

Legal Framework For Crypto Asset Trading As An Effort To Protect Consumers In Indonesia

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Abstract

Cryptocurrency has emerged as a disruptive and revolutionary asset in the global financial landscape, transforming how individuals and organizations conduct financial transactions. In Indonesia, cryptocurrency is prohibited as a means of payment but is permitted as a digital asset (crypto asset) that can be traded. Crypto assets operate through a decentralized system that lies outside the control of the government and centralized authorities. As of October 2024, the number of crypto asset consumers in Indonesia reached 21.27 million, and throughout 2024, it has contributed to the development of the digital financial services sector, with transactions amounting to IDR 650.61 trillion. Volatility, illegal crypto asset traders, hacking, and scamming are among the key issues in crypto asset trading. This research is a doctrinal/normative legal study using a statutory approach. It is based on a literature review and analyzed qualitatively. The findings show that the Ijtima Ulama of the National Fatwa Commission VII in 2021 and OJK Regulation (POJK) No. 27 of 2024 indicate that the government is getting involved in crypto asset trading. However, several weaknesses in the POJK, including the unclear position of individual consumers and the absence of mandatory risk mitigation requirements for traders, may result in the lack of security guarantees for consumer crypto assets.

I. Introduction

Financial services are increasingly developing rapidly, one of which is a bank that offers various services such as ATMs, tellers, interbank transfers, shopping payment services, tolls, electricity, credit, credit cards, debit, e-money, savings, and foreign currency, even in the digital world, such as e-banking, m-banking, and other fintech. This is what is called a centralized transaction system, namely every movement is monitored by the bank as the manager of these various services. Although safe, customers do not have full power over funds; all funds are managed by the bank, and if something happens, such as a failed cash withdrawal at an ATM, then if the bank states that the withdrawal is valid, the customer cannot sue for the loss. Other financial services are electronic wallets (e-wallets) used in online transactions such as OVO, GoPay, ShopeePay, GrabPay Wallet, and PayPal. All of these services are in the nominal currency where the transaction is carried out, for example, in Indonesia in Rupiah, and managed by Bank Indonesia as the central bank of Indonesia.

In an era where online transactions are increasingly becoming the main choice, the means of exchange are also developing, not always in physical form, such as coins or paper money, but also in new forms of means of exchange called crypto money or cryptocurrency. Unlike Rupiah which is managed by Central Bank of Indonesia, or foreign currency by its country, cryptocurrency as a digital currency is not a currency owned by any country. This currency is initiated, managed and used entirely by customers without national boundaries. This is what is called a decentralized transaction. High awareness of cryptocurrency occurs among 83% of the population in Germany, although general knowledge of cryptocurrency and blockchain technology and the level of trust in cryptocurrency are quite low, a deep understanding of the phenomenon is identified as the main driver of cryptocurrency ownership (Fred Steinmetz, Marc von Meduna, Lennart Ante, 2021). On October 25, 2024, the number of crypto asset customers in Indonesia reached 21.27 million customers with the value of crypto asset transactions from January to September 2024 reaching IDR 426.69 trillion.

Cryptocurrency has emerged as a disruptive and revolutionary asset in the global financial environment, changing the way individuals and organizations conduct financial transactions. Many changes have infected the global economy in the technological era, including the development of blockchain, which has made cryptocurrency a common sight in the global cyber financial market and a highly researched subject area worldwide (Haled Saleh Al-Omouh, Ana M. Gomez-Olmedo, 2024).

Just like other assets, cryptocurrency also has advantages and disadvantages. The advantages of cryptocurrency include: 1). Everyone can own and transact with cryptocurrency anywhere and anytime, without holidays like banks, no country borders and no bureaucracy; 2). More resistant to monetary inflation, for example, Bitcoin has a limited amount of no more than 21 million bitcoins; 3). Transparent, fast, and practical; 4). Protected from identity theft. The disadvantages of cryptocurrency are: 1). Because it does not use real identity, it is vulnerable to being used in illegal activities such as money laundering; 2). High volatility, namely the value of the currency can suddenly

rise or fall drastically and in a short time; 3). The value of the currency is difficult to predict; 4). Does not apply to the sale and purchase of services, especially in Indonesia.

Currently, several countries such as: the United States, Japan, South Korea, Nigeria, China, Russia, the European Union, Canada and Australia have legalized the use of cryptocurrency, even using it as a legal payment method as is the case in Japan, Germany, the United Kingdom, Belgium and Canada. However, its use must be accompanied by strict regulations to prevent mis use, tax evasion and to protect consumers. The regulations in question include the obligation to register with the exchange, supervision of compliance, and law suits in the event of illegal activity in cryptocurrency trading. The majority of countries in the world have not legalized it, even in several countries such as: Cameroon, the Central African Republic, Gabon, Guyana, Lesotho, Libya, and Zimbabwe prohibit the use of cryptocurrency, this is because: 1). High risk of illegal activities such as: money laundering, terrorism financing and other financial crimes; 2). Distrust of the stability of cryptocurrency as a legal tender; 3). Risk to the economic stability of a country.

