- MiFIR (Markets in Financial Instruments Regulations) MiFIR adalah It is a regulation that complements MiFID II and covers implementation details. It ensures that the provisions of MiFID II are effectively implemented across the European Union, with a legal framework foundation.
  - Market Reporting: MiFIR regulates market reporting requirements, including transaction reporting, more detailed trade data publication, and public reporting of order execution.
  - Market Transparency: MiFIR enhances market transparency by requiring broader publication of trading and financial instrument data.
  - Stricter Market Regulation: MiFIR grants supervisory authorities the authority to regulate financial markets and investment firm activities more rigorously.

Overall, MiFID II and MiFIR are crucial components of the EU's efforts to enhance the integrity and transparency of financial markets and protect investors. They have a significant impact on market participants and financial institutions across the European Union and countries dealing with EU markets. Compliance with this legal framework is a necessity for market participants operating within the European Union.

These rules provide flexibility for the contracts entered into, aiming not to overly restrict investment opportunities. This concept is based on the "investment contract" and "transferable securities." An "investment contract" refers to an agreement or contract that involves an investment in an entity or project with the expectation of making a profit. This is a term commonly used in financial law and regulations to describe specific investment agreements. In some countries, investment contracts must comply with regulations, such as in the United States, which has the fundamental concept of the Howey Test (Jack Solowey and Jennifer J. Schulp, 2022), the Howey Test is used by the U.S. Securities and Exchange Commission (SEC) to determine whether a transaction or agreement is classified as a security and, therefore, subject to federal regulations or not. This is important because it represents the government's effort to address potential losses experienced by investors in the future.

On the other hand, "transferable securities" are financial instruments that can be traded on the capital market and meet specific criteria set by capital market regulations. This definition is crucial because these instruments are subject to regulations and specific requirements that affect how they are traded, managed, and invested. This theory was developed in the 19th century in Germany by H. Brunner,

who was able to define transferable securities as documents closely related to the rights contained in them, making it impossible to exercise those rights without holding the document. The fundamental difference between transferable securities and instruments proving rights is that the role of transferable securities is not limited to confirming the existence of rights, but ownership of transferable securities is a prerequisite for the existence of a right contained therein (Krzysztof Gorzelak, 2014).

Article 5(10) of Directive 2014/65/EU MiFID defines "Transferable Securities" as "negotiable securities traded on the capital market," and below are some of the criteria mentioned:

- a. Share in companies
- b. Bonds or other forms of securitized debt
- c. Any other securities giving the right to acquire or sell any such transferable securities

The sentence indicates that in the context of ownership of transferable securities, a prerequisite or condition to be met is the existence of rights contained within the ownership of those securities. In the context of law and the financial market, ownership of securities is typically represented by financial instruments such as stocks, bonds, or other tradable financial instruments.

In many cases, ownership of securities entails specific rights for the owner. For example, shareholders have the right to receive dividends, the right to vote in shareholder meetings, and the right to sell or transfer the shares to others. Therefore, for there to be ownership of transferable securities, there must be associated rights with that ownership. In the context of capital market regulation, the definition of transferable securities is often used to determine whether a financial instrument should be regulated as a security and subject to capital market regulations. If the instrument meets the criteria as a security, then capital market regulations apply. So, the essence of the statement is that ownership of securities must involve specific rights associated with that ownership to be classified as "transferable securities."

Therefore, it can be concluded that legal regulations regarding the response to the presence of Blockchain technology represent a transformative effort in the digital economy with equal value and function as other economic characteristics. Some legal instruments implemented in various European countries to ensure the existence of rights and obligations include the following:

The first is the "wait and see" approach, an approach to observe and make decisions regarding new phenomena, especially in facilitating the new technology-based Blockchain economy. The second is determining classification, which is essential to ensure the smoothness of digital economic transactions based on Blockchain, as some other countries do not recognize crypto assets as legal means of payment. The third is establishing a testing authority to determine whether a transaction or agreement is classified as a security or not. This is aimed at reducing losses resulting from illegal transactions that harm investors. The fourth is based on the expansion of the meaning of Transferable Securities, which is a concept that expands the definition of Securities in general with the mechanism of Transferable Securities

## **2. Legal Instruments in Indonesia Regarding Cryptocurrency Investments**

Indonesia, as one of the largest economies in Southeast Asia, has emerged as a key player on the international stage. With rapid economic growth and a large population, Indonesia has also been proactive in the ever-evolving world of

cryptocurrencies. The Indonesian government recognizes the significant potential of blockchain technology and cryptocurrencies in reshaping the global financial and business landscape. As a result, Indonesia has actively participated in formulating rules and regulations related to cryptocurrencies to create a safe and well-regulated environment for industry participants.

