

REGULATING INITIAL COIN OFFERING AMIDST THE DEVELOPMENT OF CRYPTO ASSETS IN INDONESIA

Alexander Harryandi,^a Fira Natasha,^b Muhammad Akbar^c

^{abc}Faculty of Law - University of Indonesia, Indonesia

e-mail: alexander.stanislaus@ui.ac.id, fira.janice@ui.ac.id, muhammad.akbar06@ui.ac.id

Submitted: 31 July 2022 – Last revised: 7 September 2022 – Accepted: 9 September 2022

Abstract

In the era of digital economic development, blockchain and crypto asset innovations have gained wide acceptance and skyrocketing worldwide demand. Behind the emergence of popular crypto assets, the mechanism of an Initial Coin Offering (ICO) is used to issue this new form of currency. An ICO is highly favoured because of its efficiency, minimum underwriting requirements, high profits, and liquidity. Without exception, the hype accompanying ICOs has also influenced the Indonesian public. There remains, however, very minimal protection for investors who participate in ICOs that are being held in Indonesia. There are many disadvantages to an ICO, including high risks for investors, its vulnerability to fraud or crime, and the lack of regulation regarding the mechanism of ICOs. Furthermore, ICOs are very much intertwined with the development of decentralised finance (DeFi), one of the latest crypto-related financial innovations. DeFi likewise poses various risks and threats to the traditional financial system that needs to be monitored from the beginning of the ICO process. Therefore, by using normative research methods based on literature studies, this study aims to comprehensively explain the problems of ICO investor protection in Indonesia and the solutions for overcoming these problems.

Keywords: *crypto assets, initial coin offering*

I. INTRODUCTION

2008 was a watershed year for the world's financial system. In addition to a financial crisis that impacted the world economy, that year also marked the emergence of the idea to create a unique and novel digital currency.¹ Through a white paper published that year, someone under the pseudonym "Satoshi Nakamoto" introduced a project that we currently know of as Bitcoin. The

¹ Muhammad A. Fauzi, Norazha Paiman, and Zarina Othman, "Bitcoin and Cryptocurrency: Challenges, Opportunities and Future Works", *Journal of Asian Finance, Economics and Business*, vol. 8, No. 7 (2020), 695.

Bitcoin project uses blockchain, a technology related to the implementation of electronic transaction mechanisms that uses a peer-to-peer-based timestamp server (without the need for a third party or “decentralised”) to avoid double-spending.² This cryptographic proof-based transaction system results in the creation of crypto assets.

The invention of blockchain and crypto assets have provided many benefits that indirectly fuel continued to growth. They created a system with minimum restrictions and lower transaction costs.³ In addition, the potential for large profits for investors from these transactions is also a supporting reason for the increase in and efficacy of crypto asset transactions in the future.⁴ No wonder that almost 15 (fifteen) years after crypto assets were first introduced, there have been more than a hundred types of crypto assets that have been developed.⁵

The development of the crypto asset market has had its ups and downs along with its high price volatility. In May 2021, the market capitalisation of crypto assets grew threefold to reach US\$2.5 trillion (two point five trillion United States dollars), although sometime later, there was a decline in the market capitalisation of crypt assets up to 40% (forty percent). By the beginning of 2022, CoinGecko⁶ stated that the crypto market cap has steadily risen to US\$2.2 trillion (two point two trillion United States dollars).⁷ The development of crypto assets like Ethereum or Stablecoin and optimisation of DeFi institutions embodied in blockchain are the driving forces behind the increasing market capitalisation in crypto assets.⁸ However, the crypto asset market has repeatedly experienced difficult phases that culminated by a drop in its market value to US\$926 billion (nine hundred and twenty-six billion United

² Satoshi Nakamoto, “Bitcoin: A Peer-to-Peer Electronic Cash System,” <https://bitcoin.org/bitcoin.pdf>, accessed June 15th 2022.

³ Center for the Governance of Change, “Cryptocurrencies and the Future of Money, (Madrid: Center for the Governance of Change, 2018), pp. 6.

⁴ Rainer Bohme, et al., “Bitcoin: Economics, Technology, and Governance,” *The Journal of Economic Perspectives*, Vol. 2, No. 29 (2015), pp. 218.

⁵ Wolfgang Hardle, Campbell Harvey, and Raphael Reule, “Understanding Cryptocurrencies, Humboldt (Berlin: Universität zu Berlin, 2018), pp. 2.

⁶ CoinGecko is the world’s largest independent cryptocurrency data aggregator with over 12,000+ different crypto assets tracked on over 500+ exchanges worldwide.

⁷ CoinGecko, “Crypto Barrels Toward 2022 After Adding \$1.5 Trillion in Value,” <https://www.bloomberg.com/news/articles/2021-12-20/cryptocurrencies-and-bitcoin-btc-2021-year-in-charts>, accessed September 5th 2022.

⁸ Monetary and Capital Market Department, *The Crypto Ecosystem and Financial Stability Challenges* (International Monetary Fund, 2021), p. 42.

States dollars) by mid-2022, bringing the price below \$1 trillion (one trillion United States dollars) for the first time since January 2021.⁹

Responding to the phenomena that occur in the crypto markets, each jurisdiction has a different approach to the legality of crypto asset transactions. Several countries have allowed the use of crypto assets. Advanced countries like the United States allows use of crypto assets and leaves its oversight to three institutions, the Securities and Exchange Commission (SEC) to oversee the issuance of crypto assets that are classified as securities, the Commodity Futures Trading Commission (CFTC) to oversee derivative transactions of crypto assets and the Internal Revenue Service (IRS) supervises the tax collection process on crypto assets.¹⁰

Meanwhile, El Salvador in 2021 took a bolder step by making Bitcoin, the biggest crypto asset today, a legal tender. This meant that El Salvadorian could use Bitcoin to repay debts or make payments for any kind of transaction, use it to pay for goods or services every day, pay taxes or repay previous loans, and so on. At once, the government of El Salvador argued that this policy was intended to increase financial inclusivity and reduce dependence on the United States Dollar (USD), their official currency.¹¹ On the other hand, a year after legalising the use of Bitcoin as a legal tender, El Salvador has had to bear several consequences such as a very low economic growth and wide fiscal deficits facing a Debt-to-Gross Domestic Product (GDP) ratio of nearly 90% (ninety percent) and its debt is immensely expensive (costing 5% (five percent) per year compared to 1.5% (one and a half percent) in the United States).¹²

The implementation of bitcoin as a legal tender in El Salvador proved to be unpopular among investors. Since El Salvador's Bitcoin law was enacted in September 2021, the price of Salvadorian sovereign bonds due in 2025 has plunged by 48 percent. This condition was exacerbated by the purchase of 2,381 Bitcoins for \$100 million by the government of El Salvador which proved to be speculative and now worth less than half of its initial value. These government policies have led Moody's, S&P, and Fitch to downgrade

⁹ Taylor Locke, "Crypto market cap falls below \$1 trillion as Bitcoin drops 65% from all-time high. Investor sentiment is now 'extreme fear'," <https://fortune.com/2022/06/13/crypto-market-cap-below-1-trillion-bitcoin-extreme-fear-inflation/>," accessed September 5th 2022.

¹⁰ Joe Dewey, "Blockchain & Cryptocurrency Laws and Regulations 2022," <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/usa>, accessed June 15th 2022.

¹¹ Sergio Gorjón, "The Role of Crypto assets as Legal Tender: The Example of El Salvador," <https://repositorio.bde.es/bitstream/123456789/19051/1/be2104-art35e.pdf>, accessed June 15th 2022.

¹² MacKenzie Sigalos, "El Salvador's \$425 million bitcoin experiment isn't saving the country's finances," <https://www.cnn.com/2022/06/25/el-salvador-bitcoin-experiment-not-saving-countrys-finances.html>," accessed September 5th 2022.

El Salvador's sovereign debt rating to the high-risk profile category.¹³ Without major changes in economic policy, the country is at risk of a dangerous sovereign default.¹⁴

The actions taken by El Salvador are very different from China's policy of prohibiting all crypto asset transactions in their country. The Chinese government issued this policy due to potential legal problems and the negative impact that blockchain could bring on their command economy environment.¹⁵ Therefore, it can be seen that each country has a different attitude towards the development of crypto assets.

Concurrently, Indonesia also maintains a stand against the use of crypto assets. Bank Indonesia (BI) as the authority responsible for issuing currency as legal tender and maintaining Rupiah stability, financial system stability, and payment systems has issued BI Regulation No. 22/23/PBI/2020, in which the Article 73 prohibits the use of crypto assets as a means of payment. A similar response was also given by the Financial Services Authority (Otoritas Jasa Keuangan or OJK), which has banned all financial services institutions from using crypto assets through moral persuasion. Consequently, all banks, insurance, and multi-finance companies under the supervision of the OJK are prohibited from facilitating or promoting the trading of crypto assets under the pretext of protecting consumers of financial services.¹⁶

On the other hand, Indonesia's Commodity Futures Trading Regulatory Agency Regulation (Badan Pengawas Perdagangan Berjangka Komoditi or Bappebti) allows crypto assets to be traded as commodities. Through Bappebti Regulation No. 8 of 2021 (Bappebti Regulation 8/2021), Bappebti has updated its guidelines for crypto assets transactions by accommodating the creation of exchanges to facilitate and supervise the trading of the physical market in crypto assets. The values of Bappebti Regulation 8/2021 have included the principles of good corporate governance, the goal of establishing transparent prices, legal certainty, consumer protection, and the growth and innovation of crypto asset trading activities. As a result, even though there are different views

¹³ Steve H. Hanke and Caleb Hoffman, "The Verdict is in for El Salvador's Bitcoin Experiment: It Failed," <https://www.nationalreview.com/2022/09/the-verdict-is-in-for-el-salvadors-bitcoin-experiment-it-failed/>, accessed September 6th 2022.

¹⁴ Frank Muci and Coindesk, "A year after El Salvador adopted Bitcoin as legal tender, it could default on its sovereign debt in 2023," <https://fortune.com/2022/06/08/el-salvador-bitcoin-default-sovereign-debt-in-2023/>, accessed September 5th 2022.

¹⁵ Marco Quiroz Gutierrez, "Blockchain & Cryptocurrency Laws and Regulations 2022," <https://fortune.com/2022/01/04/crypto-banned-china-other-countries/>, accessed June 15th 2022.