State of the art this research is taken from several examples of previous research in the form of theses and journals including: Journal by Supriyanto, Siswoyo, Dian Rustyawati entitled "*Cryptocurrency: History and Development*" Journal of Islamic Banking Vol. 01, No. 01, July 2021 (Supriyanto, Siswoyo, Dian Rustyawati, 2021); article entitled work Aydin Abadi, Amirreza Sarencheh, Henry Skeoch, Thomas Zacharias titled "*ICT: Insured Cryptocurrency Transaction*", Cryptology Eprint Archive, Paper 2025/088 (Aydin Abadi, 2025).

The legal theory in this study refers to Peter Cartwright who put forward the Paternalistic Theory as a justification for state intervention to protect consumers in the form of a legal framework governing crypto asset trading in Indonesia. This article focuses on several issues, namely: (1) How is Cryptocurrency regulated in Indonesia; (2) How is consumer protection in Crypto Asset trading in Indonesia.

II. Research methods

The method used in this research is juridical-normative or library research, which is legal research conducted by examining library materials or secondary data. This research uses Law Number 8 of 1999 concerning Consumer Protection; Financial Services Authority Regulation Number 27 of 2024 concerning the Implementation of Digital Financial Asset Trading, Including Crypto Assets, Financial Services Authority Regulation Number 61 of 2020 concerning Alternative Institutions for Dispute Resolution in the Financial Services Sector (LAPS SJK) and The 7th Indonesian Fatwa Commission Ulama Conference of 2021 concerning Cryptocurrency Law. The secondary data used in this study consists of books, regulations, scientific works, and legal dictionaries. The data analysis method used in this study is qualitative.

The following is the operational table 1 of the research concept:

NO	Main Concept	Subconcepts / Focus of Study	Indicators / Aspects Analyzed	Data Sources / Legal Materials
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1.	Regulatory Mechanism for Crypto Asset Trading in Indonesia	- Legal basis for organizing crypto asset trading - Authority of supervisory institutions (OJK and Bappebti) - Governance and licensing of crypto asset organizers	- Legal basis for crypto asset trading in Indonesia - Institutional structure and regulatory authority - Compliance standards and reporting of crypto asset transactions	Primary Legal Materials:• Law No. 8 of 1999 concerning Consumer Protection• OJK Regulation No. 27 of 2024 concerning the Implementation of Digital Financial Asset Trading Including Crypto Assets• Bappebti Regulation concerning Crypto Asset TradingSecondary Legal Materials:• Books and journals on digital economic law, consumer protection, and fintechTertiary Legal Materials:• Legal dictionaries and legal encyclopedias
2.	Problems in Crypto Asset Trading	- Legal uncertainty and consumer protection- Risk of fraud, price manipulation, and loss of assets- Low legal and financial literacy of users	- Factors causing weak legal protection - Cases of consumer losses in crypto transactions - Effectiveness of regulations in preventing consumer losses	Primary Legal Materials:• Law No. 8 of 1999 concerning Consumer ProtectionSecondary Legal Materials:• Reports and publications of the Financial Services Authority (OJK) and Bappebti• Court decisions or relevant cases• Scientific articles on digital economic lawTertiary Legal Materials:• Secondary data from

				credible media and previous research
3.	Crypto Asset Trading Dispute Resolution	- Settlement mechanisms in the financial services sector - The role of the Alternative Dispute Resolution Institution in the Financial Services Sector (LAPS SJK) - Legal remedies for consumers who have suffered losses	- Settlement procedures through LAPS SJK - Involvement of OJK and Bappebti in settlement - Effectiveness and obstacles in settlement	Primary Legal Materials: • OJK Regulation No. 61 of 2020 concerning LAPS SJK.
4.	Reformulation of Crypto Asset Trading Regulations for Consumer Protection	- Improvement of legal norms and supervisory institutions - Integration of positive law and Islamic law in consumer protection - Ideal regulatory model for the future	- The need for legal reform in crypto asset trading - Proposed regulations and supervision to protect consumers - Synchronization between national regulations and sharia principles	Primary Legal Materials: • Ijtima Ulama of the Indonesian Fatwa Commission VII of 2021 concerning Cryptocurrency Law • OJK Regulation No. 27 of 2024 • Bappebti Regulation regarding crypto assets Secondary Legal Materials: • Books and journals on digital economic law, consumer protection, and muamalah fiqh Tertiary Legal Materials: • Legal encyclopedias and official websites of OJK, Bappebti, and MUI

III. Analysis and Discussion

1. Trade Regulatory Mechanism Crypto Assets in Indonesia;

John Bailer in the book *Coin Searchers: The Insider's Guide To Crypto Trading* defines Cryptocurrency as a currency used for virtual transactions in terms of purchasing goods and services or in terms of fundraising and other virtual transactions that have been encrypted in sophisticated algorithms (Nugroho Hardiyanto, 2023). John explains that crypto is a form of money that has digital information and is encrypted with sophisticated algorithms to organize and collect funds and other transactions boldly.

