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LEGAL STATUS OF VIRTUAL CURRENCY IN INDONESIA IN THE ABSENCE OF SPECIFIC REGULATIONS

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Abstract

Given Indonesia's recent legal policy developments regarding cryptocurrency, it is pertinent to ask whether this new investment market, by its overall structural formation, holds any further risks to Indonesia beyond those to individual parties. This paper contends that any effective regulation of this new ecosystem requires adoption of the machinery of more fundamental concepts and a clear direction. Even if the Government's skepticism about soundness of the cryptocurrency markets is fully justified, how best to protect the various parties in the market is a different issue, one which calls for urgent attention from policy makers, legal practitioners, the judiciary and academic researchers. In particular, given the increasing number of startup Indonesian companies that have scrambled for seats in the new market, and the large number of related criminal cases reported in other jurisdictions, often involving hacking or embezzlement, the urgency to study best policy practices cannot be stressed enough. Against this backdrop, this paper analyzes the current legal status of virtual currency, related parties and activities in Indonesia absent direct laws and regulations to protect relevant parties.

Keywords: Virtual currency, Cryptocurrency, Crypto, Digital currency, Bitcoin, Fintech.

Abstrak

Sehubungan dengan perkembangan kebijakan hukum Indonesia terkait dengan mata uang kripto, sangat relevan untuk mengetahui apakah pasar investasi yang baru ini, memiliki risiko bagi Indonesia melebihi dari risiko yang ditimbulkan pada pihak perorangan menurut pembentukan strukturalnya. Tulisan ini menegaskan bahwa pengaturan yang efektif terhadap ekosistem yang baru ini memerlukan penerapan konsep mendasar dan arahan yang jelas. Bahkan dalam hal sikap skeptisisme Pemerintah Indonesia atas kejelasan dari pasar mata uang kripto dapat dibenarkan, cara untuk melindungi berbagai pihak dalam pasar merupakan suatu permasalahan yang berbeda. Hal tersebut menimbulkan urgensi atas perhatian bagi pembuat kebijakan, praktisi hukum, peradilan, dan kalangan akademik. Khususnya, mengingat peningkatan jumlah usaha rintisan Indonesia yang mencari kedudukan di pasar yang baru tersebut, dan besarnya jumlah tindak pidana terkait dengan mata uang kripto yang dilaporkan di yurisdiksi lain yang seringkali melibatkan peretasan atau penggelapan, urgensi untuk mempelajari kebijakn terbaik tidak dapat diabaikan. Atas latar belakang tersebut, tulisan ini menganalisis status hukum dari mata uang virtual, pihak-pihak terkait, dan aktivitas yang ada di tengah kekosongan hukum dan peraturan khusus untuk melindungi pihak yang berkepentingan.

Kata kunci: mata uang virtual, mata uang kripto, kripto, mata uang digital, bitcoin, tekfin.

I. INTRODUCTION

In 2008, the creator of the first cryptocurrency, the pseudonymous Satoshi Nakamoto, defined it as “a chain of digital signatures.”¹ Roughly eight years later, the Indonesian central bank (“Bank Indonesia”) named it “virtual currency,” defining it as “digital money issued by a party other than the monetary authority, obtained by way of mining, purchase or transfer of reward, and including Bitcoin, Blackoin, Dash Dogecoin, Litecoin, Nxt, Peercoin, Primecoin, Ripple, and Ven.” (Official Elucidation of each of Art. 34 Item. (a) of BI Reg. 18/69/ PBI/2016 and Article 8 of BI Reg.19/12/ PBI/2017). This definition not only deviates from the accepted definition in other jurisdictions² but it is clearly misleading. For instance, notwithstanding its definition as digital “money,” it is not legally recognized as a valid payment instrument in Indonesia (Article 8 of BI Reg.19/12/PBI/2017). Nor is it recognized as a legal currency, at all, despite being termed virtual “currency,” because the Rupiah is the only national currency in Indonesia (BI Reg. No.7/2011). In other words, the terms “digital money” or “virtual currency” do not help us to grasp what it is.

Still, the biggest problem underlying the virtual currency ecosystem in Indonesia is not the misleading definition, but the lack of a clear direction in national policy regarding how to specifically regulate the cryptocurrency market and legally protect the variable parties.

A series of Indonesian policies toward cryptocurrency to date seem to be skeptical as to whether its ecosystem can contribute to national financial stability and sound economic growth. First, BI Regulation Number 19/12/PBI/2017, prohibiting fintech firms from processing payment transactions that use virtual currency, struck hard at the entire virtual currency ecosystem in Indonesia. Following this ban, Indonesian Bitcoin payment platforms, including Toko Bitcoin and Bitbayar, closed down voluntarily in October 2017, and other surviving virtual currency exchanges such as ArtaBit, Luno and Indodax were gripped by desperate concerns over the government making aggressive moves to wipe out the entire virtual currency industry in Indonesia.³

Second, when the market price of Bitcoin reached its peak from December 2017 to January 2018, the Government’s concerns also reached a new high. Bank Indonesia, the Indonesian Ministry of Finance, and the Indonesian Financial Transaction Reports and Analysis Center (*Pusat Pelaporan dan Analisis Transaksi Keuangan* or PPATK) all issued press releases warning the public against the use of or investment in virtual currency.⁴ At the same time, the Financial Supervisory Services Authority (OJK) and

¹ “We define an electronic coin as a chain of digital signatures.” See Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, 2008, www.bitcoin.org, p.2.

² For instance, New York Codes, Rules and Regulations, Title 23 secs. 200.4–200.20; Regulation of the Conduct of Virtual Currency Businesses, 37 N.Y. Reg. June 24, 2015, Art. 200.2(p); Financial Crimes Enforcement Network, “Application of Fin CEN’s Regulations to Persons Administering, Exchanging or Using Virtual Currencies,” FIN-2013-G001, 18 March 2013; Financial Action Task Force (FATF), “Virtual Currencies – Key Definitions and Potential AML/ CFT Risks,” FATF Report, 2014. 6. p. 4; and 日本 資金決済法 第2條 5項.

³ See Sri Rahayu and Indriana Pramestri, “Fintech 2018 Indonesia,” 21 May 2018, International Comparative Legal Guides, <https://iclg.com/practice-areas/fintech-laws-and-regulations/indonesia>, accessed on 10 August 2018.