¹⁶ Piter Abdullah Redjalam, "Memahami Kebijakan Tegas OJK terhadap Aset Kripto," <https://finance.detik.com/berita-ekonomi-bisnis/d-5949412/memahami-kebijakan-tegas-ojk-terhadap-aset-kripto#:~:text=Kebijakan%20OJK%20yang%20tegas%20melarang,masyarakat%20dari%20bahaya%20aset%20kripto>, accessed June 15th 2022.

on their existence, the current regulations still allow the trading of crypto assets in Indonesia as long as they are considered as commodities and not legal tender.¹⁷

Further regulation is intended to provide legal protection amidst Indonesia's potential and rapid development of crypto assets. This is in line with the increasing popularity of crypto assets in Indonesia, which as of October 2021 had been traded by 9.5 (nine points five) million Indonesians, doubling from the previous year.¹⁸ Not only that, from January to September 2021, crypto assets transactions have reached Rp 650 trillion (six hundred and fifty trillion Rupiah).¹⁹ This fairly rapid development should be carefully observed considering that crypto investments carry significant risks. As previously explained, until mid 2022, the crypto market cap in general had lost more than half of its value from the beginning of 2022.²⁰ This fact has proven that the crypto market as a relatively new and unregulated market is highly volatile. For this reason, optimisation of legal protection potential must be regulated related to crypto assets.

Based on a review of Bappebti Regulation 8/2021 as the latest regulation regarding crypto assets, there is one single provision in Article 2 Paragraph (3) which regulates the exceptions to the application of this regulation to the implementation of Initial Coin Offerings (ICOs). What is meant by ICO in this regulation is the initial offering of crypto assets such as coins, tokens, or other digital assets initiated by a company, whether established or a start-up.²¹ Apart from the Bappebti Regulation 8/2021, no other laws or regulations specifically establish the limitations on implementing ICOs in Indonesia.

Such limitations are certainly needed to protect investors from various risks, fraud, or crimes related to trading crypto assets, which can result in investor losses. As it is known, there have been widespread cases of fraud using the mechanism of an ICO, such as the Benebit and Bitconnect cases, which were indicated as Ponzi schemes. In addition, there are risks arising from the lack of regulation on ICO, like in the case of the ASIX token promoted by the

¹⁷ Look at Paragraph 2 Bappebti's Regulation 8/2021.

¹⁸ Danielisa Putriaditas, "Perkembangan Pasar Kripto Indonesia Menarik Exchange Global Masuk," <https://investasi.kontan.co.id/news/perkembangan-pasar-kripto-indonesia-menarik-exchange-global-masuk>, accessed June 15th 2022.

¹⁹ Rulli R. Ramli, "Menilik Potensi Kripto di Tanah Air Setelah Peluncuran IDM," <https://money.kompas.com/read/2021/11/01/174127526/menilik-potensi-kripto-di-tanah-air-setelah-peluncuran-idm?page=all>, accessed June 15th 2022.

²⁰ Alex Gailey and Ryan Haar, "The Future of Cryptocurrency: 8 Experts Share Predictions for the Second Half of 2022," <https://time.com/nextadvisor/investing/cryptocurrency/future-of-cryptocurrency/>, accessed September 5th 2022.

²¹ Scott W. Maughan, *Utility Token Offerings: Can a Security Transform into a Non-Security* (Provo: Brigham Young University, 2020), pp. 1120, <https://digitalcommons.law.byu.edu/lawreview/vol2019/iss4/9>.

Indonesian celebrity Anang Hermansyah and Ashanty. In this case, there is uncertainty regarding the permissibility of ASIX token trading by Bappebti.²² On the other hand, the potential for DeFi ICOs to be held in Indonesia also needs more attention due to the high risks that DeFi can pose to the financial system. Therefore, this paper examined fundamental issues related to legal protection for crypto asset investors who participate in ICOs held in Indonesia.

II. WRITING METHODOLOGY

The legal writing methodology used in this paper is based on normative research and literature studies. This writing explains the applicable laws related to the problem, present basic research in the field of law, as well as to develop legal reform proposals. Sources in this paper use primary data and secondary data. Primary data was obtained directly through research sessions with related resource persons. Meanwhile, secondary data was obtained through primary legal materials, namely statutory regulations, and secondary legal materials in books, journals, newspapers, and research reports.²³

In analysing legal materials, this research uses descriptive-qualitative analysis by describing the data or cases and their conclusions. Based on this method, the analysis flow is built from issues related to legal protection in ICO practice and how to overcome problems that arise from these issues. The discussion and ideas formulated lead to conclusions, suggestions, and recommendations written in the paper.

III. ICOS' DEVELOPMENT, ADVANTAGES, AND DISADVANTAGES

Nowadays, the crypto asset market is in a stage of rapid development. There are more than 5.100 (five thousand one hundred) crypto assets with a total market cap exceeding \$250 (two hundred fifty) billion worldwide. In line with the development of crypto assets that are increasingly optimising computer protocol-based technology and cost-efficient transactions, below, the development, advantages, and disadvantages of ICOs will be explained in detail as follows:

²² Gagas Yoga Pratomo, "Alasan Token Asix Anang Hermansyah Dilarang Diperdagangkan," <https://www.liputan6.com/crypto/read/4883623/alasan-token-asix-anang-hermansyah-dilarang-diperdagangkan>, June 17th 2022.

²³ Mahmud Marzuki, *Penelitian Hukum, Edisi Revisi* (Jakarta: Prenada Media, 2017), p. 181.

III.A. Development of ICOs

The development of information and communication technology have given birth to a new era for the economy, namely the digital economy.²⁴ The most important thing of the digital economy is hyperconnectivity, meaning a computer network that provides interconnection among humans, organisations, or machines originating from the Internet, cellular technology, and Internet of things devices.²⁵ The concept of the digital economy is not limited to trade or business using digital media but also its impact on the whole economic system.²⁶ This is in line with the opinion of Tapscott and Zimmerman, who formulated that the digital economy is a social phenomenon that affects the economic system. This phenomenon has characteristics as an instrument of information shared by the worldwide community and will continue to grow.²⁷

In the era of the digital economy, a digital financial instrument known as a crypto asset has been born. Crypto assets run on a technology-based blockchain which does not require a third party as an intermediary.²⁸ Blockchain technology connect all data and can always be accessed while connected to the distributed system.

Bitcoin, the first crypto asset in the world, initially cost less than one dollar, then increased until it reached a high of US\$1.151 (one thousand one hundred and fifty-one United States dollars) per coin on December 4, 2013.²⁹ Over time, other crypto assets like Ethereum, Ripple, and Litecoin have emerged with different mechanisms and valued. As of now, hundreds of crypto assets exist, and it is undeniable that they will continue to grow.³⁰

Compared with fiat or conventional money, crypto assets are undoubtedly different in their physical manifestation and use. Jericho Biere said that the most notable difference between fiat currency and crypto assets is issuance and operation. Crypto assets are published and decentralised with blockchain technology, while fiat currency is centralised (issued and regulated by a central

²⁴ Venti Eka Satya, "Pengaturan Sistem Pembayaran Digital Untuk Stabilitas Sistem Keuangan Indonesia," *Journal Ekonomi dan Kebijakan Publik*, Vol.13, No. 2 (2021), p. 22.

²⁵ Rumana Bukht and Richard Heeks, *Defining, Conceptualizing, and Measuring the Digital Economy* (Manchester: Center for Development Informatics University of Manchester, 2017), p. 12.

²⁶ Sugeng, *Hukum Telematika di Indonesia* (Jakarta: Prenada Media Group, 2020), p. 4.

²⁷ Rumana Bukht and Richard Heeks, "Defining, Conceptualizing, and Measuring the Digital Economy," p.12.

²⁸ Ahmad Yudhira, "Analisis Perkembangan Financial Technology (Fintech) Syariah Pada Masa Pandemi Covid-19 Di Indonesia," *Journal Valus*, Vol. 1, No. 2 (2021), pp. 14-15.

²⁹ Lidya Agustina, et al., *Perkembangan Ekonomi Digital di Indonesia: Strategi dan Sektor Potensial* (Jakarta: Pusat Badan Penelitian dan Pengembangan SDM Kementerian Komunikasi dan Informatika, 2019), pp. 19.

³⁰ Haruli Dwicaksana, "Akibat Hukum yang Ditimbulkan Mengenai Cryptocurrency Sebagai Alat Pembayaran di Indonesia," *Journal Privat Law*, Vol.8, No. 2 (2020), p. 188.

bank).³¹ This is in line with the opinion of the European Central Bank, which asserts the meaning of crypto assets as “a type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community.”³²

Behind the emergence of popular crypto assets such as Bitcoin, Ethereum, Ripple, and Litecoin, there is a method of issuance known as ICO. An ICO is the early part of a crypto asset venture as a fundraising mechanism, carried out to finance the development of the crypto asset and sometimes its blockchain. In the ICO, there are four types of tokens, currency tokens, asset-backed tokens, security tokens, and utility tokens.³³ A currency token is a token with similar characteristics to money used by start-ups to issue a new token into circulation. The value of currency tokens lies in the speculation that a funded project will continue in perpetuity that the token can later serve as a functional virtual currency. Similarly, the asset-backed token is a token that represents the ownership of an item. Security tokens are tokens that have characteristics like securities, such as INX Token, Overstock Token, tZERO Token, and so on. Lastly, a utility token is a token that symbolizes digital coupons that can be exchanged for services or goods from the company that issued the tokens.³⁴

ICOs have similarities and differences with Initial Public Offering (IPO) shares of stock, commonly offered in capital markets.³⁵ Whether recognisable or not, an ICO and IPO are usually used to obtain investment funds for a company. On the other hand, the difference between an IPO and an ICO is that the IPO organiser is a business entity that has proven its establishment, while a new business activity usually carries out an ICO, as the operation of the business is the currency. Then, the acquisition of funds in the IPO is carried out through the first offering of a company's shares to investors in the capital market.³⁶ This is different from the ICO's acquisition fund, which is done through an offer to sell a type of crypto asset that can be exchanged for

³¹ Ika Fatma Ramadhansari, “Simak Perbedaan Mata Uang Tradisional dan Mata Uang Kripto,” <https://market.bisnis.com/read/20210815/94/1429975/simak-perbedaan-mata-uang-tradisional-dan-mata-uang-kripto>, June 15th 2022.

³² Sarah Rotman, “Bitcoin Versus Electronic Money”, <https://www.cgap.org/sites/default/files/Brief-Bitcoin-versus-Electronic-Money-Jan-2014.pdf>, June 17th 2022.

³³ Jinghan Cai and Ahmed Gomaa, “Initial Coin Offering to Finance Venture Capital: A Behavioral Perspective,” *The Journal of Private Equity*, Vol. 22, No. 3 (2019), p. 93.

³⁴ *Ibid.*, p. 96.

³⁵ Iris Barsan, “Legal Challenges of Initial Coin Offerings (ICO),” *Journal Revue Trimestrielle de Droit Financier*, Vol. 1, No. 3 (2017), p. 54.