Summarizing from the book *Cryptocurrency Trading Guide Fundamental & Technical Analysis for Cryptocurrency Thinkers*, the history of crypto began in 1983 when cryptographer David Chaum created an anonymous electronic cryptographic tool called e-Cash (George Protonotarios, 2019). Then, in 1995, DigiCash was created and implemented as an early form of electronic cryptographic payment using software and encryption to withdraw bank notes. One year later, Laurie Law, Susan Sabett, and Jerry Solinas published an article titled "How to Make a Mint: The Cryptography of Anonymous Electronic Cash," which explained the cryptocurrency system. In 1998, Wei Dai published "b-money," an anonymously distributed electronic cash system. Cryptocurrencies continued to develop until, in 2009, Satoshi Nakamoto (a pseudonym) created Bitcoin using the SHA-256 cryptographic function as a proof-of-work scheme. According to the book *Bitcoin, Blockchain & Cryptocurrency: A Complete Guide*, after proving the scheme worked, Satoshi sent Bitcoin to Hal Finney, a fellow cryptography enthusiast. The transaction was successful, and the Bitcoin phenomenon began to gain public recognition.

Cryptocurrency's presence in Indonesia began with the introduction of Bitcoin in 2013 through exchanges providing platforms, money changers accepting Bitcoin, and communities offering Bitcoin as vouchers or rewards on specific websites. In 2017, Bitcoin began to grow rapidly in Indonesia.

As consumer problems become increasingly complex, policy interventions are needed to address potential consumer harm. Peter Cartwright proposed the Paternalistic Theory as a justification for state intervention to protect consumers (Ni Nengah Werdhyasari, 2012). Intervention is carried out to ensure a balance of rights and obligations between producers and consumers. Paternalistic legal implementation is intended to prevent losses experienced by consumers due to agreements that are detrimental to them. This theory aligns with the goal of legal protection, which is to protect legal subjects through applicable regulations and enforce their implementation with sanctions. This was realized through the initial step in 2019 when the Commodity Futures Trading Regulatory Agency (Bappebti) issued Regulation No. 5 concerning Technical Provisions for the Implementation of Physical Crypto Asset Markets (Crypto Assets) on Futures Exchanges.

Regulations in Indonesia state that all actions and obligations that use the Rupiah currency as regulated in Article 2 paragraph (3) of Law Number 23 of 1999 concerning Bank Indonesia (Law 23/1999). The affirmation is contained in Article 2 paragraph (1) of Law Number 7 of 2011 concerning Currency which states that the currency of the Republic of Indonesia is the Rupiah. This is important

considering that currency is needed as a legal means of payment in national and international economic activities of a country and the Rupiah is one of the symbols of the preservation of the State of Indonesia (Law of the Republic of Indonesia, 2011).

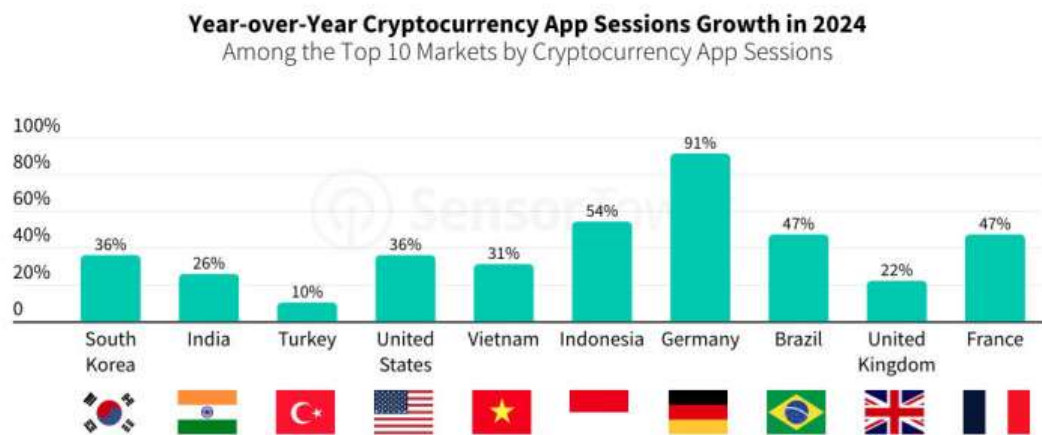
Basically, cryptocurrency has two sides of use, namely it can be used as a means of payment or currency which is the first purpose for which the currency was created, and the other side is as a commodity or as a digital asset which is commonly referred to as a Crypto Asset (Shabrina Puspasari, 2020). According to the Letter of the Coordinating Minister for the Economy Number S-302/M.EKON/09/2018, *cryptocurrency* remains prohibited as a means of payment and not recognized as legal tender in Indonesia because it is contrary to Law Number 7 of 2011 concerning Currency (Muhammad Habiburrahman, 2022). Therefore the use of Cryptocurrency is prohibited in Indonesia. However, as an investment tool, Cryptocurrency can be included as a commodity that can be traded on the futures exchange because economically it has great investment potential, so if it is prohibited, it will have an impact on the large amount of investment that comes out because consumers will look for markets that legalize Cryptocurrency transactions.

As a digital commodity within the blockchain system, cryptocurrency can be classified as a right or interest, thus falling into the commodity category as stipulated in Law No. 10 of 2011 concerning Amendments to Law No. 32 of 1997 concerning Commodity Futures Trading. Cryptocurrencies such as Bitcoin and other cryptos are considered crypto assets (Aditya Rafi Fauzan & Rianda Dirkareshza, 2021). The naming of cryptocurrency changed to Crypto Assets along with the legality of using Crypto Assets in the Regulation of the Minister of Trade Regulation Number 99 and enacted in October 2018 concerning the General Policy for the Implementation of Crypto Asset Futures Trading which stipulates that "Crypto Assets are commodities that can be used as the Subject of Futures Contracts issued on the Futures Exchange".