⁴ Communication Department of Bank Indonesia, Bank Indonesia Warns All Parties Not to Sell, Buy, or Trade Virtual Currency, 13 January 2018; Indonesian Ministry of Finance, Warning Against the Use of Virtual Currency in Indonesia, 22 January 2018; and PPATK, Beware of the Use of Virtual Currency, 12 February 2018. These reports note in common that (i) virtual currency is not a currency; (ii) the exchange rate of a virtual currency can easily fluctuate and is therefore vulnerable to bubble risks; (iii) there is no authority responsible for virtual currencies and no official administrator; (iv) there is no underlying asset

Bank Indonesia officially urged the public to refrain from owning, acquiring, or trading cryptocurrency following a pre-launch event of cryptocurrency-based investment products by Aladin Capital, a global financial group based in the United States and Switzerland.⁵

Third, as the price of Bitcoin has significantly withered since then, there had been no explicit attempt by the Government to adopt any regulations governing activities with virtual currencies as a part of the fintech industry, until the Futures Trading Regulatory Agency (*Bappebti*), under the Ministry of Trade, announced that it had approved a decree allowing cryptocurrency trading as a commodity on futures exchanges. Although the Investment Watch Task Force under the OJK supervises and monitors suspicious activities, including the field of cryptocurrency,⁶ its reach among the various parties in the market (e.g., investors, owners, sellers, purchasers, developers, exchange business holders, secured creditors, assorted parties in initial public offerings, or any interest holder) has remained quite limited. The failure of the judiciary or academia to explore theoretical development in the field has only worsened the situation.

In other words, at this juncture in its development, Indonesia does not accommodate the fundamental tenets of global policies but has merely clung to piecemeal regulations while evading the rigorous work of successfully creating a clear regulatory approach to this challenging subject. Even though the Government's skeptical stance about the soundness of the cryptocurrency markets is fully understandable, how to protect the various parties in the existing market is a different issue that needs urgent attention from policy makers, legal practitioners, the judiciary and academic researchers. At the least, how the existing statutes can protect the numerous parties and regulate their multifarious activities must be analyzed. In particular, given the increasing number of startup companies that have scrambled for seats in the new market and the large number of related criminal cases reported in other countries (e.g. hacking, embezzlement, etc.), the urgency of this pursuit cannot be stressed enough.

Against this backdrop, this study first assesses what virtual currency "is" under the laws and regulations of Indonesia. This will help clarify the current legal status of virtual currency and its holders, and how to protect the related parties. Subsequently, each activity of the business of virtual currency exchange is analyzed under existing laws and regulations. Even if a direct regulation is newly enacted and enforced, at least some of their activities will still be governed by existing laws and regulations. Lastly, the potential legal problems arising out of the cryptocurrency exchange will be researched.

that serves as a basis for the value; and (v) there is a lack of consumer protection.

⁵ See Adinda Normala, "OJK Warns of New Cryptocurrency-Based Investment", *Jakarta Globe*, 26 January 2018.

⁶ The official full name is "Satuan Tugas Penanganan Dugaan Tindakan Melawan Hukum Di Bidang Penghimpunan Dana Masyarakat dan Pengelolaan Investasi."

II. VIRTUAL CURRENCY UNDER THE CURRENT LAWS AND REGULATIONS OF INDONESIA

A. Is Virtual Currency Personal Property under Book Two of the Indonesian Civil Code?

1. Premise

As explained earlier, the current legal definition of virtual currency is grossly misleading. To avoid misunderstanding, the original definition from the creator of Bitcoin as a chain of digital signatures should be used.⁷ According to Art. 1 Para. 12 of the No.11/2018 Electronic Information and Transactions Act,⁸ an Electronic Signature means “a signature that contains Electronic Information that is attached to, associated, or linked with other Electronic Information for means of verification and authentication.” Therefore, even taking into account the different aspects between “a chain of digital signatures” and an “electronic signature,” it is still difficult to reject its nature as electronic information composed of digitalized signatures to understand the fundamental concept of virtual currency. This paper analyzes virtual currency under the assumption that it is electronic information made of digitalized signatures

2. Its Nature as an Asset and Personal Property

Despite the logical difficulty in recognizing electronic information as a valuable personal property in and of itself, it is extremely difficult from a global perspective to deny the nature of virtual currency as an asset and property under either civil or criminal law, based on its economic value and being widely recognized in the market without prohibition against trading.

The Amsterdam Court views Bitcoin as a personal property, stating “[i]n the court’s view, it thus shows characteristics of a property right.”⁹ As Indonesia still uses the Indonesian Civil Code adopted by the Netherlands in the colonial period, the Dutch Court’s decisions on the same provision may influence Indonesia’s view of the same issue.

In some civil-law jurisdictions, having no specific regulations, the court came to the same or similar conclusion. Absent any particular regulatory oversight with regard to Bitcoin, the Supreme Court in South Korea decided that it can be regarded as an intangible property having a valuable asset and thus can be subject to seizure of hidden assets under the criminal procedures.¹⁰ Furthermore, Russia criminalized Bitcoin as a money substitute, as did Indonesia, recently classifying cryptocurrency as property after a bankruptcy court forced a debtor to include his holdings in his personal wealth.¹¹

Indonesian legal practice is not very different from this global trend. In a recent

⁷ A similar approach is used globally. See Bae Seung Wook, “A Study on the Establishment of the Virtual Currency Legal System,” Foreign Language College of Korea, Doctoral thesis, (2018): 60–62; and Lee Weon Sam, “Understanding and Legal Status of Virtual Currency—Focusing on Bitcoin, The Korea Commercial Cases Association,” *Commercial Cases Review*, 31(2) (2018): 279–307.

⁸ Indonesia, *Undang-undang tentang Informasi dan Transaksi*

⁹ “Naar het oordeel van de rechtbankvertoont het hiermeekenmerken van eenvermogensrecht.” Rechtbank Amsterdam, ECLI:NL:RBAMS:2018:869. C/13/642655.

¹⁰ Korean Supreme Court, 2018Do3619.

¹¹ See Wilma Woo, “Russia: Court Rules Bitcoin is Property in Landmark Bankruptcy Case”, *Bitcoinist*, 8 May 2018. <http://bitcoinist.com/russian-court-rules-bitcoin-property/>, accessed on 14 August 2018.