As a development or innovation in law can be seen through its nature, through two approaches., (OS Bolotaeva, 2019)

1. Equating it with existing legal objects (securities, non-documentary, foreign currency). With this approach, it implies the need to create derivative regulations that consider cryptocurrencies as a variant of the related object.
2. Introducing a new concept, namely by definitively incorporating it into the law and recognizing it as a fundamentally new object of legal regulation, resulting in the creation of cryptocurrency laws from scratch.

As of now, most countries around the world are attempting to regulate the relationship with cryptocurrencies, primarily focusing on issues related to licensing and taxation, as well as combating the legalization of criminal transaction proceeds and terrorism financing. However, some experts point out that authorities in many countries are struggling to make clear decisions regarding the legal nature of cryptocurrencies because the legal relationships related to cryptocurrencies are not meaningful until digital rights, money, and contracts that inherently exist become subjects of civil law. (Timofeev S, 2022).

Not only among countries, but differences in opinions regarding crypto assets also exist among regulatory bodies within many countries. In the United States, which is a hub for the crypto industry, there is a fierce debate over crypto asset regulation. The Securities and Exchange Commission (SEC) views most crypto assets as securities or stocks, while the Commodity Futures Trading Commission (CFTC) considers them as commodities. Meanwhile, the Department of the Treasury regards them as currencies. (Thomson Reuters, 2022).

Countries respond to the digital economy based on blockchain in various ways, depending on the decisions they make. For instance, Australia tends to define crypto assets as one of the objects that need to be limited, stating that crypto is a commodity rather than a currency. This same approach is adopted by countries like Canada and Singapore. In contrast, El Salvador, since 2021, became the world's first country to officially adopt Bitcoin as a legal currency. El Salvador introduced a law that regulates the use of Bitcoin as a legitimate means of payment. This, in turn, affects the definition of crypto itself. For example, Stephen Poloz, the Governor of the Bank of Canada, stated in January 2018 that he objected to the term "cryptocurrency" because it's not really a currency, but rather an asset, although it can technically be classified as a security. (*The Positions of the World Countries on Regulating Cryptocurrencies as of February 2018*, 2018)

Russia has taken a somewhat neutral stance on the legal status and nature of cryptocurrencies. While there isn't a direct ban on cryptocurrency transactions, Russia has chosen to equate cryptocurrencies with foreign currencies. They have drafted a law called the "On Digital Financial Assets" that restricts the use of cryptocurrencies by not recognizing them as a legal means of payment within the Russian Federation (On Digital Financial Assets, 2019).

Indonesia has decided that crypto assets are considered a part of commodity futures. Therefore, there are no specific regulations that address blockchain



technology, Bitcoin, or similar cryptocurrencies. Here is the legal basis for cryptocurrency regulations in Indonesia:

Law Number 10 of 2011 concerning Amendments to Law Number 32 of 1997 concerning Commodity Futures Trading:

Article 1 Number 2:

“Commodity means all goods, services, rights, and other interests, and any derivatives of commodities that can be traded and become the subject of futures contracts, sharia derivative contracts, and/or other derivative contracts.”

The provision above serves as the parent regulation for the legal framework of crypto assets in Indonesia. Consequently, Indonesia has established a Crypto Commodity Futures Exchange. According to the Regulation of Bappebti Number 8 of 2021 concerning Guidelines for the Implementation of Physical Crypto Asset Trading on Commodity Futures Exchanges, the trading of crypto assets (Robert Stevens, 2023) is conducted through a Physical Crypto Asset Market held electronically by Crypto Asset Physical Traders for buying or selling Crypto Assets, with market oversight carried out by the Commodity Futures Exchange.

However, the fundamental nature of crypto assets and Commodity Futures (Commodities) differs, at least in their fundamental nature. Commodity futures are contracts that involve the delivery of a specific physical commodity (such as oil, gold, or corn) on a specified date in the future. This means that commodity futures trading can result in the physical delivery of the commodity if the contract is executed. In contrast, the fundamental nature of crypto assets, which are digital assets operating on blockchain technology, is that they do not have physical representation and only exist in digital form. Crypto asset trading involves the exchange of digital tokens representing value or ownership within the blockchain network.