Furthermore, the technical implementation of Crypto Asset trading is regulated in several Regulations of the Commodity Futures Trading Supervisory Agency (Bappebti) until finally based on the provisions of Article 8 number 4 and Article 312 paragraph (1) of Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector (P2SK Law) and Government Regulation Number 49 of 2024 concerning the Transfer of Duties and Supervision of Digital Financial Assets including Crypto Assets and Financial Derivatives, the Ministry of Trade through Bappebti is given the task of regulating and supervising digital financial assets including digital assets. Crypto to the Financial Services Authority (OJK). The regulatory and supervisory duties transferred from Bappebti to the OJK include Digital Financial Assets (AKD), including crypto assets and financial derivatives in the capital market. The full transfer from Bappebti to the OJK and Bank Indonesia will be carried out no later than 24 months after the enactment of the P2SK Law, which coincides today, January 10, 2025. Previously, the OJK issued Financial Services Authority Regulation (POJK) Number 27 of 2024 concerning the

Implementation of Digital Financial Asset Trading, Including Crypto Assets (POJK AKD AK) and Financial Services Authority Circular Letter (SEOJK) Number 20/SEOJK.07/2024 concerning the Implementation of Digital Financial Asset Trading, Including Crypto Assets (SEOJK AKD AK), which contains the main points of the related regulations.

Public interest in cryptocurrency in Indonesia continues to grow. Sensor Tower's State of Mobile 2025 report states that Indonesia will have the second-highest growth in crypto app sessions globally by 2024, reaching 54%. Germany tops the list with 91% growth, while Brazil and France each experienced 47% growth.



Source: Growth of crypto application users in the world in 2024. (Sensor Tower)

A country with a Muslim majority population, according to data from the Central Statistics Agency, Indonesia's population will be recorded at more than 280 million people by 2024. Nearly 87% of them are Muslim (majority-of-indonesia, 2024), therefore, to provide legal certainty for Crypto Asset consumers, the Indonesian Ulema Council (MUI) through the fatwa of Commission B on Contemporary Fiqh Issues of the Material Team of the Indonesian Fatwa Commission's Ijtima Ulama VII of 2021 explains the following points:

- 1) The use of cryptocurrency as a currency is haram, because it contains elements of gharar (uncertainty), dharar (can cause loss), and is contrary to Law Number 7 of 2011 concerning Currency and Bank Indonesia Regulation (BI) Number 17 of 2015.
- 2) *Cryptocurrency* as a commodity it is not permissible to buy or sell because it contains elements of gharar (uncertainty), dharar (can cause loss), qimar (gambling) and does not fulfill the requirements of sil'ah according to sharia, namely the existence of a physical form, having value, the quantity is known with certainty, the existence of ownership rights whose ownership can be ascertained and can be transferred to the buyer.
- 3) *Cryptocurrency* As a commodity that meets the requirements as a sil'ah and has basic assets and has clear benefits, it is legally permissible to buy and sell

(Candrika Arivia Apriliani, 2023).

This means that even though most Cryptocurrencies are not valid in the Islamic perspective, the MUI acknowledges that there are types of Crypto Assets that are considered halal to be traded if they meet the following requirements: having basic assets (for example: gold, fiat money or real estate), and have real benefits that can be accounted for and transactions are carried out with the principles of justice and transparency. The existence of underlying assets or Crypto-backed Assets plays a role not only reduce extreme prices or volatility but also increase transparency and verifiability in the financial ecosystem so that in the end you can avoid *gharar* (uncertainty), *dharar* (can cause loss), also *qimar* (gambling).

The interesting thing is that sBefore the issuance of POJK No. 27 of 2024 concerning the Implementation of Digital Financial Asset Trading Including Crypto Assets, trading carried out by Traders and prospective Traders was due to the existence of Bappebti Regulation Number 7 of 2020 Article 1 number (1) states that Prospective Physical Crypto Asset Traders and/or Physical Crypto Asset Traders can only trade Crypto Assets in the Physical Crypto Asset Market that has been determined by the Head of Bappebti in the List of Crypto Assets that can be issued in the Physical Crypto Asset Market. (Commodity Futures Trading Supervisory Agency Regulation, 2020), meanwhile, the regulation regarding Prospective Physical Traders was only issued in 2022 through Bappebti Regulation Number 13 of 2022, Article 1, Number (9), which defines Prospective Physical Traders of Crypto Assets as parties who have obtained a registration certificate from the Head of Bappebti to carry out transaction activities related to Crypto Assets, either on their own behalf and/or assisting Crypto Asset Customers as long as the Crypto Asset Futures Exchange and Crypto Asset Futures Clearing House have not yet been formed (Commodity Futures Trading Supervisory Agency Regulation, 2022). In this position, the existence of the Prospective Physical Crypto Asset Trader has not actually obtained approval from the Head of Bappebti to carry out transaction activities related to Crypto Assets either on their own behalf and/or to facilitate Crypto Asset Customers as owned by the Crypto Asset Trader, which means that there are still requirements that have not been met.