³⁶ Richard Carter and Steven Manaster, “Initial Public Offerings and Underwriter Reputation,” *The Journal of Finance*, Vol. 45, No.4 (1990), p.1045.

money or crypto assets.³⁷ Although it does not have a share value percentage, the tokens sold to the public can be situated in such a way as to have voting rights in the project start-up and profit sharing from funded projects.

Historically, one of the first ICOs executed was the Mastercoin project (now known as Omni).³⁸ The main goal of the Mastercoin project was to establish and generate a new standard in the formation of Altcoins.³⁹ In this project, Mastercoin published its products in the whitepaper⁴⁰ in 2012 and sold them publicly in July 2013. In its first month, this project raised US\$500,000 (five hundred thousand United States dollars) through the initial sale of Mastercoin, purchased by approximately 500 (five hundred) buyers. The sale of this Mastercoin is one of the forerunners of the birth of ICOs.⁴¹

The whitepaper contains information about the start-up's planned project, the rights and benefits of investors, and the number of tokens that must be sold for a project to run. After this stage, token issuance will be issued into a blockchain (usually using smart contracts).⁴² Then, the description of how an ICO works can be broken down into four stages, including investors sending a specific number of tokens (virtual currency) sold into smart contracts. Smart contracts, in this case, will be associated with a specific lock code. Then, the crypto asset network system (in this case, for example, Ethereum) will verify the standard of specific conditions for smart contracts, the smart contracts will be marketed to buyers, and the crypto asset network system will record all types of transactions for the token into the blockchain. Companies that raise an ICO can get other crypto assets or fiat currency from this ICO process.⁴³

From the Indonesian legal point of view, agreement through smart contracts is, in principle, the same as the agreement in general. The validity of this agreement is still subject to the legal terms stipulated in Article 1320 of the Indonesian Civil Code and the provision of the validity of an agreement

³⁷ Adrian Parlow, "Securities Liability and The Role of D&O Insurance in Regulating Initial Coin Offerings," *Journal University of Pennsylvania Law Review*, Vol.167, No.1 (2018), p. 213.

³⁸ Omni is a type of digital currency.

³⁹ Altcoin is a term for crypto currency apart from Bitcoin.

⁴⁰ The whitepaper in the ICOs is different from the whitepaper issued by the government. In the government field, whitepaper is used to describe a policy or an explanation of a problem. Meanwhile, in ICOs, whitepaper is used to describe a startup program throughout ICOs. Further information can be found at Stanford Law School, "Policy Papers and Policy Analysis," <https://www-cdn.law.stanford.edu/wp-content/uploads/2015/04/Definitions-of-White-Papers-Briefing-Books-Memos-2.pdf>, June 17th 2022.

⁴¹ Michael Mendelson, "From Initial Coin Offering to Security Tokens: A.U.S. Federal Securities Law Analysis," *Journal Stanford Technology Law Review*, Vol.22, No.1 (2019), p. 61.

⁴² Paul, Weiss, Rifkind, Wharton *et. al.*, "Initial Coin Offerings," https://www.paulweiss.com/media/3978879/initial_coin_offerings_whitepaper.pdf, accessed June 17th 2022.

⁴³ *Ibid.*

as a law for agreement makers following the contents of Article 1338 of the Indonesian Civil Code. The difference only lies in the medium where the agreement is made. Purchase and sale agreements online cannot be separated from the basic concept of an agreement contained in Article 1313 of the Indonesian Civil Code which reads “*Suatu perjanjian adalah suatu perbuatan dengan mana satu orang atau lebih mengikatkan dirinya terhadap satu orang lain atau lebih.*”⁴⁴ Referring to this, a transaction must meet the conditions for the validity of an agreement by the universal principles of transactions as adopted by the Indonesian Civil Code. Crypto assets investments come from agreements regarding the goods or services traded to the price of the goods or services.

III.B. Advantages of ICOs

From 2016 to 2019, it was reported that there were 1.676 (one thousand six hundred seventy-six) billion tokens successfully sold with an aggregated value of around US\$29.2 billion (two hundred nine point two billion United States dollars). The United States is the largest and most successful ICO organiser, followed by Singapore.⁴⁵

Data 1.1. Countries that are well known for companies implementing ICO⁴⁶

Country	No. of ICOs	% of Total	Fundraising Success Rate (%)
United States	451	13.3	42.1
Singapore	334	9.8	51.8
United Kingdom	301	8.9	38.5
Russia	242	7.1	33.9
Switzerland	174	5.1	54.0
Estonia	169	5.0	45.6
China (Including Hong Kong)	150	4.4	48.0
Germany	77	2.3	39.0
Canada	72	2.1	44.4
Australia	72	2.1	38.9
Sum of the above	2,042	60.2	43.8
Total (all countries)	3,392	100	42.4

⁴⁴ Ni Ketut Supasti Dharmawan, Putu Tuni Caka Bawa Landra, and Putu Aras Samsithawrati, “Penjabaran Standar Internasional Trims Dan Oecd Dalam Ketentuan Hukum Penanaman Modal Indonesia,” *Journal Magister Hukum Udayana*, Vol.4, No.3 (2015), pp. 555.

⁴⁵ José Campino, Ana Brochado, and Alvaro Rosa, “Initial Coin Offerings (ICOs): Why do they succeed?” *Journal Financial Innovation*, Vol.8, No. 17 (2022), pp. 3.

⁴⁶ This table represents data from January 2016 to March 2019, for more details, see Jongsub Lee, Tao Li, and Donghwa Shin, “The Wisdom of Crowds in FinTech: Evidence from Initial Coin Offerings,” *Journal of the Review of Corporate Finance Studies*, Vol. 11, No.1 (2022), pp. 42.

Data 1.2. Projects involving ICO⁴⁷

Industry	No. of ICOs	% of Total	Fundraising Success Rate (%)
Financial services	407	12.0	46.2
Exchanges and wallets	222	6.5	41.4
Investment	185	5.5	43.2
Blockchain infrastructure	178	5.2	59.0
Gaming and virtual reality	161	4.7	47.2
Trading	157	4.6	52.2
Social media and communication	145	4.3	40.0
Commerce and retail	143	4.2	35.0
Business services and consulting	140	4.1	43.6
Marketing and advertising	137	4.0	45.3
Sum of the above	1,875	55.2	45.4
Total (all industries)	3,392	100	42.4

According to Magnus Schücker and Tobias Gutmann, ICOs are gaining success because this mechanism simplifies how a start-up raises funds for their projects⁴⁸ and creates their community and social identity branding.⁴⁹ Besides that, ICOs offer other advantages such as lower cost and minimal requirement for raising company capital, efficiency and anonymity, and profit. In simple terms, it can be understood that the role of ICOs in assisting the development of innovative projects from a start-up has positive implications for various parties, not only limited to start-ups and those who invest, but also have an impact on society as a whole. In further detail, some of the advantages of ICOs can be described as follows:

1. Low Cost and Simplified

ICOs are more manageable and straightforward than a traditional IPO as a method of raising capital. The way ICO works is generally almost the same as an IPO, where the parties who invest will get something in return.⁵⁰ However, investing through ICO tends to be cheaper, faster, not tied to third parties, and still not strictly regulated compared with IPO. This is because an IPO is bound and interfered with by a third party, like the government. This consequence causes the costs of investing through an

⁴⁷ Lee, Li, and Shin, "The Wisdom," p. 43.

⁴⁸ Daily Social, "Mengenai Investasi Cryptocurrency," <https://dailysocial.id/post/mengenai-investasi-cryptocurrency>, accessed June 17, 2022.

⁴⁹ Magnus Schücker dan Tobias Gutmann, "Why do startups pursue initial coin offerings (ICOs)? The role of economic drivers and social identity on funding choice," *Small Bus Econ*, Vol.57 (2021), p. 1029.

⁵⁰ In ICOs, investors will get a special token issued by the startup company. Meanwhile, in IPO, the investors will only get share ownership rights from the company.

IPO to be more expensive and bound by strict regulations that allow not just anyone to invest efficiently.⁵¹

2. Efficient and Anonymous (In a Permissioned Blockchain)

Because an ICO uses a blockchain that is free from the interference of third parties, investing through an ICO will be much easier, both in terms of requirements and efficiency. In some instances, permission blockchains are designed to be not reasonably accessible to the public. This kind of blockchain supports actors to transact anonymously with more restricted information for the public. This is beneficial for protecting the privacy and personal data of the parties who invest in the ICO.⁵²

3. Profit and Liquidity

It can be said that there is a very high interest from companies, start-ups, entrepreneurs, celebrities, and the general public for investing in ICOs. This is due to the public's view that ICO has the potential to generate profits quite quickly and easily. This is inseparable from the liquidity nature of crypto assets themselves.⁵³

One example of start-ups that have succeeded in launching an ICO is the Mastercoin and Kin projects. Mastercoin is a project from JR Willet which carries a vision to become "The Second Bitcoin." Mastercoin provides many of Bitcoin's benefits, one of which is increasing the stability of Bitcoin and the value of crypto assets. Meanwhile, Kin⁵⁴ managed to get 168,732 ETH (one hundred sixty-eight point seven hundred thirty-two Ethereum) in September 2017 from 10,000 (ten thousand) investors and US\$ 50 million (fifty million United States dollars) for the sale of a crypto asset called "Kin."⁵⁵

III.C. Disadvantages of ICOs

Aside from the advantages, there are also some disadvantages that ICO offer, as follows:

1. Risks

Investors (including crypto asset investors who participate in ICOs) tend to be lulled with extraordinary returns without taking the risk problems seriously. This tends to be dangerous because, in the context of ICOs,

⁵¹ Hui Deng, Robin Hui Huang, and Qingran Wu, "The Regulation of Initial Coin Offerings in China: Problem, Prognoses, and Prospects," *Journal European Business Organization Law Review*, Vol.19, No.3 (2018), pp. 8-9.

⁵² *Ibid.*, p. 9.

⁵³ *Ibid.*, p. 10.

⁵⁴ Kin is a project from the Canadian company Kik Interactive.