Indonesian criminal case,¹² the public prosecutor appeared to recognize Bitcoin as personal property in their indictment. The Court accepted it. In the indictment, the public prosecutor called it a separate form of commodity, independent from an internet server, that can be commercially transacted.¹³

Thus, even as virtual currency is a chain of digital signatures, its nature as an asset and personal property seems undeniable. It must be noted that this nature is recognized not because of its practical utility or the characteristics of electronic digital signatures but because of its economic condition—its supply and demand in the market—and the absence of contrary laws and regulations.

The issue, then, is how existing Indonesian laws and regulations are applied to this new type of asset.

3. Absence of *Numerus Quasi-Clausus* Theory in Indonesia

Numerus clausus is a legal principle of property law, rooted in Roman jurisprudence, which limits the number of types of rights that the courts will acknowledge as having the character of “property.”¹⁴ Nowadays, many countries, with either civil-law or common-law traditions, apply this principle.¹⁵

Because the Indonesian Civil Code, codified by the Dutch on 5 July 1830 and

¹² High Court of Jakarta, Case No. 103/PID/2016/PT.DKI.

¹³ The indictment letter reads “Bit Coin is digital money, called internet gold, in the form of the same digital commodity anywhere and can be used to transact online shopping [.] Bit coin is a decentralized network that does not have a server. [And Bitcoin] is automatically connected by bitcoin software of whatever application is employed by the user, which is not in the form of conventional currency, in general, and not determined by central banks in all countries. (*Bit Coin adalah uang digital atau disebut emas internet berupa komoditas digital yang sama di mana pun dan dapat digunakan untuk bertransaksi belanja online, bit coin adalah jaringan terdesentralisasi yang tidak memiliki server dan saling terhubung secara otomatis antar software bitcoin apapun aplikasinya yang digunakan oleh pengguna, yang tidak secaraanya tadalam bentuk mata uang konvensional pada umumnya, yang sudah ditentukan Bank Central di seluruh Negara*)”

¹⁴ Francesco Parisi, “The Fall and Rise of Functional Property”, *George Mason Law & Economics Research Paper* No. 05-38, (November 2005): 18.

¹⁵ For examples of current *numerus clausus* in civil law jurisdictions, Article 175 of Japan Civil Code (Establishment of Real Rights) “No real rights can be established other than those prescribed by laws including this Code.” (Article 185 of South Korean Civil Code (Kinds of Real Rights). “No real right can be created at will other than ones provided for by law or customary law.” In German law, the *numerus clausus* principle has a constitutional foundation and limits property rights in their number (*Typenzwang*) and content (*Typenfixierung*). Alexander Peukert, *Goods allocation as a legal principle XXII*, (Jus Privatum, 2008), p.138. It is no different from many common law jurisdictions nowadays:

“[T]he *numerus clausus* doctrine is characteristic of the post-feudal civil law systems. However, the feudal system is still the basis for property law in England and countries with property law systems which are historically based on English law such as the United States. It will, for that reason, come as no surprise that the *numerus clausus* doctrine, even the concept of *numerus clausus* as such, was hardly ever discussed in English and American legal literature. That seems to be changing. In 1993 Gordley pointed out that, at least from an American perspective, the conceptual differences between civil and common property law are no longer fundamental. In a very interesting, recent, exchange of views, Hansmann and Kraakman have debated with Merrill and Smith whether the *numerus clausus* doctrine also exists, albeit perhaps implicitly, in American property law. They all seem to agree that in American common law standardisation has taken place, which in its final result comes close to the civil law *numerus clausus*.

Sjef van Erp, “A Numerus Quasi-Clausus of Property Rights As A Constitutive Element of A Future European Property Law?,” *Electronic Journal of Comparative Law* 7, no. 2 (2 June 2003), <http://www.ejcl.org/72/art72-2.html>

enacted in 1948, has its roots in *Code Civil des Francais* or *Code Napoleon*, which adopts the principle of *numerus clausus* in Article 544,¹⁶ the same principle should apply in Indonesia as in the Netherlands and France. The main reference in Indonesian Civil Code in this line is Art. 499 stating “[t]he law interprets as assets all goods and rights which can be the subject of property.”

To regulate new forms of rights in property that are not codified under civil codes, *numerus quasi-clausus* has been systematically accepted in a few civil-law states,¹⁷ and further asserted for more variable rights in a number of these jurisdictions, including the Netherlands.¹⁸

In those countries, in an attempt to construe variable rights for virtual currency, some have argued that digital information, or a chain of digital information, itself, cannot constitute assets under the definition of civil code because it is easily duplicated, copied, distributed and transmitted, and thus cannot be deemed as independently existing, identifiable, and controllable. All are elements of goods. Some of them further allege that although virtual currency cannot constitute a traditional asset under the civil code, the rights involved in virtual currency must be protected by widely applying *numerus clausus mutatis mutandis*.¹⁹

Should the same logic be applicable in Indonesia, Book Two of the Indonesian Civil Code would be applicable *mutatis mutandis* to the rights arising out of virtual currency. Unlike these countries, however, Indonesia appears to have barely developed the principle of *numerus quasi-clausus*. This is not surprising given the current level of legal research and education in Indonesia, which lacks any referable collection of academic explication or theoretical development of the Civil Code.

4. Direct Application of *Numerus Clausus*

Against this backdrop, it seems persuasive that Book Two of the Indonesian Civil Code directly regards virtual currency as intangible property. The relevant articles in the Indonesian Civil Code are as follows:

“[a]nything that, due to a property right, comprises part of a property, including products, either produced naturally or through labor, to the extent that these are attached to the branch or roots, or attached to the soil, shall be deemed to comprise part of the assets.” (Art. 500)

“every property is tangible or intangible.” (Art. 503)

¹⁶ See Irawan Soerdojo, “The Development of Indonesian Civil Law,” *Scientific Research Journal* 4, no. 9 (September 2016): 30; and Dhaniswara K. Harjono, “Pengaruh Sistem Hukum Common Law Terhadap Hukum Investasi dan Pembiayaan di Indonesia [The Impact of Common Law Ssytem towards the Investment and Finance Law in Indonesia],” *Lex Jurnalica* 6, no. 3 (2009): 180.

¹⁷ For instance, in South Korea and Japan, *Numerus Quasi-Clausus* (Jun-mul-kwon in Korean and *zyun-bukken* in Japanese) includes fishery right and mining right, both of them are not codified under *numerus clausus* in civil codes.