Crypto Assets are defined as digital representations of value that can be stored and transferred using technology that enables the use of distributed ledgers such as blockchain to verify transactions and ensure the security and validity of stored information, are not guaranteed by a central authority such as a central bank but are issued by private parties, can be transacted, stored and moved or transferred electronically, and can be digital coins, tokens, or other asset representations that include backed cryptoassets or unbacked cryptoassets.

The Crypto Asset trading mechanism can be briefly explained as follows: Prospective consumers who open an account with a Crypto Asset Commodity Trader (trader) are approved as consumers after passing the Know Your Customer procedure, allowing them to have an account and begin transacting. Consumer funds for purchasing Crypto Assets are deposited into the trader's

separate account. 70% of the disbursed funds will be held by the Clearing House, and 30% will be held by the trader. Furthermore, the traded Crypto Assets (public and private keys) will be stored by the trader in either a Hot Wallet or a Cold Wallet at the Depository Manager. This creates a financial record between the trader, the Futures Clearing House, and the Depository Manager regarding the storage of Crypto Assets. The Futures Clearing House will verify the financial amount with the Crypto Assets held by the Depository Manager. Transaction data from the trader, the Futures Clearing House, and the Depository Manager is shared with the Futures Exchange as a price reference and for market monitoring (Commodity Futures Trading Supervisory Agency, 2001).

Crypto Asset Transaction Value in Indonesia							
(Trillion Rp)							
Period							
Januar y 25	Februar y 25	Marc h 25	April 25	May 25	June 25	July 25	August 25th
41.30	32.72	32.45	35.6 1	49.6 0	32.3 1	52.4 6	45.21

Tabel 2 : Source: Financial Services Authority (Statistik-Aset-Kuangan-dan-Aset-Kripto, 2025)

2. Problems in Crypto Asset Trading

Crypto consumers are exposed to a variety of risks due to the digital nature of Crypto Assets. Common threats include wallet hacks, ransomware scams, celebrity and corporate impersonations, social media hijacking, goodwill airdrop scams, romance scams, and giveaway/doubler scams. Inexperienced consumers are targeted by unscrupulous crypto exchanges that breach their contracts, use Ponzi schemes, trade fake cryptocurrencies, or simply steal consumers' money. Typically, scammers lure consumers in by promising high returns from trading cryptocurrency exchange rates and new investment strategies (Aleksandr P. Alekseenko. 2023). Other issues related to crypto assets are as follows:

a. Volatility

Crypto asset trading is often faced with Volatility problems caused by the speculative nature of the crypto asset market where consumers see crypto asset as a short-term investment opportunity to make quick profits, thus encouraging aggressive trading behavior and extreme price fluctuations. Another cause is low market liquidity and lack of clear regulation when there is a significant price movement, either an increase or decrease, there is often not enough liquidity in the market to absorb the pressure, thus increasing the fluctuation. Another factor is the lack of public understanding of blockchain technology and the basic concept of Crypto Assets, namely consumers who have limited understanding of consensus

mechanisms, mining, and other technical aspects of Crypto Assets. This can lead to overreaction to news or new information, triggering high price volatility (Chrisna Satya Wardhana. 2024).

b. Illegal Crypto Asset Traders

The rapid development of cryptocurrency has increased the number of crypto asset customers. The large number of crypto asset customers who are interested in investing in crypto asset does not rule out the possibility for Crypto companies to become physical traders of Crypto Assets. This then gave rise to many illegal or unlicensed crypto asset traders (Sarasota Tomaso, et al. 2022). Illegal crypto asset physical traders do various ways to attract customers. Such as promoting on social media, utilizing public figures, to promising high profits. It was proven in April 2022, the Investment Alert Task Force found 1 entity carrying out unauthorized crypto asset trading activities.

c. Hacking and Scamming

Hacking or hacking is an act of breaking into someone else's account without permission or without the knowledge of the account owner with the aim of stealing the account owner's data. Crimes such as hacking itself are a major problem that is quite related to crypto asset. The form of hacking itself can be in the form of theft of consumer wallets, where Crypto coin funds owned by Crypto users can be stolen and can be removed. Crypto wallets themselves are very important for consumers, where these objects are a special place to store Crypto coins owned by crypto asset consumers (Ervan Septia, Wiwin Yulianingsih. 2021). The next crime that often occurs in this transaction is scamming. Scamming itself is a fraud committed by individuals or groups of people. When consumers are less informed and less experienced in Crypto investment, then these consumers can become victims of Crypto investment fraud by impersonating a company engaged in online investment providers that are illegal or do not have operational permit authority (M. Alhadi Murizqy, Rianda Dirkareshza.2022).

Cyber financial marketing Indonesia which use digital service security systems are still vulnerable to cyber attacks, for example of this case occurred at Indodax, a provider of a Crypto Asset trading application. The report of the hack was submitted by Web3 security company Cyvers Alert via account X on Wednesday, September 11, 2024. The company warned Indodax because their system detected several suspicious transactions involving fund wallets on various networks. Cyvers stated that "The suspicious address had already held 14.4 million US dollars and exchanged the tokens for Ether". The amount was obtained from more than 150 transactions and the total loss reached 18.2 million US dollars or approximately Rp. 282 billion (the exchange rate at that time was Rp. 15,500) (www.kompas.id, 2024). This is certainly disturbing for consumers and Crypto Asset traders considering that 6.7 million people or around 33% of Consumers in Indonesia who reached 20.16 million as of April 2024 are

Indodax users, the total trading volume on Indodax reached IDR 29 trillion in the second quarter of 2024 (www.kompas.id, 2024). Indodax through its CEO Oscar Darmawan stated that the Indodax security team found potential security breaches and immediately took comprehensive maintenance measures. Likewise, the Chairman of the Indonesian Fintech Association (AFTECH) Pandu Sjahrir said that his party had reported the alleged hacking to the Ministry of Communication and Information.