⁵⁵ Alfred Rouxi Zhang, *et al.*, "The Regulation Paradox of Initial Coin Offerings: A Case Study Approach," *Journal Policy and Practice Reviews of Front Blockchain*, Vol.2, No.2 (2019), p. 4.

most of these projects do not present the risks. Based on research from the Satis Group, it was found that 78% (seventy-eight percent) of ICOs were at least partially based on fraud, 4% (four percent) failed, 3% (three percent) failed midway, and only 15% (fifteen percent) of ICOs projects successfully.⁵⁶ From this data, it can be concluded that ICO investment is precarious. The ICO risk makes financial authorities in several other countries pay more attention to ICO schemes. For example, the SEC has informed and advised the citizens of the United States of the thread of ICO risk.⁵⁷

2. Fraud

As previously mentioned, fraud is the most significant risk in an ICO. There are many forms of fraud in ICO, for instance, exit fraud, securities fraud, and Ponzi schemes. The motive of exit fraud is that they usually come up with a fake team representing a company that conducts an “ICO.” The Exit Fraud scheme was used by Benebit, which had employees of a UK school to represent a company. Benebit also published its whitepaper offering memorandum, social media, and community as a standard and legal company. Through this, Benebit gains a profit of US\$2,7 (two point seven) million.⁵⁸

Securities fraud was also present in the ICO of Kin Token by Kik Interactive Inc. Kik company used ICO to recover from its financial distress. From ICO, Kik raised approximately \$100 (one hundred) million USD. However, Kik Company was then sued by the SEC because Kik Token was never registered as digital tokens as securities.⁵⁹

⁵⁶ Matthew Leitch, “Fund Raising Scams,” <https://www.longfinance.net/publications/distributed-futures-publications/more-than-token-regulation-alternative-currencies/>, accessed June 17th 2022.

⁵⁷ Josh Horwitz, “The SEC Chief has a New Warning for ICO Investors: Buyer Beware,” <https://qz.com/1153649/the-sec-chief-has-a-new-warning-for-ico-investors-buyer-beware/>, accessed June 17th 2022.

⁵⁸ Lars Hornuf, Theresa Kück and Armin Schwienbacher, “Initial coin offerings, information disclosure, and fraud,” *Small Bus Econ*, (2021), pp. 3.

⁵⁹ In the USA, whether a transaction involves a security is determined by means of the Howey test, which was developed in the seminal SEC v. W. J. Howey Co. court judgement. According to the test, a security is involved in a transaction if someone (1) invests his money in (2) a common enterprise and is led to (3) expect profits (4) solely from the efforts of the promoter or a third party. In June 2019, the SEC concluded that the token offering by Kik fulfils the four criteria of the Howey test: “Investor’s purchases of Kin were an investment of money (1), in a common enterprise (2), with an expectation of profits for both Kik and the offerees (3), derived primarily from the future efforts of Kik and others to build the Kin Ecosystem and drive demand for Kin (4). Consequently, Kik’s offers and sale of Kin in 2017 was an offer and sale of securities.” For further information see Lars Hornuf, Theresa Kück and Armin Schwienbacher, “Initial coin offerings, information disclosure, and fraud,” *Journal Small Bus Econ*, pp. 3.

Ponzi scheme fraud in ICO was used by crypto-lending platform Bitconnect with its BCC token. In this program, Bitconnect promised two things to the investors. First, investors could obtain a 40% (forty percent) higher profit from their fund if they join the Bitconnect program. Second, Bitconnect will return their money 10% (ten percent) higher if they invested it for 15 (fifteen) days.⁶⁰

Consequently, based on all the explanations above, the development of the ICO would undoubtedly determine the direction of the economy in the future, especially for Indonesia, and also cannot be avoided because of the presence of disruption in the modern era and public interest which has far more advantages in its implementation.

3. Limited Regulation

Buying and selling cryptocurrencies throughout ICOs uses blockchain as its backbone. Blockchain is decentralised, open, and cryptographic that allows a transaction or message to be private and not discoverable by third parties. Several parties can exploit the advantages of this nature for illegal actions, such as trading illegal goods, tax evasion, money laundering, and phishing. This happened in the case of *United States v. Ross William Ulbricht* (this case is also known as the Silk Road case). Ulbricht, in this case, was buying and selling illegal goods - drugs - using Bitcoin.⁶¹

Besides that, the lack of regulations governing ICOs and blockchain as its backbone also leave investors vulnerable to risks. Such risks can be seen in several ways, like, as 1) the absence of a specific rule regarding the standard requirements and legality of a whitepaper in an ICO, 2) the absence of any standards for start-up companies that can conduct an ICO, and 3) the absence of rules from an authority or third parties required to audit in the ICO.⁶²

IV. LEGAL PROTECTION AGAINST ICO RISKS IN INDONESIA

The implementation of ICOs is not regulated explicitly in Indonesian Law. However, some rules are slightly related to the subject of ICOs, and the rights and obligations protected by Law. Legal protection in the implementation of the ICO itself is divided into two, namely preventive legal protection and repressive legal protection. Both will be described as follows.

⁶⁰ Lars Hornuf, Theresa Kück and Armin Schwienbacher, "Initial coin offerings, information disclosure, and fraud," pp. 4-5.

⁶¹ Hui Deng, Robin Hui Huang, Qingran Wu, "The Regulation of Initial Coin Offerings," pp. 10-11.

⁶² *Ibid.*

IV.A. Repressive Legal Protection Against ICO Risks in Indonesia

Repressive legal protection is legal protection whose purpose is to resolve problems or disputes that arise or have occurred.⁶³ As explained earlier, the vulnerability of ICO risk is very high, especially in the case of fraud. From the perspective of Indonesian Law, several legal remedies can be taken by investors when there is fraud in ICOs.⁶⁴

1. Litigation

When fraud occurs in the ICO, investors can process it through litigation (under private Law) or trial (under criminal Law). Criminal sanctions against perpetrators of ICO fraud fall into cybercrime which sanctions are contained in Law Number 11 of 2008 concerning Information and Electronic Transactions (IET Law). Based on Article 28 paragraph (1) IET Law, cyberspace fraud can be defined as a condition in which someone has mislead a consumer (*setiap orang dengan sengaja, dan tanpa hak menyebarkan berita bohong dan menyesatkan yang mengakibatkan kerugian konsumen dalam Transaksi Elektronik*). In this case, the ICO fraud perpetrator may be subject to article 28, paragraph 1 jo. Article 45A of the IET Law and Article 378 of the Indonesian Penal Code.

Meanwhile, the settlement of civil disputes for ICO fraud cases is implicitly regulated in Articles 38 and 39 of the IET Law and Article 23 of Law Number 8 of 1999 concerning Consumer Protection. In this case, the aggrieved investors can file a civil lawsuit caused by an unlawful act (*perbuatan melawan hukum*). Investors must prove the fraud aspect of the case⁶⁵ in line with the principle of *affirmanti incumbit probate* (whoever postulates something must prove it) as contained in article 1865 of the Indonesian Civil Code.

⁶³ Philipus M. Hadjon, *Perlindungan Hukum Bagi Rakyat di Indonesia. Sebuah Studi Tentang Prinsip-prinsipnya, penanganannya oleh Pengadilan Dalam Lingkungan Peradilan Umum dan Pembentukan Peradilan Administrasi Negara* (Surabaya: PT Bina Ilmu Press, 1987), p. 205.

⁶⁴ Shabrina Puspasari, "Perlindungan Hukum bagi Investor pada Transaksi Aset Kripto dalam Bursa Berjangka Komoditi," *Journal Jurist-Diction*, Vol.3, No.1 (2020), pp. 321-323.

⁶⁵ Look at the Article 1328 of the Indonesian Civil Code.

2. Alternative Dispute Resolution

Dispute resolution without litigation is an alternative dispute resolution path that can be done through arbitration⁶⁶ and mediation⁶⁷ outside of court.⁶⁸ Based on Article 22 paragraph (3) of Bappebti Regulation No. 5/2019 concerning Technical Provisions for Operation of the Physical Crypto Asset Market, it is stated that the settlement of disputes related to crypto assets can be resolved through the Indonesian Commodity Futures Trading Arbitration Board (Badan Arbitrase Perdagangan Berjangka Komoditi or BAKTI). Apart from BAKTI, investors can also resolve it through the Indonesian Consumer Dispute Resolution Agency (Badan Penyelesaian Sengketa Konsumen or BPSK).⁶⁹ From this description, it can be concluded that investors affected by fraud in an ICO can resolve their cases through arbitration or mediation arranged by BAKTI or BPSK. Through legal protection, there are several advantages and disadvantages of litigation and non-litigation paths. The advantage of the litigation path is that the dispute can be judged by a competent judge and its judicial decision is legally binding for each party, and subject to appeal. Meanwhile, the advantages of the non-litigation route are the guaranteed confidentiality of the disputing parties and the relatively shorter dispute resolution period. The disadvantage of the litigation path is that information is spread from the disputing parties to the public domain and takes a long time to resolve. The drawback of the non-litigation route is that there are no other legal remedies. In addition, litigation and non-litigation routes have drawbacks, namely the possibility that one party's losses cannot be recouped. Therefore, a preventive approach is needed to minimise losses from ICO activities.

IV.B. Preventive Legal Protection Against ICO Risks in Indonesia

Preventive legal protection can be defined as legal protection carried out before a violation occurs.⁷⁰ Related to that, the rules and regulations usually provide

⁶⁶ Based on Article 1 Number 1 of Law Number 30 of 1999 concerning Arbitrase dan Alternatif Penyelesaian Sengketa (Arbitration and Alternative Dispute Resolution), arbitration is a method of settling a civil dispute outside a general court based on an arbitration agreement made in writing by the parties to the dispute.

⁶⁷ Mediation is a way of resolving disputes through a negotiation process to obtain an agreement between the parties with the assistance of a mediator. For more information, see the Chief Justice of the Supreme Court of the Republic of Indonesia, PERMA RI. No. 1 of 2008 concerning *Prosedur Mediasi di Pengadilan* (Mediation Procedures in Courts).

⁶⁸ Rachmadi Usmani, *Mediasi di Pengadilan: Dalam Teori dan Praktik* (Jakarta: Sinar Grafika, 2012), p. 8.

⁶⁹ Based on Article 52 of Law Number 8 of 1999, BPSK has the authority to carry out the handling and settlement of consumer disputes, by me concerning Consumer Protections of mediation or arbitration or conciliation.

⁷⁰ Puspasari, "Perlindungan Hukum," p. 319.

specific requirements that the parties must fulfil.⁷¹ No specific rules provide preventive legal protection for parties involved in ICO transactions, especially investors. However, some rules can be considered because they intersect with the practice of ICO.

According to prevailing regulations, the government permitted business activities related to the practice of ICO. In article 149 paragraph (5), Government Regulation No. 5 of 2021 has organised the technology development activities blockchain—which is closely related to the implementation of ICO—as one of the business activities that business actors may carry out as long as they have obtained a business license in the system and electronic transaction sub-sector. In this case, legal entities can participate and invest in blockchain development, especially regarding ICO.