¹⁸ “I would argue that the strict civil law *numerus clausus* doctrine should not be applied as strictly as it is done in, e.g., the Netherlands. It should develop towards a *numerus quasi-clausus*: some flexibility is needed to regulate new forms of rights in property, such as the trust and time-share arrangements. If the legislature does not act, courts should, but with extreme care.” See van Erp, “A Numerus Quasi-Clausus”; In Japan, 小林-俊・吉田豊「民法總則」東京:井書店,1997,240-241面.

¹⁹ See Bae Seung Wook, “Virtual Currency Legal System,” p. 42

“every property is movable or immovable [...]” (Art. 504).

While the form of intangible property is not specifically identified, the Indonesian Civil Code implies that intangible property is what underlies the right to enjoy property or have economic value. Also, in the absence of direct laws and regulations, there is no prevailing reason to limit the direct application of the Book Two to only corporeal or material assets.

Art. 613 requires a record to show the ownership and/or transfer of the intangible property. Considering that virtual currency can be traded with electronically recorded ownership, account and open records through block chain technology, it satisfies Art. 613 as well.

5. Consequences of Directly Applying Book Two of the Indonesian Civil Code

a. Measure of Damages

If virtual currency is lost or broken, or not properly transacted (i.e., via fraud, cybercrime, erroneous transaction, negligent management, etc.), the measure of damages is quite legally uncertain and the victim can rely only on the terms and conditions of the contract.

Because a virtual currency is not a security, as explained later, the victim of fraud, cybercrime, erroneous transaction, or negligent management cannot be protected under securities regulations to recover the arbitrage. To claim the largest amount of damages, the claimant must be able to cite rules, relevant theories and applicable cases, under Book Two of Civil Code, that the value of his personal property must be measured by (i) the market value at the time of loss; (ii) the historical value; or (iii) the higher of either (i) or (ii). For this purpose, the plaintiff could argue both breach of contract and tort.

On the other hand, the business holder of a virtual currency exchange must be able to produce defenses applicable under Book Two of Civil Code because he is widely exposed to claims regarding a recovery of damages, due to erroneous transactions or late measurements.

In some cases, the court may award damages which go beyond a strict measure of compensation. Examples of non-compensatory damages include nominal damages, aggravated damages, restitutionary damages, and account of profits. In Indonesia, this is left to the Judge, to a great extent, by the principle *ex aquo et bono*.

If the value of the subject matter of the litigation becomes an issue in Indonesian litigation, it generally needs a public appraisal or a relevant authority to measure its value. At this point, however, one cannot determine the most appropriate institution for valuation of virtual currency.

b. The Statute of Limitation Regarding Personal Property Claims

Art. 1967 of Indonesian Civil Code states that “[a]ll legal claims, whether property or individual in nature, expire after thirty years and the individual who invokes the expiration shall not be required to submit any title, and an individual cannot object to this expiration if such is based upon bad faith.”

c. Object of Collateral or Impersonal Security

Although personal property may be used as an object of collateral or impersonal security by writing a contract between parties, using virtual currency as collateral or security brings great legal complexity regarding its precise secured value in virtual currency, the tender of possession, foreclosure, and execution procedures. These are thought to be beyond the purpose of exchange business. Because operators of virtual currency exchanges regard the legal uncertainty as harmful to their business, some foreign exchange business holders use terms and conditions to forbid collateralizing the virtual currency traded in its exchange, or to exempt itself from any consequence of such collateral or security. In contrast, the terms and conditions that Indodax, the biggest player in Indonesian cryptocurrency market, uses at this point do not have stipulations in regard to collateral or security.

d. Death of Virtual Currency Holder

Personal property is subject to the inheritance process, which is notoriously complex in Indonesia. This complexity is partially due to Indonesia Civil Code, which has never been amended since its codification in the beginning of the 19th century, and additionally because of mixed practice with Islamic law, which can conflict with relevant provisions in Civil Code. The details of this complexity are beyond the purpose of this paper and thus are not discussed.

e. The Nature of Virtual Currency Exchange

As explained later, Indonesian legal expert and financial supervisory service opinions are gradually converging to the view that virtual currency is a part of fintech. If a virtual currency is indeed recognized as a property within the fintech sector, virtual currency exchange could constitute an exchange of personal financial properties in the absence of a separate regulation. In Indonesia, there is as yet no umbrella regulation to govern an exchange business of financial products.

B. Is Virtual Currency a Contractual Right under Book Three of the Indonesian Civil Code?

Digital information, in and of itself, does not constitute a contract. Virtual currency is merely an object of mining, purchase, and transfer.²⁰ However, it can be subject to a contract insofar as is not used as payment or for criminal activities.

Although not stated among the examples in BI Reg. 18/69/PBI/2016 and BI Reg.19/12/PBI/2017, Ethereum is widely exchanged as one of the virtual currencies at Indonesian virtual currency exchange, Indodax. It is also globally known as having a nature of so-called “smart contract.” A smart contract in this context means an encoding function or a computerized protocol that executes designated terms. Nonetheless, the smart contract is not a “contract” under the exact terms of the law. A contract arises from an agreement, or by law (Art. 1233 of Civil Code), not by an encoding function or computerized protocol.

C. Is Virtual Currency Intellectual Property?

The creators of virtual currency have opened it to the global public for free, without registration of intellectual rights. Some of them have not even revealed their

²⁰ Official Elucidation of Art. 34 Item (a) of BI Reg. 18/69/PBI/2016.

identity at all. Therefore, it is difficult for an Indonesian regime to see it as intellectual property as long as the creators register them as industrial properties.

D. Is Virtual Currency a Financial Property?

1. Is Virtual Currency a Property in the Fintech Industry?

Financial Technology or fintech is defined under Indonesian law as “the utilization of technology in financial systems which delivers products, services, technology, and/or a new business model and also has an impact on monetary stability, financial system stability, and/or the efficiency, continuity, security, and reliability of the payment system.”²¹ Therefore, once a certain product or business is recognized by the fintech industry, such a product or business is automatically viewed as a financial product or business.

For now, in the absence of any explicit stipulation, whether the exchange of virtual currency is categorized as financial business or not, Indonesian lawyers, news media, and government officials nevertheless officially state that virtual currency business is one of the areas in fintech.²²

Certainly, by definition, fintech implies the possibility of including a virtual currency exchange. Indonesia’s official fintech categories include “other financial services” that can meet any of the following: “(i) innovation; (ii) ability to have an impact on products, services, technology, and/or on the existing financial business model; (iii) ability to provide benefits for society; (iv) ability to be widely used; and (v) other criteria mandated by Bank of Indonesia.”²³ That is, there is no bright-line rule to exclude virtual currency from the fintech area.