Cryptocurrency trading often refers to the use of computer applications with algorithms to identify and execute trades at a speed and frequency that is impossible for human traders. Price prediction is the main difficulty in finding and executing potentially profitable trades (R. Thinakaran, TB Kurniawan, And M. Batumalay. 2023). Analysts and consumers generally combine fundamental and technical analysis before deciding the best price to make a transaction. This prediction can use several algorithms to get results that are close to machine calculations. Machine learning can be applied to predict data (R. Risanti, 2024). Machine learning is a branch of artificial intelligence that enables software applications to become more accurate in predicting data, as well as estimating current performance and improvements for future data (Mohamad, And S. Ismail. 2021). The Machine Learning algorithm has an accuracy of 95%, however, accurate prediction results also depend on the population and quality of the training dataset as well as including sentiment data (Habibah Br Lumbantobing, Rahmadden. 2023).

Sentiment crypto asset can be positive (bullish) or negative (bearish). For example, Bitcoin has fallen nearly 20% since the inauguration of US President Donald Trump in January 2025 due to his aggressive stance towards allies and geopolitical rivals. Other sentiments include the scandal *memecoin* involving Argentine President Javier Milei.

Various problem the above certainly has an impact on consumers who have contributed to the development of the digital financial services sector, whose transactions throughout 2024 will reach Rp650.61 trillion so that there needs to be regulations regarding the protection of Crypto Asset consumers.

3. Dispute resolution Trading Crypto Assets:

Transaction crypto asset involving consumers and trade organizers crypto asset. Based on Article 1 number (16) POJK No. 27 of 2024, crypto asset trading organizers consist of: Stock Exchange, Clearing Guarantee and Settlement Institution, Custodian, Asset Trader, and other parties determined by the Financial Services Authority (Financial Services Authority, Financial Services Authority Regulation, 2024). However, the legal relationship in the form of an agreement with consumers only applies to traders, where Trader crypto asset as a business entity that carries out crypto asset trading, it acts as a party that facilitates consumer crypto asset transactions, while consumers are parties that utilize

products and/or buying and selling services. *Crypto Assets* provided by the Merchant.

Clause-According to Isnaeni, a clause in an agreement is a form of internal legal protection (Moch. Isnaeni. 2016). When making an agreement, the parties want to package the agreement clauses that accommodate their interests and various types of risks on the basis of an agreement. However, this can only be realized by the parties, when their legal position is relatively equal in the sense that the parties have relatively balanced bargaining power, so that on the basis of the principle of freedom of contract the parties have the freedom to express their will according to their interests. This pattern is used as a basis when the parties assemble the agreement clauses that they are working on, so that legal protection for each party can be realized clearly on their initiative (Moch. Isnaeni. 2016). In addition, Isnaeni also has an opinion on the importance of external legal protection created by the authorities through regulations for the interests of the weak party, "in accordance with the nature of legal regulations which must not be biased and partial, proportionally it is also mandatory to provide balanced legal protection as early as possible to other parties." (Moch. Isnaeni. 2016) Because it is possible that at the beginning of the agreement, there was a party that was relatively stronger than its partner, but in the implementation of the agreement, the party that was originally strong, fell into becoming the party that was being persecuted. Isnaeni's opinion is in line with Peter Cartwright put it forward Paternalistic Theory as a justification for state intervention to protect consumers.

Connection law in the form of an Agreement between consumers and Crypto Asset Traders which contains the rights and obligations of each party, regulated in articles 80 to 84 POJK No. 27 of 2024 concerning the Implementation of Digital Financial Asset Trading Including Crypto Assets.

Let the Buyer Beware (caveat emptor) doctrine state that Business actors and consumers are two parties that are very balanced, so there is no need for any protection for consumers, therefore consumers must be careful. This is reinforced by Article 5 letter (a) of Law No. 8 of 1999 concerning consumer protection, where consumers are obliged to read or follow the information instructions and procedures for using or utilizing goods and/or services;

Problem faced by consumers continues to increase in intensity, so the government needs to take intervention policies to overcome the potential that is detrimental to consumers. Paternalistic Theory justifies government intervention. Intervention is carried out so that the balance of rights and obligations between producers and consumers can be realized. In Peter Cartwright's observation, the manifestation of paternalistic law is to prevent losses experienced by consumers due to agreements that are detrimental to them. The basic principle of paternalistic law, for example, the law contains provisions that state that goods circulated in the community must meet a satisfactory level of quality and are indeed suitable for consumption by consumers. Although the basic idea of Cryptocurrency is decentralization, with the existence of POJK 27 of 2024 which among other things regulates the implementation of Crypto Asset trading,

Termination of Crypto Asset trading and settlement of Consumer Crypto Assets that are declared revoked or terminated including sanctions for violations of these matters, this is a form of state intervention that is centralized in nature.