In addition, there are also regulations in Bappebti Regulation Number 8/2021 that explicitly state ICO. Article 2 paragraph (3) of Bappebti Regulation Number 8/2021 sets forth that the guidelines for implementing crypto asset trading as stipulated in the regulation are not intended for the mechanism of an ICO. This kind of legal provision has created ambiguity and uncertainty regarding whether ICO can be offered in Indonesia. This uncertainty is further highlighted by the interpretation of some researcher who state that Indonesia prohibits ICO,⁷² even though the prohibition is not explicitly regulated in the existing laws and regulations.

Apart from that, there are also rules in Bappebti Regulation Number 7/2020, which does not regulate ICOs explicitly but has a close relationship with this capital mechanism. Article 1 paragraph (6) of Bappebti Regulation Number 7/2020 stipulates that it is possible to submit proposals for Bappebti to add a type of crypto assets that can be traded legally in Indonesia. These proposed assets include all coins or tokens, including assets that recently went through the initial offering process. However, it becomes a problem when existing regulations do not require ICO implementation to undergo a screening process before being sold to the public. This screening process must embody the precautionary principle to ensure the security of crypto asset products as early in the process as possible, so it will not endanger the public and the financial system.⁷³

Uncertainty in this regulation certainly poses a risk of its own, as with the ASIX token. Bappebti suddenly banned ASIX tokens that had just undergone

⁷¹ Ibid., p. 321.

⁷² Cristiano Bellavitis, Christian Fisch, dan Johan Wiklund, "A comprehensive review of the global development of initial coin offerings (ICOs) and their regulation," *Journal of Business*, Vol.15, No.1 (2021), p. 6.

⁷³ Basel Committee on Banking Supervision, *Prudential Treatment for Crypto Asset Exposures* (Basel: Bank for International Settlement, 2021), p. 6.

an ICO before finally being permitted to be traded again if it is still going through the licensing process. The regulators' indecision has impacted price fluctuations that are detrimental to many people.⁷⁴ As a result, crypto asset developers and investors are both disadvantaged in this case. It is beyond doubt that such losses will not occur if there are regulations that supervise ICOs.

V. THE EMERGING OF DEFI AND ITS IMPLICATIONS FOR ICO

As stated before, ICO processes are very much intertwined with the introduction and development of crypto asset innovations. Frequently, the proponents of this innovation present a financial service system with a model that previously could only be developed in wishful thinking. DeFi is one of these innovations that are often discussed and command intensive attention these days with its development and relationship to the traditional financial system.

To this day, DeFi has experienced rapid development since the beginning of 2020, when cryptocurrency transactions experienced a significant upward trend. Previously, the Total Value Locked (TVL) of DeFi in 2020 was below \$1 (one billion United States dollars). However, this value has increased significantly in the following years, reaching \$230 (two hundred thirty billion United States dollars) in April 2022. This figure will continue to change, along with the conditions of DeFi, which is still in the early stages of its development.

Nevertheless, DeFi has various risks that potentially have a negative impact on the public. Moreover, a study by the IMF found a high correlation between the performance of crypto investments and traditional investments such as equity investments,⁷⁵ further raising concerns about the effect DeFi risks could bring to the existing financial systems. In the context of ICOs, DeFi tokens offered through ICOs may pose many dangers to the public if these issues are not addressed early on. Hence, there is an urgency to bring the topic of DeFi in this ICO-related article to fathom the nature of DeFi and to avoid the deleterious impact of DeFi.

V.A. Introduction of DeFi

DeFi is the result of technological innovation that combines elements of blockchain, digital assets, and financial services.⁷⁶ This DeFi service is the embodiment of the blockchain system's initial vision that seeks to override the role of intermediaries (such as banks) as third parties that control the operation

⁷⁴ Gagas Yoga Pratomo, "Alasan Token Asix Anang Hermansyah Dilarang Diperdagangkan,"

⁷⁵ Hilary J. Allen, "DeFi: Shadow Banking 2.0?" p. 11

⁷⁶ David Gogel, *DeFi Beyond the Hype: The Emerging World of Decentralised Finance* (Philadelphia : The Wharton School the University of Pennsylvania, 2021), p.1.

of the conventional financial system. The operationalisation of DeFi is built on the blockchain of decentralised applications (Dapps), which predominantly uses smart contracts. This computer program governs the operation of tokens and coins in a way intended to be self-executing and self-enforcing. In addition, Dapps are usually integrated with user-facing interfaces using traditional web technology so users can more easily access existing systems.⁷⁷

To this day, DeFi has experienced rapid development since the beginning of 2020, when cryptocurrency transactions experienced a significant upward trend. Previously, the TVL of DeFi in 2020 was below \$1 (one billion United States dollars). However, this value increased significantly in the following years to reach US\$230 (two hundred thirty billion United States dollars) in April 2022. This figure will continue to change, along with the mechanism of DeFi, which is still in the early stages of its development.

Up to this point, DeFi has proffered innovations in financial services that encompass payments, lending, trading, investments, insurance, and asset management.⁷⁸ Among those innovations, trading and lending are vital parts of the DeFi financial service ecosystem. For example, it was reported that in April 2022, Decentralized Crypto Exchanges (DEXs) were the most prominent financial service provided by DeFi, with TVL reaching 29% (twenty-nine percent), followed by Lending with a TVL percentage of 22% (twenty-two percent) in the same period.⁷⁹ These DEXs, lending, and other financial services the Defi platform provides depend on Stablecoins in the system's operation.

In simple terms, stablecoins can be defined as crypto assets pegged to a reference value.⁸⁰ Most prominent stablecoins are pegged to the U.S. dollar, although it is possible that stablecoins can also be pegged to other fiat currencies (even the Indonesian Rupiah), an aggregation of fiat currencies, or other stable-value assets, such as gold. Its pegged value to a reference asset makes the price volatility of Stablecoins tend to be lower than other crypto assets. Besides, its reliable base value makes the transaction value facilitated by Stablecoin more secure.⁸¹

Stablecoins are central to the functioning of DeFi, as Stablecoins are often used to facilitate financial services under the DeFi mechanisms.⁸² Stablecoins

⁷⁷ Hilary J. Allen, "DeFi: Shadow Banking 2.0?" *William and Mary Law Review*, (2022), p. 9.

⁷⁸ David Gogel, *DeFi Beyond the Hype*, p. 2.

⁷⁹ Jonathan Chiu *et al.*, *On the Fragility of DeFi Lending* (Canada: Bank of Canada: 2022), p. 3-6.

⁸⁰ Gordon Y. Liao and John Carmichael, *Stablecoins: Growth Potential and Impact on Banking* (Washington D.C.: Board of Governors of the Federal Reserve System, 2022), p. 2.

⁸¹ David Gogel, *DeFi Beyond the Hype*, p. 2.

⁸² President's Working Group on Financial Markets, *Report on Stablecoins* (Washington D.C.: President's Working Group on Financial Markets, 2021), p. 9.

are a tool that facilitates the exchange of volatile crypto assets into more stable assets. DeFi and Stablecoins can carry out these transactions efficiently so that the need for fiat currency or the intermediary of traditional financial institutions can be reduced. In addition, stablecoins are also used as a source of collateral in lending and borrowing other crypto assets. In a DeFi backed loan, a lender can deposit their crypto assets (including stablecoins) to a lending pool and receive interest from the Dapps. On the other hand, the borrower can borrow assets from the lending pool by first fulfilling the requirements to deposit money with an amount more significant than the actual loan—to diminish the impact of price fluctuations—as a guarantee and offer collateral to secure the transaction.⁸³

V.B. Risks of DeFi within the Framework of ICO

During its rapid development, from time to time, DeFi has faced various fragilities that can have a systemic adverse impact on investors and financial services. The first problem with DeFi is that the system's leverage can increase significantly. That problem is driven by the procedure of crypto asset creation that can be done freely through a computational process and can be used immediately as collateral for loans, which can then be used as collateral to acquire more funding, and so on. Furthermore, the unrestrained supply can further lead to uncontrolled growth in the number of assets and the emergence of risk when those assets are dumped during fire sales.⁸⁴ This risk is like when the crypto asset market crashed in September 2021, which resulted in deleveraging when “Forced liquidations of derivatives positions and loans on DeFi platforms accompanied sharp price falls and spikes in volatility.”⁸⁵

The rigidity of the existing system is also a fundamental problem in implementing DeFi. As is well known, smart contracts in DeFi are generally designed to execute their preprogramed instructions automatically and instantly. Even though it is efficient, certain conditions would be better if execution was not carried out immediately. For example, in granting a loan, the smart contract code has been set so that the loan will be liquidated if there is not sufficient collateral put up. On the contrary, this kind of forced liquidation could harm borrowers and cause them to experience financial difficulties leading to them becoming insolvent. Implementing rigid executions during the bust cycle can also lead to fire sales, bringing the whole system

⁸³ Sirio Aramonte, et. al., *DeFi Lending: Intermediation Without Information* (Basel : Bank for International Settlements, 2022), pp. 2.

⁸⁴ A fire sale refers to the selling of an assets or other product at a heavily discounted prices due to financial distress.

⁸⁵ Sirio Aramonte, Wenqian Huang, and Andreas Schrimpf, “DeFi Risks and the Decentralisation Illusion,” *BIS Quarterly Review*, (2021), pp. 30.

down.⁸⁶ Executions of this kind can only be reversed—not paused or changed—by whoever controls the Dapp system.⁸⁷ However, reversing such executions is also challenging because it requires changes to the distributed ledger and takes a long time.⁸⁸ Accordingly, any intervention may come too late to prevent destabilising harm. Therefore, smart contracts may prove too rigid to provide the flexibility needed to avoid such an outcome.

Not limited to uncontrollable rigidity and leverage factors, Defi is also prone to be affected by a “run” that occurs on a stablecoin. Run occurs when stablecoins are not performing as expected, namely a hack, a problem with the reserve of assets backing a stablecoin, to a problem with the smart contracts managing the value of a decentralised stablecoin.⁸⁹ When these things happen, we could expect holders to exchange their stablecoins for fiat currency and exchanges to seek redemption, forcing stablecoin issuers to start liquidating the reserve of assets backing the stablecoin, depressing the market value of those assets.⁹⁰ Risks to the broader economy and financial system depend on the contents of stablecoins’ reserves, and they could rapidly increase as long as there are no clear regulatory standards.⁹¹ Uncertainty around the size of stablecoins reserves and the redemption and settlement mechanisms by the stablecoin issuers further complicates efforts to assess and prevent the impact of the run.⁹²

The most recent run on a stablecoin was the LUNA crash. LUNA is a crypto asset co-developed with a stablecoin called TerraUSD (UST) and together they are incorporated in a dual token system. In the mechanism, UST is used to maintain a stable value, and LUNA acts as a balancer token with its fluctuating value.⁹³ The algorithm mechanism uses these two coins to keep the stablecoin pegged. To keep the stablecoins at peg, the algorithm mechanism relies on arbitrageurs to exploit profitable opportunities if they deviate from their peg.⁹⁴ However, the value of Terra (UST) and LUNA fell from an all-time high of \$120 (one hundred twenty United States dollars) in April 2022 to nearly \$0 (zero United States dollars) in May 2022, costing investors \$60

⁸⁶ Hilary J. Allen, “DeFi: Shadow Banking 2.0?” pp. 12-13.