Due to their differing fundamental natures, yet being grouped under one definition as "commodity futures," it logically follows that all consequences, including losses incurred by investors, are treated similarly to addressing issues arising in commodity futures cases. This is the problem that arises concerning instruments that are not comprehensively regulated. Indonesia has decided to equate crypto assets with commodity futures/securities, and there have been several cases related to crypto assets as follows:

- Mt Gox (2014): Mt. Gox was the largest Bitcoin exchange in the world at the time. They announced that they had lost approximately 850,000 Bitcoins from their wallets, and the error stemmed from an underlying bug in Bitcoin known as transaction malleability., (Novina Putri Bestari, 2022b)
- Coincheck (2018): The Japanese cryptocurrency exchange, Coincheck, experienced a major hacking incident resulting in the theft of approximately 523 million NEM (XEM), which was valued at more than 500 million dollars at that time. (Yuswardi A. Suud, n.d.)
- QuadrigaCX (2019): The Canadian cryptocurrency exchange, QuadrigaCX, experienced a tragic incident when its founder passed away. Unfortunately, he was the sole individual with access to the cold storage wallet containing customers' cryptocurrencies. Over \$190 million in crypto disappeared because no one could access it. (Novina Putri Bestari, 2022a)
- Bitfinex (2016): Bitfinex is a major exchange that announced it had lost approximately 120,000 Bitcoins in a hacking attack. However, they managed to compensate customer losses by issuing debt tokens called BFX. (Riza, 2022)

- Youbit (2017): The South Korean crypto exchange, Youbit, suffered a hacking attack that resulted in significant losses. This was the second attack they experienced in less than a year, ultimately leading to the exchange's bankruptcy. (Sakinah Rakhma Diah Setiawan, 2017)

The above cases did not arise from issues typically associated with commodity futures, which include fraud, rule violations, risk management issues, legal uncertainties, and insider trading. Therefore, it can be emphasized that there is a need for specific regulations to provide legal protection for investors in the cryptocurrency sector. Referring to the provisions of Article 78 of the Commodity Futures Trading Law, the party responsible for and bearing the losses incurred by cryptocurrency/Bitcoin users is the Bitcoin provider, and these losses are borne by the users. The presence of Bappebti (Commodity Futures Trading Regulatory Authority) serves as a supervisory body in accordance with the mandate of Article 4 paragraph (1) of the Commodity Futures Law. Regarding the dispute resolution mechanism between the Bitcoin provider and user (owner), disputes can be resolved through negotiation, but if a resolution is not reached, disputes can be settled through a Commodity Futures Exchange or the Commodity Futures Trading Arbitration Board (BAKTI) or through a District Court.

Certainly, such legal instruments may not satisfy all parties involved. On the other hand, the process of creating a law can be time-consuming and subject to legal-political constraints, while responsiveness to legal issues related to emerging economic aspects should be a primary concern. This is supported by the research of Rusno Haji, who conducted a cost and benefit analysis of the government's decision regarding cryptocurrencies. The analysis suggests that the government's choice to ban cryptocurrencies as a means of payment but allow them as commodities for investment purposes was made to preserve monetary stability, the financial system, and the payment system, rather than optimizing cryptocurrencies. (Rusno Haji, 2022).

Therefore, one of the drawbacks or weaknesses in the policy adopted includes, firstly, regulatory arbitrage due to regulations being governed by different authorities, and secondly, the lack of specific legal protection for parties experiencing losses in cryptocurrency transactions. There is a need for legal innovations to ensure certainty of protection for cryptocurrency investors, including various types of regulatory innovations with both preventive and punitive aspects.

Philippus M. Hadjon explains that theoretically, legal protection can be categorized into two forms, namely:

1. Preventive legal protection: This type of legal protection aims to prevent disputes from occurring. Legal entities are given the opportunity to submit objections or their opinions before a government decision is made.
2. Repressive legal protection: This type of legal protection aims to resolve disputes that have already occurred, including the handling of protection by the judiciary.

These two forms of legal protection serve different purposes, with preventive protection focused on preventing conflicts and repressive protection focused on addressing disputes that have already arisen.