As discussed earlier, virtual currency is likely to be construed as an intangible asset under Book Two of the Indonesian Civil Code and likely to constitute a financial product. As a consequence, the exchange business is subject to compliance with regulations issued and supervised by OJK and Bank Indonesia, including financial consumer protection, privacy and data protection, anti-money laundering, and counter-terrorist financing, the know-your-customer rule, prudential banking, etc. Indeed, OJK made an Investment Watch Task Force to this end, which specifically supervises and monitors any investment involving suspicious activities, including the cryptocurrency trading sector.²⁴

More conclusive legal consequences depend on what type of financial product virtual currency actually is, which is discussed below.

2. Are Virtual Currencies Securities?

Virtual currency does not constitute a security under Art. 1 Para. 5 of No.8/1995

²¹ Art.1 Para.1 of BI Reg. No.19/12/PBI/2017.

²² See Sri Rahayu and Indriana Pramestri, “Fintech 2018 Indonesia,”; and Dita Safitri, “Bappebti Segera Rilis Aturan Aset Digital”, *Dunia Fintech*, 29 April 2018. <https://www.duniafintech.com/bappebti-rilis-aturan-aset-digital/>, accessed on 14 August 2018.

²³ Indonesia, Bank Indonesia, *Peraturan tentang Penyelenggaraan Teknologi Finansial (Regulation concerning FinTech)*, Peraturan BI Nomor 19/12/PBI/2017 (BI Regulation NO. 19/12/PBI/2017).

²⁴ OJK, Press Release: Investment Alert Task Force Suspends 14 Business Activities to Protect Public, 23 Oct 2017. <https://www.ojk.go.id/en/berita-dan-kegiatan/siaran-pers/Pages/Press-Release-Investment-Alert-Task-Force-Suspends-14-Business-Activities-to-Protect-Public.aspx>, accessed on 7 August 2018.

Capital Markets Act and its official elucidation.²⁵ Either a virtual currency is a security or it is not. Some foreign jurisdictions, such as United States, United Kingdom, and Switzerland apply securities regulations to an initial coin offering.²⁶ An initial coin offering or ICO (also referred to as token sale, initial token offering [ITO], or crowd sale) offers existing virtual currency, newly developing virtual currency, or token of certain rights involved in the project to solicit funds from the general public. The details about ICOs are covered later.

Some jurisdictions such as South Korea and China explicitly prohibit ICOs, as of now. The Indonesian regulatory regime does not explicitly prohibit ICOs. The widely accepted legal opinion in the Indonesian market so far seems to be that, by banning the use of cryptocurrencies as payment instruments, Indonesia makes it virtually impossible to carry out ICOs. (Article 8 of BI Reg.19/12/PBI/2017)²⁷

Therefore, the regulations concerning securities or capital markets do not govern virtual currency or virtual currency exchange businesses.

3. Are Virtual Currencies Futures Commodities?

Bappebti has announced its plan to adopt a new regulation governing cryptocurrency transactions. It is not legally impossible to view cryptocurrency as “Futures Commodities” under the Indonesian Futures Commodity Act,²⁸ because trading cryptocurrency practically requires an unguaranteed time gap for orders and encashment. Nevertheless, recent forms of virtual currency, such as Ripple, allow prompted and real-time sales. Hence, defining all the virtual currencies as commodities in futures markets is legally incorrect. Furthermore, trading cryptocurrency in one exchange does not necessitate a time interval as a futures market does.

The new *Bappebti* regulation presumably aims to regulate virtual currency trading as a future, rather than view the exchange of virtual currency, itself, as futures trading.

4. Is Virtual Currency a Currency?

As discussed earlier, virtual currency cannot be used as currency in Indonesia. Notwithstanding its definition as digital “money,” it is not legally recognized as a valid

²⁵ “Securities” means promissory notes, commercial paper, shares, bonds, evidence of indebtedness, Participation Units of collective investment contracts, futures contracts related to Securities, and all derivatives of Securities Indonesia, *Undang-undang tentang Pasar Modal (Law concerning Stock Market)*, UU No. 8 tahun 1995 LN No. 64 tahun 1995, TLN No. 3608 (Law No. 8 of 1995, SG No. 64 of 1995), Art. 1, para 5.

²⁶ United States (SEC, “Release No.81207; Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO”, July 25, 2017); Switzerland (FINMA, “Regulatory treatment of initial coin offerings”, FINMA Guidance 04/2017, 2017.9.29), and United Kingdom (FCA, “Initial Coin Offerings”, Statements, 2017.9.12).

²⁷ “Similar to a virtual currency, the ICO is not yet specifically regulated under the prevailing laws and regulations in Indonesia. At this stage, a definition of or coverage of an ICO is also not available under this existing regulations...Taking a conservative approach, it would not appear that an ICO can be deemed a public offering under Indonesian law.” Fahrul S Yusuf and Harry Kuswara, “Weighing the future”, *International Financial Law Review*, 16 July 2018.

²⁸ “A Commodity means any goods, service, right or other interest... subject of a Future Contract [...]” and “Future Contract means a form of standard contract for a sale or purchase of a Commodity with a future settlement stipulated in the contract, which is tradable on the Futures Market.” Art.1 Para. 2 and 5 of Law No.19/2011 (amendment of Law No.32/1997 concerning Future Commodity).

payment instrument.²⁹ Nor is it recognized as a legal currency despite being called a virtual “currency,” because the Rupiah is the only national currency in Indonesia (BI Reg. No.7/2011).

5. Is Virtual Currency Electronic Money?

Electronic money or e-money is used as a payment system and is governed by a separate regulation.³⁰ The business holder of e-money is required to have a Payment System License as an electronic money operator issued by Bank Indonesia.³¹ In contrast, as explained, virtual currency cannot be used as a payment system.

6. Is Virtual Currency A New Type Of Financial Property?

As discussed, virtual currency does not suitably belong to any existing financial product, even though the Indonesian government recognizes it as a financial technology and the criminal courts recognize it as a property. Thus, it must constitute a new financial property that can be commercially used or transacted insofar as it is not used as a payment method and the way of use does not violate laws and regulations. The OJK has expressed the same opinion.³²

III.LEGAL CONSIDERATIONS ON EACH ACTIVITY IN A VIRTUAL CURRENCY BUSINESS

A. BKPM License

At this juncture, the business of virtual currency exchange is a “web portal service,” which maintains an online system technology service as a platform to introduce and trade virtual currencies.³³

A provider of trading transactions through an electronic system with an investment value of less than Rp 100,000,000,000 (one hundred billion Rupiah) is open for foreign investment up to a maximum of 49% under the negative list. If the company carrying out a web portal service has an investment value of more than Rp 100,000,000,000 (one hundred billion Rupiah), it is open 100% for foreign investment.