⁸⁷ *Ibid.*, p. 13.

⁸⁸ After a DAO was hacked in 2016, it took over a month for the nodes of the Ethereum distributed ledger to coordinate their response

⁸⁹ Hilary J. Allen, “DeFi: Shadow Banking 2.0?” p. 14.

⁹⁰ *Ibid.*

⁹¹ President’s Working Group on Financial Markets, *Report on Stablecoins*, p. 12.

⁹² Hilary J. Allen, “DeFi: Shadow Banking 2.0?” pp. 13-15.

⁹³ Paul Tiemo, Andrew P. Scott, and Eva Su, “Algorithmic Stablecoins and the TerraUSD Crash,” *Congressional Research Service*, No.1 (2022), pp. 1-4. <https://crsreports.congress.gov/product/pdf/IN/IN11928>

⁹⁴ *Ibid.*, p. 1,

(sixty billion United States dollars) in cash losses.⁹⁵ Before the crash of Terra Luna, Terraform Labs - UST stablecoin manager - used a DeFi protocol that promised investors that they would gain 20% (twenty percent) annually if they invested in UST. Indeed, this program has gained broad interest from investors. Nevertheless, suddenly, a massive number of investors withdrew their UST. This massive withdrawal leads to Terra Luna's destruction and simultaneously shows a run's terrifying impact.⁹⁶

Based on the above explanation, it appears that the risks posed by DeFi are a real threat to the existing financial system stability. In response to the existing problems, there are still various limitations due to the absence of regulations in Indonesia that provide specific guidelines for the implementation of DeFi. In fact, such an arrangement is certainly necessary in order to protect the public and the existing financial system from potential detrimental effects from DeFi tokens that will be offered during ICOs. Therefore, DeFi needs to be monitored from early on, even since before the DeFi project's ICO is about to be launched.

VI. THE URGENCY OF STRENGTHENING EX-ANTE CONTROL ON ICO IMPLEMENTATION IN INDONESIA

Based on the previous explanations, the supervision of ICO risks in Indonesia, especially preventive supervision, has not yet been comprehensively regulated. As a result, Bappebti, as the authority who oversees crypto assets trading in Indonesia, tends to apply a "wait and see" approach, more or less the same as authorities in most countries in the world.⁹⁷ Besides, this approach is too passive and not ideal in responding to a dynamic phenomenon that often occurs in the development of crypto innovation, especially those involved ICO transactions.⁹⁸ Therefore, it needs a more visionary approach to monitoring and developing crypto assets with potential and novelty.

Consequently, ex-ante control needs to be strengthened to overcome problems related to legal protection for crypto asset investors in Indonesia. This control can be strengthened by forming technical policies to regulate the licensing mechanisms for crypto asset developers willing to carry out the

⁹⁵ Taylor Locke, "The rise and fall Luna: How a 30 year old created a crypto sensation worth \$60 billion, watched it implode, and is trying to start all over again," <https://fortune.com/2022/05/25/do-kwon-terra-ust-luna-followers-insiders-react/>, accessed June 17th 2022.

⁹⁶ Paul Tierno, Andrew P. Scott, and Eva Su, "Algorithmic Stablecoin and TerraUSD Crash," pp. 2-3.

⁹⁷ Wulf A. Kaal, "Initial Coin Offerings: The Top 25 Jurisdictions and Their Comparative Regulatory Responses (As of May 2018)," *Stanford Journal of Blockchain Law and Policy*, Vol. 1, No. 1 (2021), p. 63.

⁹⁸ International Bank for Reconstruction and Development, *How Regulators Respond to Fintech Evaluating the Different Approaches—Sandboxes and Beyond* (Washington DC : World Bank Group, 2020), p. 39.

ICO process. Moreover, it is also necessary to establish a regulatory sandbox mechanism that can be an instrument to assess the ICO plan proposed by crypto asset developers. Then, the authority can consider the assessment results in approving and permitting for the developer's license.

VI.A. Creation of a Regulatory Sandbox to Oversee the Implementation of ICOs in Indonesia

A Regulatory sandbox is among various innovative policy proposals that have been continuously introduced since 2016 by the Financial Conduct Authority (FCA), the policymaker of the financial sector in the UK.⁹⁹ The Regulatory sandbox itself is an artificial space that has been designed in such a way by policymakers as a testing ground for product, service, business model, and governance innovations before regulations are applied directly to the company and its innovations.¹⁰⁰ Through the formation of a regulatory sandbox in the ICO process, participating companies may conduct trials on the implementation of ICO, specifically on the innovation of crypto assets, blockchain, and related systems run by the company. Bappebti, as the competent authority, can constantly monitor the implementation of ICO in this regulatory sandbox test room while prioritising the protection of crypto asset investors.

A regulatory sandbox should ideally be implemented along with other approaches that promote innovation and experimentation. These approaches include:¹⁰¹

1. Innovation labs

Innovation labs, namely facilities to foster, support, and provide advice on the development of innovations that have not been put into practice on a wide or limited basis;

2. Regulatory accelerators

Regulatory accelerators are a means of encouraging innovation to be used more widely (in certain cases it is promoted through partnerships with policymakers).

Based on experiences from the implementation of these initiatives so far, the regulatory sandbox has brought several benefits to relevant stakeholders. The main benefit of implementing a regulatory sandbox is its position as a

⁹⁹ Edmon Makarim dan Zahrashafa Putri Mahardika, "Regulatory Sandbox: A Regulatory Model to Guarantee the Accountability of Electronics Financial Technology Implementation," *International Conference on Law and Governance*, Vol.130 (2021), p. 63.

¹⁰⁰ Jayoung James Goo dan Joo-Yeun Heol, "The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation," *Journal of Open Innovation: Technology, Market, and Complexity*, Vol.43, No.6 (2021), p. 63.

¹⁰¹ International Bank for Reconstruction and Development, *Global Experiences from Regulatory Sandboxes* (Washington DC: World Bank Group, 2020), p. 14.

meeting place between the authority and innovation developer. Through the regulatory sandbox, companies will get more reliable socialisation and assistance from authorities related to enforcing existing regulations. For authorities, the regulatory sandbox can be a supportive instrument in policy formulation. Therefore, it has been proven that if a regulatory sandbox is formed to review the performance of ICO, this scheme can be a means of mutual learning between the authority and the company that can benefit equally.¹⁰²

To embody effective policy formation, a regulatory sandbox can play a role in appraising the impact of an innovation.¹⁰³ Through a regulatory sandbox, authorities can collect necessary data to identifying and examining potential risks arising from the technological aspects of these innovations.¹⁰⁴ In conducting tests through a regulatory sandbox, relevant authorities can usually provide leniency for the company so that it can optimally simulate its innovation and perform experiments in normally prohibited areas or still in a grey area.¹⁰⁵ Based on data obtained from the simulation, authorities, with help from involved companies, can test the most appropriate rules while maintaining the optimisation of innovation development.¹⁰⁶

Determining the most suitable regulatory framework is relevant to Indonesian politics of law regarding crypto assets. Bappebti, as the authorised institution, needs to test the effectiveness of crypto assets-related regulations constantly. It is essential if there are untested or standard rules to apply, as is the case in forming a crypto asset exchange as mandated by Bappebti Regulation Number 8/2021.

On the other hand, the lack of adequate regulation poses a distinctive challenge. It can be understood that at times, there are some ICO mechanisms that are decentralised, encrypted, and anonymous, making them difficult to track and very prone to abuse for purposes of money laundering and fraud. Accordingly strict rules are needed to address the problems with these ICOs.¹⁰⁷ For this reason, a regulatory sandbox can be an instrument to support the authorities in formulating sufficient policies that are in accordance with the needs and developments of recent times. The existence of well-defined rules

¹⁰² Jayoung James Goo dan Joo-Yeun Heol, "The Impact of the Regulatory Sandbox on the Fintech," p. 1-2.

¹⁰³ International Bank for Reconstruction and Development, *Global Experiences from Regulatory Sandboxes*, pp. 26-28.

¹⁰⁴ Wolf-Georg Ringe dan Christopher Ruof, "Regulating Fintech in the EU: the Case for a Guided Sandbox," *European Journal of Risk Regulation*, Vol.11, No.3 (2020), pp. 615-616.

¹⁰⁵ *Ibid.*, pp. 612-613.

¹⁰⁶ International Bank for Reconstruction and Development, *Global Experiences from Regulatory Sandboxes*, pp. 26-28.

¹⁰⁷ Aurelio Gurrea-Martinez dan Nydia Remolina, *The Law and Finance of Initial Coin Offerings*, *Research Collection School of Law, Singapore Management University*, (2019), pp. 34.

can undoubtedly solve the legal uncertainty problem and positively impact the development of crypto assets and blockchain product innovations.

Then, a regulatory sandbox also benefits from ensuring protection for crypto asset investors. Early supervision will play a role in faster risk identification and prevention.¹⁰⁸ Early supervision also allows companies to apply their services efficiently, avoiding risks that can induce costs. With supervision carried out effectively, communicatively, and transparently, the public trust and investors toward innovative products that have gone through testing will increase. Investors will also be helped by the results of the risk assessment carried out through the regulatory sandbox so that investors can invest in ICO more accurately with minimal risk.¹⁰⁹

The last benefit that can be identified is related to the role of a regulatory sandbox in maintaining financial stability. As it is well known, crypto assets were originally one of the financial technology innovations initiated to eliminate banks' role as middlemen in financial transactions.¹¹⁰ Therefore, of course, crypto asset innovations, to be sure, will have a closer relationship with the financial system in general.

As crypto asset innovation continues to develop, the need for a regulatory sandbox to monitor crypto asset innovation will undoubtedly be more relevant in the coming days. Moreover, the existing regulatory sandbox is still limited to overseeing payment system fintech (by Bank Indonesia) and financing system fintech (by the Financial Services Authority), not including crypto assets according to Indonesian politics of law are still classified as commodities.¹¹¹ On top of that, a regulatory sandbox supervision over crypto asset innovation is still in line with the original goal of assisting policymakers in adapting to the development of fintech innovation (which more or less includes crypto asset innovation).¹¹² For that reason, a regulatory sandbox is needed so that regulators can develop policies that support innovation and competition in the market and protect the financial system, society, and consumers in particular.¹¹³

¹⁰⁸Wolf-Georg Ringe dan Christopher Ruof, "Regulating Fintech in the EU: the Case for a Guided Sandbox," p. 614.