There are several authentic suggestions by researchers, including several aspects, including the following:

- Preventive Efforts (*Cyber-Security Fraud*)

Cyber security fraud is synonymous with cybercrime/hacking/phishing and other activities that can harm cryptocurrency investors because the ownership of cryptocurrency assets is stored in a "cryptocurrency wallet," where sensitive information is encrypted and securely stored. At the very least, cryptocurrency asset providers should meet the following standards:

- **Exchange hacks**  
is a cyberattack that occurs against cryptocurrency exchange platforms. In this type of attack, attackers attempt to hack cryptocurrency exchange platforms and steal the cryptocurrencies stored within them. It is one of the most common forms of cyberattacks in the cryptocurrency ecosystem because cryptocurrency exchanges are where users hold and trade their cryptocurrency assets.
- **Social Media Identity Hacking**  
is referring to the act or attempt to hack or steal the identity of social media users with the intention of engaging in illegal activities or deceiving others. In such attacks, the attacker tries to gain access to someone's social media account or even create a fake account pretending to be that individual. For every cryptocurrency exchange or asset provider, compliance with these standards is essential, as the identity verification process for service providers is not done in a traditional manner.
- **Ransomware**  
is a type of malicious software (malware) designed to encrypt data on a computer or system and then demand a ransom payment from the victim in exchange for a decryption key to regain access to their data. Ransomware is often referred to as "ransomware" in the context of cryptocurrency transactions, and it is frequently used when the computer systems of a company or city are held hostage, and data will only be released after a certain amount of money is paid.
- **Crypto-Jacking**  
is a cyber attack that involves the unauthorized use of a computer or other device to mine cryptocurrencies without the owner's permission or knowledge. In crypto-jacking, the attacker takes control of the victim's computing resources, such as CPU or GPU, to perform cryptocurrency mining operations, primarily for cryptocurrencies like Monero. In the context of cryptocurrency transactions, hackers use malware to hijack mobile devices or computers, using their processing power to mine cryptocurrencies without the owner's consent.

The cybersecurity mentioned above can be transformed into a standardization of licensing by the relevant authority, in this case, Bappebti. The supervision carried out by Bappebti is not just an effort to control compliance with standards, but also active periodic monitoring of each cryptocurrency service provider company, at least conducted every 6 months annually.

- **Repressive Efforts (Requires Companies Providing Crypto Assets to insure Each Investor's Assets)**

As mentioned above, if investors incur losses due to negligence in safeguarding their cryptocurrency wallets, then it is the fault of the cryptocurrency provider. It is important to note that the development of the insurance industry has entered the next

stage with the emergence of digital insurance. Digital insurance is a rapidly growing form of commercial liability insurance in which holders of digital assets receive protection against theft or loss of their assets. (Adam Zuckerman, 2020).

Digital asset insurance companies are developing various methods to secure various assets, ranging from cold storage to hot storage. Cold storage refers to offline storage, not connected to the internet. On the other hand, hot storage refers to solutions that remain connected to the internet but with maximum online security. The advantage of hot storage is its greater flexibility and the ability to transfer assets more quickly than cold storage. (Adam Zuckerman, 2020).

Therefore, a revision of Government Regulation No. 49 of 2014 on the Implementation of Commodity Futures Trading is required by legal rules. There are two reasons for the need to revise this regulation. First, the government regulation does not include cryptocurrencies that have differentiation compared to Commodity Futures Trading. Without differentiation, legal protection is regulated minimally. Second, in terms of function, government regulations indeed implement the provisions of the law, in which Indonesia has clearly decided to equate the position of cryptocurrencies with commodity futures, despite the differentiation.

### CONCLUSION

From the discussed points, the following conclusions can be drawn: In essence, cryptocurrency regulation in Indonesia is equated with or considered part of the Commodity Futures element, so any violations or losses do not refer to a specific law governing them but rather rely on Law No. 10 of 2011 on Amendments to Law No. 32 of 1997 on Commodity Futures Trading. Therefore, all consequences that arise are treated the same as Commodity Futures.

While violations in the commodity futures realm are limited to issues like fraud, rule violations, risk management cases, legal uncertainty, and insider trading, cryptocurrency losses can stem from international crimes like hacking or ransomware extortion. These types of crimes have not been normatively accommodated within the law, including the rights and obligations of each cryptocurrency wallet investor and provider.

Therefore, there is a need for a standardized, periodic, and embedded security system implemented by Bappebti to ensure maximum protection by every cryptocurrency wallet service provider. Additionally, it should be mandatory for every service provider to insure digital assets comprehensively to provide financial protection to individuals, businesses, or groups against unforeseen or unexpected risks.

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