B. Approval from Bank Indonesia for Interoperation with a Bank Account

A purchaser of cryptocurrency must first settle deposits into a bank account. Either the bank will use a virtual account, internal gateway, or an external gateway

²⁹ Article 8 of BI Reg.19/12/PBI/2017.

³⁰ BI Reg. No. 18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing

³¹ There are 29 license holders as of July 27th 2018. See Bank Indonesia, “List of Electronic Money Operators Licensed by Bank Indonesia Bank and Non Bank Institutions”, 27 July 2018 <https://www.bi.go.id/en/sistem-pembayaran/informasi-perizinan/uang-elektronik/penyelenggara-berizin/Pages/default.aspx>, accessed on 14 August 2018.

³² “Sampai sekarang belum ada yang cocok ‘udukannya’. Ini aset baru dunia digital. Disebut komoditas mereka ngga cocok, Bitcoin ini aset digital yang ada di server. Apakah ini uang? Tidak. Ketiga, apakah produk yang ada di area investasi? Kami tanya ke expert, underlying tidak ada. Jadi, susah memasukkan ke dalam tiga jenis tadi,” Said Fithri Hadi Direktur Inovasi Keuangan Digital OJK. See Nanda Narendra Putra, “Risiko Jual-Beli Bitcoin Tidak Dijamin Otoritas Manapun”, *Hukum Online*, 13 Jan 2018.

³³ The KBLI Code for “Web Portal” is 63122 concerning Web Portals and/or Commercial-oriented Platforms.

provider.³⁴

If a virtual currency exchange must arrange with a bank to launch a payment system for the customer's purchase of virtual currency, it will need prior approval from Bank Indonesia.³⁵ The burden is on the payment system provider to not engage with unregistered fintech entities. Non-compliance is subject to an administrative sanction.³⁶ In other words, if the arrangement is not for a payment system but for saving and transacting other activities, it is not necessary to obtain prior approval from Bank Indonesia.

C. Registration at Ministry of Communications and Informatics (MICT)

As far as the virtual currency exchange platform relies on internet/online media, the business of a virtual currency exchange is subject to Law No. 19/2016 and GR No. 82/2012, since this type of business is deemed the operation of an electronic system and the company is deemed an operator of an electronic system.³⁷

Consequently, the company would have to register with the MICT as an Electronic System Operator for public services (Art. 5 Para. (1) of GR No. 82/2012 in conjunction with Art. 3 Para. (1) of MCIR No. 36/2014). Then, the registration of an electronic system is valid for five years from the issuance of the MICT registration certificate (Art. 11 of MCIR No. 36/2014). However, prevailing Indonesian laws and regulations are silent regarding the sanction for failure to register.

Further, as an Electronic System Operator, the business holder is obliged to place a data center and a disaster recovery center in Indonesian territory for the purposes of law enforcement, and protection and enforcement of state sovereignty over citizen data (Art. 17 of GR No. 82/2012).

³⁴ Given Art. 24 Para. 1 of No.77/POJK.01/2016 concerning P2P Lending ("P2P Lending Regulation"), a use of virtual accounts may be similarly required to a business operator of virtual currency exchange. The underlying assumption in this policy is that it would protect customers better than the gateway system does because customer's money deposited in a virtual account is legally presumed to be owned and possessed by the customer. There are contrary legal opinions in the gateway system, however. For details, see 장순필, 인도네시아의 클라우드 펀딩 규제, 한국상사판례학회, 상사판례연구 31권2호, 2018, 309-345.

³⁵ BI Reg. No.18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing; BI Circular Letter No.18/41/DKSP concerning the Implementation of Payment Transaction Processing.

³⁶ Both regulations contain information on the licensing (approval from Bank Indonesia) as well as the requirements for (i) the Payment System Services Provider (*Penyelenggara Jasa Sistem Pembayaran* or "PJSP") and also (ii) the Payment System Supporting Provider (*penyelenggara penunjang sistem pembayaran*).

PJSP are parties responsible for the implementation of the authorization stage, and/or clearing or settlement in processing payment transactions. PJSP parties consist of the principal, switching organizer, publisher, acquirer, payment gateway provider, clearing organizer, final settlement organizer, fund transfer organizer and electronic purse/wallet organizer.

The Supporting Provider are the parties that provide services to the PJSP in order to support the implementation of payment system services activities, including card issuing services, and personalization of payment instruments. In addition, they provision data centers and/or disaster recovery centers; terminals, including ATMs, EDCs and readers; security feature instruments and/or payment transactions; supporting technology for contactless transactions, and routing of data support for processing payment transactions.

³⁷ Art. 1 Paras. (5) and (6a) of Law No. 19/2016 and Art. 1 Paras. (1) and (4) of GR No. 82/2012 read: "Electronic System means a series of devices and electronic procedures that serve to prepare, collect, process, analyze, store, display, publish, transmit, and/or distribute electronic information."... "Operator of Electronic System means any person, state administrator, business entity, or community which provides, manages, and/or operates an Electronic System individually or jointly for Electronic System users for its own purposes and/or the purposes of another party."

D. Identification and Verification under Anti-Money Laundering Regulation, and the Know-Your-Customer Rule

Anti-money laundering and know-your-customer regulations are the key legal frameworks governing aspects of cryptocurrency businesses in foreign jurisdictions. The significance of anti-money laundering and prevention of terrorism cannot be overemphasized in Indonesia, due to its political backdrop and increasing domestic terror attacks.

In Indonesia, BI Reg. No.19/10/PBI/2017, concerning Implementation of Anti-Money Laundering and Prevention of Terrorism Funding for Payment System Services Other Than Banks and Foreign Currency Exchange Activities of Non-Banks, does not govern virtual currency exchange because virtual currency cannot be used as a payment system, as discussed earlier.

Similarly, the existing know-your-customer rule also does not govern virtual currency exchange as it concerns “principles applied by a bank to establish customer identity and monitor transaction activity, including reporting of Suspicious Transactions.”³⁸ Bank Indonesia states that the principle is designed to protect the banking system from being directly or indirectly exploited by criminals for money laundering.” (No.3/10/PBI/2001) In the meantime, The Bappebti Regulation No.2/2016 applies the Know-Your-Customer Principles for future trading service providers.