¹⁰⁹Ibid., p. 616.

¹¹⁰Satoshi Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System."

¹¹¹Masda Greiyes Nababan, Siti Salwa Sastra Maria, dan Masha Prisha Putri Deristiandra, "Penguatan Regulatory Sandbox dan Scoring System dalam Penerapan Prinsip Kehati-hatian pada Peer-To-Peer Lending", *Legislatif*, Vol.3, No.1 (2019), p. 60.

¹¹²Wolf-Georg Ringe dan Christopher Ruof, "Regulating Fintech in the EU: the Case for a Guided Sandbox," pp. 608.

¹¹³Knut Blind, "The influence of regulations on innovation: A quantitative assessment for OECD countries," *Research Policy*, Vol. 41 (2012), pp. 393.

VI.B. Managing the Adverse Impacts of DeFi on the existing Financial System

Regarding the rapid development of DeFi, the competent authorities must take various measures so that oversight can be carried out effectively. Oversight is undoubtedly essential to overcome the possible risks of DeFi and its adverse impact on the mainstream financial system and the broader economy. This is reflected in the fact that IMF research has found a high correlation between crypto investment performance and traditional investments such as equity investment,¹¹⁴ so it is clear that DeFi is increasingly affecting the existing financial system.

Consequently, oversight of DeFi implementation needs to be strengthened by imposing precise licensing requirements for Dapp and Stablecoin organisers willing to conduct ICOs, as informed in Section C.I. Specifically, to avoid the threat of a systemic financial crisis that DeFi may cause, an applicant would need to prove through this licensing that: (i) the Dapp or stablecoin in question is unlikely to harm financial and monetary stability; (ii) the applicant can manage financial and technological risks posed by the Dapp/Stablecoin.¹¹⁵ This licensing regime is necessary considering that some potential Dapps/Stablecoins may originate and develop in Indonesia, as seen from the emergence of RupiahToken and XIDR, whose asset value is pegged to the Indonesian Rupiah. Aside from these issues, the government may also reconsider a policy that orders Dapps/Stablecoins, as listed in Bappebti Regulation Number 7 of 2020, to relicense for heightened the protection of the existing financial system from the impact that Dapps/Stablecoins may have.

However, further questions have arisen regarding the authority to oversee the rise of DeFi. Looking at the development of DeFi, which is slowly becoming more closely related to the existing financial system, it is worth reconsidering the role of Indonesian financial supervisory bodies such as OJK in overseeing DeFi. Moreover, supervision of DeFi, to a certain extent, is still in line with the objective of OJK, which is to create a financial system that grows sustainably and stably. Nevertheless, Indonesian law politics is still becoming an obstacle as Indonesia only recognises crypto assets as commodities, not money.¹¹⁶

In reality, a crypto asset position as a commodity does not inevitably skirt the role of OJK in controlling the effects DeFi brought on the financial system. This is because Article 77 of Law no. 10/2011 has provided a platform for Bappebti, together with OJK and the other financial system supervisory bodies such as the Indonesian Central Bank and the Indonesian Financial

¹¹⁴ Hilary J. Allen, "DeFi: Shadow Banking 2.0?" p. 11.

¹¹⁵ *Ibid.*, pp. 24-25.

¹¹⁶ See Article 2 Permendag 99/2018.

Transaction Reports and Analysis Center, to coordinate oversight of activities in commodity trading that intersect with the respective authorities of each institution. Through this regulation, these institutions can anticipate risks from DeFi following the limits of their authority. Moreover, with the DeFi system still in the development stage and not yet commercialised enough,¹¹⁷ regulators still have time to conduct various studies and adjustments to deal with the challenges of DeFi disruption over the coming days.

IV. CONCLUDING REMARKS

As a means for development of a new crypto asset business, ICO is one of the cheapest, most efficient, and profitable ways to raise funds. However, there are various disadvantages of ICOs that may harm investors. One of them is that ICOs have a relatively high risk of failure, far beyond the success rate of their implementation. The driving factor behind this failure has been the rise of ICO-motivated fraud, ranging from exit fraud to the issuance of unregistered crypto assets.

On the other hand, limitations of regulations regarding ICOs also pose quite a complex problem. Article 2 paragraph (3) of Bappebti Regulation Number 8/2021 explains an exemption for ICOs from the arrangement in this regulation, which further generates ambiguity regarding the legality of the practice of ICOs in Indonesia. Article 1 paragraph (6) of Bappebti Regulation Number 7/2020 also provides an incomprehensive registration process for crypto assets, which results in inadequate protection. In addition, there is also the emergence of the DeFi phenomenon, whose impact on the traditional financial system needs to be addressed as early as possible, namely when a new DeFi developer is about to conduct an ICO. Indeed, these various problems must be addressed as early as possible to prevent investors and the public in general from uncalculated losses.

Against these problems, the government should strengthen ex-ante controls to prevent the ICOs' adverse impact on investors. This step includes the imposition of an obligation for crypto asset developers to go through a licensing process before holding an ICO. In the context of DeFi supervision, this licensing process certainly needs to pay attention to various aspects that are critical to protect the stability of the existing financial system. It is also necessary to initiate the formation of a regulatory sandbox to bring together stakeholders' interests.

¹¹⁷Sirio Aramonte, Wenqian Huang, and Andreas Schrimpf, "DeFi Risks and the Decentralisation Illusion," pp. 21.

REFERENCES

BOOKS & ARTICLES

- Agustina, Lidya, *et al.* (2019). *Perkembangan Ekonomi Digital di Indonesia: Strategi dan Sektor Potensial*. Jakarta: Pusat Badan Penelitian dan Pengembangan SDM Kementerian Komunikasi dan Informatika.
- Allen, Hilary J. (2022). DeFi: Shadow Banking 2.0? *William and Mary Law Review*, pp.9, pp.11-15, and pp. 24-25.
- Aramonte, Sirio, *et al.*, (2022). *DeFi Lending: Intermediation Without Information*. Basel. Bank for International Settlements.
- Aramonte, Sirio, Wenqian Huang, and Andreas Schrimpf. (2021) *DeFi Risks and the Decentralization Illusion*. BIS Quarterly Review p. 21 and p. 30.
- Barsan, Iris. (2017). Legal Challenges of Initial Coin Offerings (ICO).” *Journal Revue Trimestrielle de Droit Financier*, Vol. 1 No. 3, p. 54.
- Basel Committee on Banking Supervision. (2021). *Prudential Treatment for Crypto Asset Exposures*. Basel: Bank for International Settlement.
- Bellavitis, Cristiano, Christian Fisch, and Johan Wiklund. (2021) A comprehensive review of the global development of initial coin offerings (ICOs) and their regulation. *Journal of Business*, Vol. 15 No. 1, pp. 6.
- Blind, Knut. (2012) The influence of regulations on innovation: A quantitative assessment for OECD countries.” *Journal Research Policy*, Vol. 41, p. 93.
- Bohme, Rainer, *et.al.* (2015). Bitcoin: Economics, Technology, and Governance. *The Journal of Economic Perspectives*, Vol. 2 No. 29, pp. 218.
- Bukht, Rumana and Richard Heeks. (2017). *Defining, Conceptualizing, and Measuring the Digital Economy*. Manchester: Center for Development Informatics University of Manchester.
- Cai, Jinghan, and Ahmed Gomaa. (2019). Initial Coin Offering to Finance Venture Capital: A Behavioral Perspective. *The Journal of Private Equity*, Vol. 22 No. 3, pp. 93-96.
- Campino, José, Ana Brochado, and Alvaro Rosa, Initial Coin Offerings (ICOs): Why do they succeed? *Journal Financial Innovation*, Vol. 8, No. 17 (2022), p. 3.
- Carter, Richard and Steven Manaster. (1990). Initial Public Offerings and Underwriter Reputation.” *The Journal of Finance*, Vol. 45 No. 4, p.1045.
- Center for the Governance of Change, (2018). *Cryptocurrencies and the Future of Money*. Madrid: Center for the Governance of Change.
- Chiu, Jonathan. *et.al.* (2022). *On the Fragility of DeFi Lending*. Canada: Bank of Canada, pp. 3-6.
- Daily Social. “Mengenali Investasi Cryptocurrency.” <https://dailysocial.id/post/mengenali-investasi-cryptocurrency>. Accessed June 16th, 2022.
- Deng, Hui, Robin Hui Huang, and Qingran Wu. (2018). The Regulation of Initial Coin Offerings in China: Problem, Prognoses, and Prospects. *Journal European Business Organization Law Review*, Vol. 19 No. 3, pp. 8-11.

- Dewey, Joe. Blockchain & Cryptocurrency Laws and Regulations 2022. <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/usa>. Accessed June 15, 2022.
- Dharmawan, Ni Ketut Supasti, Putu Tuni Caka Bawa Landra, and Putu Aras Samsithawrati. (2015). Penjabaran Standar Internasional TRIMs Dan OECD Dalam Ketentuan Hukum Penanaman Modal Indonesia. *Journal Magister Hukum Udayana*, Vol. 4 No. 3, p. 555.
- Dwicaksana, Haruli. Akibat Hukum yang Ditimbulkan Mengenai Cryptocurrency Sebagai Alat Pembayaran di Indonesia. *Journal Privat Law*, Vol. 8 No. 2, p. 188.
- Fauzi, Muhammad A. and Norazha Paiman, and Zarina Othman. (2020). Bitcoin and Cryptocurrency: Challenges, Opportunities and Future Works. *Journal of Asian Finance, Economics and Business*, Vol. 8 No. 7, p. 695.
- Gailey, Alex and Ryan Haar. (2022) The Future of Cryptocurrency: 8 Experts Share Predictions for the Second Half of 2022. <https://time.com/nextadvisor/investing/cryptocurrency/future-of-cryptocurrency/>. Accessed September 5, 2022
- Gogel, David. (2021). *DeFi Beyond the Hype: The Emerging World of Decentralised Finance*. Philadelphia: The Wharton School the University of Pennsylvania.
- Goo, Jayoung James and Joo-Yeun Heol. (2021). The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, Vol. 43 No. 6, pp. 1-2 and p. 63.
- Gorjón, Sergio. (2022) The Role of Crypto Assets as Legal Tender: The Example of El Salvador. <https://repositorio.bde.es/bitstream/123456789/19051/1/be2104-art35e.pdf>. Accessed June 15, 2022.
- Griyoes, Masda Nababan, Siti Salwa Sastra Maria, and Masha Prisha Putri Deristiandra. (2019). Penguatan Regulatory Sandbox dan Scoring System dalam Penerapan Prinsip Kehati-hatian pada Peer-To-Peer Lending. *Journal Legislatif*, Vol. 3 No. 1, p. 60.
- Gutierrez, Marco Quiroz. (2022). Blockchain & Cryptocurrency Laws and Regulations 2022. <https://fortune.com/2022/01/04/crypto-banned-china-other-countries/>. Accessed June 15, 2022.
- Gurrea-Martinez, Aurelio and Nydia Remolina. (2019). The Law and Finance of Initial Coin Offerings. *Journal of Research Collection School of Law*, p. 34.
- Hadjon, Philipus M. (1987). *Perlindungan Hukum Bagi Rakyat di Indonesia. Sebuah Studi Tentang Prinsip-prinsipnya, penanganannya oleh Pengadilan Dalam Lingkungan Peradilan Umum dan Pembentukan Peradilan Administrasi Negara*. Surabaya: PT Bina Ilmu Press.
- Hanke, Steve H. and Caleb Hoffman. (2022). “The Verdict is in for El Salvador’s Bitcoin Experiment: It Failed.” <https://www.nationalreview.com>