Consumer no must realize their rights, if they are indeed not willing to realize them, but consumers have fulfilled their obligation to pay which must be protected by the Consumer Protection Act. The law must contain provisions that guarantee product quality and regulate the existence of insurance guarantees for consumers who receive products if they do not comply with the standards as determined (Peter Cartwright. 2005). Such legal design is very important, consumers have the potential to suffer losses because business actors tend to be arbitrary due to their superior position.

Regarding consumer rights, what is meant by rights is interests protected by law, while interests are demands that are expected to be fulfilled. Interests essentially contain powers that are guaranteed and protected by law to implement them (Sudikno Mertokusumo. 1996). Consumer rights consist of consumer rights as humans (who need to live), consumer rights as legal subjects and citizens (which come from laws) and consumer rights as parties to a contract (contractual relationship with business actors). With the existence of laws and regulations, consumers, business actors and the government have the same perception, especially in terms of legal efforts to maintain violated consumer rights can be maintained through legal channels in the manner and procedures regulated in a law and regulation.

Crypto assets use technologies such as blockchain, where secure, transparent and decentralized transaction recording provides a solid legal basis for digital transactions so that its implementation can strengthen the legal system by minimizing the risk of data manipulation and accelerating the dispute resolution process (Anis Habibah. 2024). Settlement of disputes in the financial services sector in Indonesia can be done through non-litigation and litigation. Initially, the settlement of disputes over Crypto Asset transactions used the Commodity Futures Trading Arbitration Board (BAKTI) which operates independently under the supervision of Bappebti. After the enactment of POJK No. 27 of 2024 concerning the Implementation of Digital Financial Asset Trading Including Crypto Assets, the settlement of Crypto Asset disputes has shifted to the Alternative Institution for the Resolution of Financial Services Sector Disputes (LAPS OJK) under the auspices of the OJK which was established based on POJK Number 61 of 2020 concerning the Alternative Institution for the Resolution of Financial Services Sector Disputes (LAPS SJK). The requirements and types of disputes that can be resolved are regulated in Article 32, including: disputes that have been preceded by settlement efforts by Financial Services Business Actors (PUJK), not disputes that are in process or have been decided by a judicial institution, and are civil in nature.

4. Reformulation of Crypto Asset Trading Regulations for Consumer Protection

In an effort to create a fair and just Crypto Asset trading ecosystem to ensure

legal certainty and prioritize protection for the public as consumers, the Indonesian government has established a stock exchange, clearing house, and Crypto Asset storage manager.

As of March 2025, there were 217 cryptocurrency exchanges with a total 24-hour trading volume of \$101 billion, with the 3 largest cryptocurrency exchanges being Binance, OKEx, and Coinbase Exchange. The total reserves of crypto exchanges tracked currently stand at \$238 billion. According to Forbes, by 2025 there will be at least 25 of the most trusted Cryptocurrency exchanges in the world, namely: CME Group, Coinbase, Bitstamp, Binance, Robinhood, Bitbank, Upbit, Bitget, Deribit, Gemini, Kraken, Revolut, Crypto.com, Fidelity, HashKey Exchange, Bybit, OKX, HTX, bitFlyer, Swissborg, Coincheck, Bitfinex, Bitvavo, bitpanda, Bithumb.

In Indonesia Crypto exchange has been officially launched after the Decree of the Head of Bappebti Number 01/BAPPEBTI/SP-BBAK/07/2023 was issued on July 17, 2023. Namely PT Bursa Komoditi Nusantara or Commodity Future Exchange (CFX). CFX consisting of Physical Crypto Asset Traders consisting of: PINTU (PT Pintu Kemana Saja), Pluang (PT Bumi Santosa Cemerlang), Tokocrypto (PT Aset Digital Berkat), Ajaib (PT Kagum Teknologi Indonesia), Triv (PT Tiga Inti Utama), Bitwewe (PT Sentra Bitwewe Indonesia), Mobee (PT CTXG Indonesia Berkarya), REKU (PT Rekeningku Dotcom Indonesia), NOBI (PT Encryption Technology Handal), KMK (PT Kripto Maksima Koin), Nanovest (PT Tumbuh Bersama Nano), INDODAX (PT Indodax Nasional Indonesia), Bitwyre (PT Teknologi Struktur Berantai), NVX (PT Aset Kripto Internasional), MAKS (PT Mitra Kripto Sukses), Naga Exchange (PT Cipta Koin Digital); Prospective Physical Traders of Crypto Assets consisting of: Stockbit Crypto (PT Coinbit Digital Indonesia), Coinvest (PT Pedagang Aset Kripto), Fasset (PT Gerbang Aset Digital), Samuel Kripto Indonesia (PT Samuel Kripto Indonesia), Astal (PT Aset Instrumen Digital), Coinx (PT Kripto Inovasi Nusantara), GudangKripto (PT Gudang Kripto Indonesia), Digital Exchange (PT Indonesia Digital Exchange), Indonesian Crypto Exchange (PT Bursa Kripto Indonesia), KoinSayang (PT Multikripto Exchange Indonesia), Cyra (PT Cyrameta Exchange Indonesia), Upbit (PT Upbit Exchange Indonesia), Luno (PT Luno Indonesia, Ltd), Bittime (PT Utama Aset Digital Indonesia); and Non-Prospective Physical Traders of Crypto Assets BitBromo (PT Everest Kripto Indonesia).