Importantly, the information for identification required by the rules and the regulations differ from one another.³⁹ Indodax, the biggest Indonesian-based

³⁸ Bank Indonesia’s 2003 Guide to Standards for Application of Know-Your-Customer Principles.

³⁹ Under Art. 16 Para. (1) Item a. and Para. (2) Item a. of BI Reg. No.19/10/PBI/2017, identification and verification for a prospective individual customer requires at least the following information: full name including alias(es), if any; identity document number; residential address according to identity documents and other residential address, if any; place and date of birth; citizenship; phone number; work; sex; and biometric signatures or data. To verify the above information, the business operator must ask the prospective individual customer to submit the following documents: Identity Card (KTP); Driver License (SIM); Passport; or Other official documents issued by Government agencies.

Under Art. 16 Para. (1) Item b. and Para. (2) Item b. of BI Reg. No.19/10/PBI/2017, identification and verification for prospective business customers requires at least the following information: name of the business entity; form of legal or business entity; address and date of establishment; business license number; address of domicile; type of business or activity; and phone number. To verify the above information, the business operator must ask the prospective customer to submit the following documents: deed of establishment and/or articles of association, budget and amendments, if any; business license or other permit from a competent authority; Taxpayer Identification Card (NPWP) for Service User who is required to have NPWP in accordance with the provisions of legislation; and identity documents of natural persons authorized to act for and on behalf of the business entity.

In the meantime, the standard for future markets is different. According to Art.14 Para. (2) Item a. of Bappebti Regulation No.2 of 2016, identification and verification for a prospective individual customer requires the following information: data in accordance with identity documents (namely, name, identity number, address, place and date of birth, sex and citizenship); current residential address (if different than identity documents); telephone number; marital status; work; workplace address and phone number (if available); average annual income; sources of funds; the purpose and purpose of the transaction; Taxpayer Identification Number (NPWP); and bank name and account number. To verify the above information, the business operator must ask the prospective individual customer to submit the following documents: photocopy of Identity Card (KTP) for an Indonesian citizen; or photocopy of Passport, for foreign citizen.

Under Art.14 Para. (2) Item b. of Bappebti Regulation No. 2 of 2016, identification and verification for a non-individual prospective customer requires at least the following information: name; license number

cryptocurrency exchange since it was founded in 2013,⁴⁰ currently requires a photocopy of the customer's face for identification. However, this is not required by any of the above regulations. In other words, the industry standard seems to have been built by the market players themselves, who must protect themselves from legal risks in the absence of specific regulations.

E. Maintenance of Customer Deposits

Regarding the deposit that customers settle, the business holder of a virtual currency exchange must not use the settled deposits for his own ends, beyond the settlor's own purpose. This is the same regardless of the account type—virtual, gateway, escrow, custodian, savings, et al— or whatever bank account is used for the transaction.

Virtual accounts are essentially non-physical accounts that can be used by a corporation to optimize their working capital processes, depending on the customer. In the meantime, gateways use the bank account under the exchange business operator's name. Notwithstanding a lack of regulation in Indonesia to clearly distinguish each other with regard to the customers' rights over the settled deposit, the generally accepted view is that virtual accounts are more protective of the settlor's rights.⁴¹

There are a number of ways to explain the legal relationships between deposit settlors and business operators, all of which have problems in Indonesia.

- (a) a bailment relationship between a bailor (customer or settlor) who transfers his physical possession of money to a bailee (business operator). In this case, the bailment relationship under Chapter Two, Book Two of the Indonesian Civil Code governs only property, not money;
- (b) a custodian relationship, in that the custodian (business operator) legally holds money on behalf of customers who seek to invest their funds in virtual currency. To enjoy the custodian relationship for the investment fund, the business operator must obtain a business license according to Bapepam Rule No. IV.A.5 on Guidelines of Custodian Contracts of Corporate Investment Fund's Assets, whose purpose is clearly not for the business of virtual currency exchange;

or business license number from authorized institution; business/activity field; address of position; phone number; place and date of establishment; beneficiary(ies) identity (if any); source of funds; the purpose of the transaction; bank name and account number; taxpayer identification number (NPWP); and data and information that provides the power of running the transaction.

⁴⁰ So far, Indodax occupies the biggest market share in Indonesia. See Aakanksha Rana, "Dash, NEM [XEM], Dogecoin [DOGE], and Bitshares [BTS] now available on Indodax", *AMBCrypto*, 25 July 2018 <https://ambcrypto.com/dashnem-xem-dogecoin-doge-and-bitshared-bts-now-available-on-indodax-for-trading/> accessed on 7 August 2018.

⁴¹ In a certain fintech area of Indonesia, use of virtual accounts are already mandatory. Virtual accounts are essentially non-physical accounts that can be used by a corporation to optimize their working capital processes depending on each customer. According to the official elucidation of Art. 24 Para. 1 of P2P Lending Regulation, the mandatory virtual account aims to prevent a P2P Lending Broker from moving the lender's money into its own bank account. If a lender's money is deposited in a P2P Lending Broker's bank account, it cannot sufficiently protect the lenders, particularly when the P2P Lending Broker becomes insolvent or embezzles. For the sake of protection of lenders, then, their money should be entrusted and maintained by banks or other credible financial institutions, preventing the P2P Lending Broker from withdrawing and using it. It also helps the lenders stand in the proper priority in cash collection when a P2P Lending Broker cannot maintain the business due to insolvency or for any other reasons.

- (c) a depository relationship between depositors (investors) who have a conditional right to claim a refund of deposits and a depository (business operator). A depository relationship presumes that a depository can spend the settled money and therefore such a depository business can be carried out only after obtaining advance approval and license from Bank Indonesia and OJK;
- (d) a creditor-debtor relationship with securities between the creditor (settlor) who has a determinable receivable against the business operator at the time they withdraw their deposits. It is not an intent of settlor to lend money to the business operator, nor does the business operator desire to borrow the money without interest;
- (e) a trust relationship between beneficiaries (settlor) and a trustee (business operator). The legal theories concerning trust relationships are not widely recognized in Indonesia and thus applying trust relationships from common law to Indonesia is not appropriate and cannot fully protect either side;
- (f) a principal-agent relationship that carries on administrative and miscellaneous duties between a principal (settlor) and an agent (business operator) on the principal's behalf for the investment in virtual currency. The customer and business operator do not form a mandatory power of attorney (*surat kuasa*), which must be specified in detail as required by legal practice.