- com/2022/09/the-verdict-is-in-for-el-salvadors-bitcoin-experiment-it-failed/. Accessed September 6th 2022.
- Hardle, Wolfgang, Campbell Harvey, and Raphael Reule. (2018). *Understanding Cryptocurrencies, Humboldt*. Berlin: Universität Zu Berlin.
- Hornuf, Lars, Theresa Kück and Armin Schwienbacher. (2021). Initial coin offerings, information disclosure, and fraud. *Journal Small Bus Econ*, pp. 3-5.
- Horwitz, Josh. The SEC Chief has a New Warning for ICO Investors: Buyer Beware. <https://qz.com/1153649/the-sec-chief-has-a-new-warning-for-ico-investors-buyer-beware/>. Accessed June 17, 2022.
- Horwitz, Josh. (2017). The SEC Chief has a New Warning for ICO Investors: Buyer Beware. <https://qz.com/1153649/the-sec-chief-has-a-new-warning-for-ico-investors-buyer-beware/>. Accessed June 17, 2022.
- International Bank for Reconstruction and Development. (2020). *Global Experiences from Regulatory Sandboxes*. Washington DC: World Bank Group.
- Kaal, Wulf A. (2021). Initial Coin Offerings: The Top 25 Jurisdictions and Their Comparative Regulatory Responses (As of May 2018).” *Stanford Journal of Blockchain Law and Policy*, Vol. 1 No. 1, pp. 63.
- Lee, Jongsub, Tao Li, and Donghwa Shin. (2022). The Wisdom of Crowds in FinTech: Evidence from Initial Coin Offerings. *Journal of the Review of Corporate Finance Studies*, Vol. 11 No. 1, pp. 42.
- Leitch, Matthew. (2019). Fundraising Scams. <https://www.longfinance.net/publications/distributed-futures-publications/more-than-token-regulation-alternative-currencies/>. Accessed June 17, 2022.
- Liao, Gordon Y. and John Carmichael. (2022). *Stablecoins: Growth Potential and Impact on Banking*. Washington D.C: Board of Governors of the Federal Reserve System.
- Locke, Taylor. (2022). The rise and fall Luna: How a 30 year old created a crypto sensation worth \$60 billion, watched it implode, and is trying to start all over again. <https://fortune.com/2022/05/25/do-kwon-terra-ust-luna-followers-insiders-react/>. Accessed June 17, 2022.
- Locke, Taylor. (2022). Crypto market cap falls below \$1 trillion as Bitcoin drops 65% from all-time high. Investor sentiment is now ‘extreme fear’. <https://fortune.com/2022/06/13/crypto-market-cap-below-1-trillion-bitcoin-extreme-fear-inflation/>.” Accessed September 5, 2022.
- Marzuki, Mahmud. (2017). *Penelitian Hukum Edisi Revisi*. Jakarta: Prenada Media.
- Makarim, Edmon and Zahrashafa Putri Mahardika. (2021). Regulatory Sandbox: A Regulatory Model to Guarantee the Accountability of Electronics Financial Technology Implementation. *International Conference on Law and Governance*, Vol. 130, p. 63.

- Maughan, Scott W. (2020). W. *Utility Token Offerings: Can a Security Transform into a Non-Security*. Provo: Brigham Young University.
- Mendelson, Michael. (2019). From Initial Coin Offering to Security Tokens: A.U.S. Federal Securities Law Analysis.” *Journal Stanford Technology Law Review*, Vol. 22 No. 1, p. 61.
- Monetary and Capital Market Department. (2021). *The Crypto Ecosystem and Financial Stability Challenges*. International Monetary Fund.
- Muci, Frank and Coindesk. (2022). A year after El Salvador adopted Bitcoin as legal tender, it could default on its sovereign debt in 2023. <https://fortune.com/2022/06/08/el-salvador-bitcoin-default-sovereign-debt-in-2023/>. Accessed September 5, 2022.
- Nakamoto, Satoshi. (2009). Bitcoin: A Peer-to-Peer Electronic Cash System. <https://bitcoin.org/bitcoin.pdf>. Accessed 15th June 2022.
- Parlow, Adrian. (2018). Securities Liability and The Role of D&O Insurance in Regulating Initial Coin Offerings.” *Journal University of Pennsylvania Law Review*, Vol. 167 No. 1, p. 213.
- Paol, Weiss, Rifkind, Wharton, and Garrison LLP. “Initial Coin Offerings,” Paol, Weiss, Rifkind, Wharton, and Garrison LLP.” https://www.paulweiss.com/media/3978879/initial_coin_offerings_whitepaper.pdf. Accessed June 17, 2022.
- Pratomo, Gagas Yoga. Alasan Token Asix Anang Hermansyah Dilarang Diperdagangkan. <https://www.liputan6.com/crypto/read/4883623/alasan-tokenasix-anang-hermansyah-dilarang-diperdagangkan>. Accessed June 17, 2022.
- President’s Working Group on Financial Markets. (2021). Report on Stablecoins. Washington D.C: President’s Working Group on Financial Markets.
- Puspasari, Shabrina. (2020). Perlindungan Hukum bagi Investor pada Transaksi Aset Kripto dalam Bursa Berjangka Komoditi. *Journal Jurist-Diction*, Vol. 3 No. 1, pp. 321-323.
- Putriaditas, Danielisa. “Perkembangan Pasar Kripto Indonesia Menarik Exchange Global Masuk.” <https://investasi.kontan.co.id/news/perkembangan-pasar-kripto-indonesia-menarik-exchange-global-masuk>. Accessed June 15, 2022.
- Ramadhansari, Ika Fatma. Simak Perbedaan Mata Uang Tradisional dan Mata Uang Kripto. <https://market.bisnis.com/read/20210815/94/1429975/simak-perbedaan-mata-uang-tradisional-dan-mata-uang-kripto>. Accessed June 15, 2022.
- Ramli, Rulli R. (2021). Menilik Potensi Kripto di Tanah Air Setelah Peluncuran IDM. <https://money.kompas.com/read/2021/11/01/174127526/menilik-potensi-kripto-di-tanah-air-setelah-peluncuran-idm?page=all>. Accessed June 15, 2022.

- Redjalam, Piter Abdullah. (2022). Memahami Kebijakan Tegas OJK terhadap Aset Kripto. <https://finance.detik.com/berita-ekonomi-bisnis/d-5949412/memahami-kebijakan-tegas-ojk-terhadap-aset-kripto#:~:text=Kebijakan%20OJK%20yang%20tegas%20melarang,masyarakat%20dari%20bahaya%20aset%20kripto.> Accessed June 15, 2022.
- Ringe, Wolf-Georg and Christopher Ruof. (2020). Regulating Fintech in the EU: the Case for a Guided Sandbox. *European Journal of Risk Regulation*. Vol. 11 No. 3, pp. 612-616.
- Rotman, Sarah. (2014). Bitcoin Versus Electronic Money. <https://www.cgap.org/sites/default/files/Brief-Bitcoin-versus-Electronic-Money-Jan-2014.pdf>. Accessed June 17, 2022.
- Satya, Venti Eka. (2021) Pengaturan Sistem Pembayaran Digital Untuk Stabilitas Sistem Keuangan Indonesia. *Journal Ekonomi dan Kebijakan Publik*. Pusat Penelitian Badan Keahlian DPR RI, Vol. 13 No. 2, p. 22.
- Schückes, Magnus dan Tobias Gutmann. (2021). Why do startups pursue initial coin offerings (ICOs)? The role of economic drivers and social identity on funding choice. *Small Bus Econ*. Vol. 57, p. 1029.
- Sigalos, MacKenzie. “El Salvador’s \$425 million bitcoin experiment isn’t saving the country’s finances. <https://www.cnn.com/2022/06/25/el-salvador-bitcoin-experiment-not-saving-countrys-finances.html>. Accessed September 5th 2022.
- Stanford Law School. (2015). Policy Papers and Policy Analysis. <https://www-cdn.law.stanford.edu/wp-content/uploads/2015/04/Definitions-of-White-Papers-Briefing-Books-Memos-2.pdf>. Accessed June 17, 2022.
- Sugeng. (2020). *Hukum Telematika di Indonesia*. Jakarta: Prenada Media Group.
- Tiemo, Paul, Andrew P. Scott, and Eva Su. (2022). Algorithmic Stablecoins and the TerraUSD Crash. *Congressional Research Service*, No. 1, pp. 1-4.
- Usmani, Rachmadi. (2012). *Mediasi di Pengadilan: Dalam Teori dan Praktik*. Jakarta, Sinar Grafika.
- Yudhira, Ahmad. (2021). Analisis Perkembangan Financial Technology (Fintech) Syariah Pada Masa Pandemi Covid-19 Di Indonesia. *Journal Valus*, Vol. 1 No. 2, pp. 14-15.
- Zhang, Alfred Rouxi, *et.al.* (2019). The Regulation Paradox of Initial Coin Offerings: A Case Study Approach. *Journal Policy and Practice Reviews of Front Blockchain*, Vol. 2 No. 2, p. 4.

LAW & REGULATION

Indonesia, Bappebti Regulation No. 8 of 2021 on Guidelines for the Implementation of Crypto Asset Physical Market Trading on the Futures Exchange.

Indonesia, Indonesia Civil Code No. 30 of 1999 concerning Arbitration and Alternative Dispute Resolution.

Indonesia, Law No. 8 of 1999 concerning Consumer Protection.

Indonesia, Law Supreme Court Regulation No. 8 of 1999 concerning Mediation Procedures in Courts.

This page is intentionally left blank