Related guarantee legal certainty and prioritizing protection for the public as consumers, there are still things that must be improved. Starting with Article 1 number (13) POJK No. 27 of 2024 states that what is meant by a consumer is every person who owns and/or uses products and/or services provided by a Trader while Article 80 number (5) of POJK No. 27 of 2024, Consumers in Crypto Asset trading are divided into individual and non-individual consumers or business entities or legal entities. This inconsistent understanding of consumers continues to Article 80 number (8) which states that acceptance of non-individual consumers can only be carried out by traders who have a trading system and means that apply the principle of recognition and monitoring of transactions and

the principle of integrated travel rules, this discriminatory treatment can certainly result in reduced protection for individual consumers. This understanding is very different from the understanding of consumers based on Article 1 number (2) of Law No. 8 of 1999 concerning Consumer Protection (UUPK) which states that a consumer is any person who uses goods and/or services available in society, whether for the benefit of themselves, their family, other people, or other living creatures and not for trading, thus the scope of protection in the UUPK does not cover all types of consumers, but only focuses on protection for end consumers (Dewina Nurul Aini Kosasih, Elsa Benia. 2022). In contrast to POJK No. 27 of 2024, where the consumer's position is a Crypto Asset trader who is certainly not included in the final consumer category.

Another thing that is no less important is related to consumer crypto assets, as regulated in articles 91 to 92 POJK No. 27 of 2024 contains provisions that crypto assets Merchants are required to maintain security and be responsible in the event of loss of consumer crypto assets guaranteed by the Merchant (crypto assets stored by the Merchant themselves are a maximum of 30% of the total Crypto Assets owned by the Consumer, the rest must be stored by the Storage Manager). However, it is very unfortunate because POJK 27 of 2024 stipulates that only Storage Managers are required to have a risk mitigation mechanism to guarantee the security of Crypto Assets in the form of insurance, while Crypto Assets stored by crypto asset Merchants are not required to have a risk mitigation mechanism to guarantee the security of Consumer Crypto Assets.

According to Muchsin, legal protection can be divided into two, namely preventive legal protection, which is protection provided by the government with the aim of preventing violations before they occur. This is contained in laws and regulations with the aim of preventing violations and providing guidelines or limitations in carrying out an obligation; Repressive Legal Protection is final protection in the form of sanctions such as fines, imprisonment, and additional penalties given if a dispute has occurred or a violation has been committed Preventive Legal Protection Protection provided by the government with the aim of preventing violations before they occur. This is contained in laws and regulations with the aim of preventing violations and providing guidelines or limitations in carrying out an obligation.

The term consumer protection is related to legal protection. With the desire to provide protection for consumer interests, these interests are formulated in the form of rights. In general, there are four basic consumer rights that are recognized internationally, namely: The right to safety, The right to be informed, The right to choose, The right to be heard, these rights are actually very much needed by Crypto Asset consumers as citizens and therefore must be regulated in regulations in the form of laws so that they can contain criminal sanctions as a legal basis for consumers to obtain their rights.

The Due Care Theory doctrine states that business actors have an obligation to be careful in promoting their products, both goods and services, and as long as they are careful, business actors cannot be blamed if consumers suffer losses. If

interpreted a-contrario, to blame business actors, consumers must be able to prove that the business actor has violated the principle of caution.

The concept of responsibility in the regulation of the Consumer Protection Law is fundamentally different from the regulation of responsibility in the Civil Code (KUHPer). According to the KUHPer, the responsibility of business actors to provide compensation is obtained after consumers who suffer losses can prove that the losses incurred are the fault of the business actor (vide Article 1365 KUHPer in conjunction with Article 163 HIR/ 283 Rbg). Meanwhile, the Consumer Protection Law regulates the opposite obligation, where business actors are obliged to prove that the losses suffered by consumers are not the result of errors or negligence of the business actor, even though this is the consumer who first submitted the argument for the loss, and this is what is known as absolute responsibility (strict liability).

IV. Conclusion:

1. Indonesia prohibits cryptocurrency as a means of payment but can be used as a digital asset (crypto asset) that can be traded. Some regulations that are the legal umbrella for Cryptocurrency in Indonesia, namely; POJK No. 27 of 2024 concerning the Implementation of Digital Financial Asset Trading Including Crypto Assets, POJK Number 61 of 2020 concerning Alternative Institutions for Settlement of Financial Services Sector Disputes (LAPS SJK) and The 7th Indonesian Fatwa Commission Ulama Conference in 2021 concerning Cryptocurrency Law.
2. Actually Crypto Assets use decentralized systems are beyond the control of governments and centralized authorities. Protection for consumers in Crypto Asset trading in Indonesia can be in the form of preventive protection, either in the form of laws or regulations. Agreement between consumer and Crypto Asset Trader as regulated in articles 80 to 84 POJK No. 27 of 2024 concerning the Implementation of Digital Financial Asset Trading which contains the rights and obligations of each party; and repressive protection including by using non-litigation dispute resolution through the Alternative Dispute Resolution Institution for the Financial Services Sector (LAPS SJK).

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