Consequently, the relationship between customers and business operators regarding a cash deposit does not belong to any of the classic legal relationships and must be explained only by the terms and conditions. Despite how it is stipulated there, any use of the settled deposit other than its stated purpose is likely to be considered embezzlement or fraud.

F. Initial Coin Offering

An ICO is an unregulated means of raising capital for a new cryptocurrency venture. Every ICO starts with a white paper similar to a prospectus that describes the project of a new virtual currency development and the rights given to investors. The white paper often determines a minimum and a maximum amount of coins for subscription for the project to go live. The issuer puts in place a smart contract on a blockchain and investors instruct their digital wallet to subscribe to a certain number of tokens, generally either Bitcoin or Ether. Here, as discussed earlier, a smart contract in this context means an encoding function or a computerized protocol that executes the operation and the outcome of the ICO. Then, the wallet sends the amount of the requested virtual currency to the smart contract address. Once the minimum number of token is reached, it automatically transfers the digital currency into the wallet of the issuer and registers the tokens into the account of the subscribers. If the minimum amount is not reached, the smart contract automatically transfers the virtual currency back into the wallet of the sender.

There are a number of legal issues involved in the ICO.⁴² That said, the ICO is irrelevant to these global issues with regard to framing regulations, however, since ICOs are not permitted in Indonesia at this juncture.⁴³ Therefore, a cryptocurrency exchange business that wants to raise capital with an ICO must use a separate foreign entity in another jurisdiction.⁴⁴

⁴² Iris Barsan. "Legal Challenges of Initial Coin Offerings (ICO)," *Revue Trimestrielle de Droit Financier* 3 (2017): 54–65.

⁴³ *Ibid.*

⁴⁴ "Crypto trading and payments are both legal in Singapore. The country doesn't even place any major

IV. POTENTIAL PROBLEMS

A. Malware, Hacking, Malfunction, and Congestion

If a customer's virtual currencies are hacked, stolen or lost and such a hacking is not caused by customer negligence (e.g., failure to log out, leaking his/her pin codes, etc.) or willful conduct (e.g. joint offender in the hacking), the virtual currency exchange is initially liable for the loss to the customers and has a right to indemnity against the perpetrator (e.g. the hacker). This is same with any electronic problem causing a loss to customers including malfunction, congestion, and malware.

The question is whether terms and conditions could validly exempt the cryptocurrency exchange itself from a loss of customers by a third person's cybercrime. This must depend on whether the specific cybercrime is attributable to the customer or not. For instance, the cryptocurrency exchange cannot have any control over individual customers' node(s) and each customer has the better position to protect him/herself from session hijacking⁴⁵ or spoofing.⁴⁶ If the cybercrime is the one that cannot be attributable to the customer by any means, the business holder of cryptocurrency will not successfully hide himself behind an unfair boilerplate contract.

B. Embezzlement

If the business operator uses the deposited money for other than the purpose of the customers' deposits, that would constitute embezzlement (Art. 372 of the Indonesian Criminal Code) and fraud (Art. 378 of the same law), each of which carries a maximum sentence of four years. A similar case recently occurred in South Korea, where the CEO of Korean crypto exchange has been arrested for embezzlement and fraud.⁴⁷

C. Customer's Use Of Service For Criminal Purposes

Once any customer is found to have used the service for money laundering, terror, cybercrime, illegal monetary transaction or any other criminal purpose, only the individual perpetrator will be subject to criminal sanction, insofar as the exchange business operator did not join or aid and abet the criminal activities. Nonetheless,

regulatory requirement. The government's attitude is very relaxed when it comes to crypto regulation. [...] The ICOs are traded as securities by Singapore's Monetary Authority." See Shubham Dwivedi, "South East Asia: The State of Crypto and ICO regulation," *Koinalert* 23 June 2018. <https://www.koinalert.com/south-east-asia-the-state-of-crypto-and-ico-regulation/>, accessed on 13 August 2018. Indodax conducted ICO using a Singapore subsidiary in 2018. See Francisco Memoria, "TRON Enters Indonesia as Local Exchange Indodax Adds TRX/IDR Trading Pair," *Cryptoglobe*, 3 June 2018 <https://www.cryptoglobe.com/latest/2018/06/tron-enters-indonesia-as-local-crypto-exchange-indodax-adds-trx-idr-trading-pair/>, accessed on 13 August 2018.

⁴⁵ In computer science, session hijacking, also known as cookie hijacking, means the exploitation of a valid computer session to gain unauthorized access to information such as ID and password.

⁴⁶ In the context of network security, a spoofing attack is a situation in which a person or program successfully masquerades as another by falsifying data, to gain personal information such as ID or E-mail address.

⁴⁷ Dahee Kim, "South Korean cryptocurrency executives detained over alleged embezzlement", *Thomson Reuters*, 5 April 2018. <https://www.reuters.com/article/us-crypto-currencies-southkorea-arrests/south-korean-cryptocurrency-executives-detained-over-alleged-embezzlement-idUSKCN1HC07D>, accessed on 14 August 2018.

there is a strong likelihood that any criminal investigation will be instituted by OJK or the public prosecutor against the business operator, whether or not it uses the appropriate terms and conditions.

V. CONCLUSION

Even though there is no such thing as a legal vacuum or a regulation-free zone, as some defenders of virtual currency might like to think, it is crystal clear, at least, that Indonesia does not have a fundamental keynote toward virtual currency at a basic level. Considering Indonesia's recent legal policy development toward cryptocurrency, it is pertinent to ask whether this new investment market poses any more risk to Indonesia than how to protect the existing variable parties by overall structural formation. I contend that any effective implementation of this new ecosystem requires machinery derived from more fundamental concepts and direction.

Of course, there are a number of challenges when it comes to enacting direct regulation. It is first necessary to define virtual currency to apply a set of predetermined rules. That is already challenging enough, given the diverging voices and visions of a future global cryptocurrency. Even if the legal concept and regulatory frame is structured, the execution and enforcement would be challenging: once the relevant rules are determined, the conflict of laws and jurisdictions question kicks in.⁴⁸ These challenges must be overcome under the clear direction of national policy.

⁴⁸ See Barsan, "Legal Challenges of ICO," pp 54–65.

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