

Juridical Analysis of Crypto Assets as Property in Indonesian Civil Law

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KEYWORDS	ABSTRACT
crypto assets, blockchain technology, digitalization, financial sector innovation, cryptocurrency regulation	The development of technology and digitalization has brought significant changes to various aspects of life, including the financial sector. One of the key innovations is crypto assets, which are digital assets utilizing cryptographic technology and <i>blockchain</i> for transaction security and verification. These assets have become a global phenomenon, attracting attention from the public, market participants, and regulators, including in Indonesia. This study aims to analyze the legal status of crypto assets as property under Indonesian Civil Law. The rapid development of cryptocurrency and digital assets has raised questions regarding their classification as property and how they should be treated within existing legal frameworks. This research examines whether crypto assets can be considered as movable property under the Indonesian Civil Code (<i>Kitab Undang-Undang Hukum Perdata</i>) and explores the implications of this classification on property rights, transactions, and legal protections. Through a juridical analysis, this paper investigates the legal challenges and opportunities presented by crypto assets, particularly considering the legal void in Indonesian legislation regarding digital assets. The study concludes that, while crypto assets are not explicitly regulated under current Indonesian Civil Law, they may be categorized as movable property with certain legal considerations, especially in terms of ownership, transfer, and dispute resolution.

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Introduction

The development of technology and digitalization has brought significant changes to various aspects of life, including the financial sector and economic transactions. One of the innovations emerging from these developments is crypto assets or *cryptocurrency*, which have become a global phenomenon and have attracted considerable attention from the public, market participants, and regulators in various countries, including Indonesia (Baiquni et al., 2023). Crypto assets are essentially digital assets that utilize cryptographic technology and a decentralized system known as *blockchain* for transaction security and verification (Albayati, 2022; Herskind et al., 2020a; Joo et al., 2019; Mashatan et al., 2022; Mohamed & Mohamed, 2020).

The emergence of *Bitcoin* in 2009 marked an early milestone in the development of crypto assets, subsequently followed by thousands of other cryptocurrencies such as *Ethereum*, *Ripple*, and others. This phenomenon has created a new paradigm in the financial system, with the potential to transform how people transact without reliance on conventional banking systems or central monetary authorities ((Bappebti), 2021; Boneh & Shoup, 2020; Campino & Rodrigues, 2024; Herskind et al., 2020b; Katz & Lindell, 2020). While crypto assets offer several advantages, such as transaction efficiency, relatively low transfer fees, and promising investment potential, their existence also presents various legal challenges, particularly in the civil law context in Indonesia (Aulawi, 2024).

Within Indonesia's civil law framework, which remains largely based on the Dutch colonial Civil Code (*Kitab Undang-Undang Hukum Perdata* or *KUHPerdata*), the legal status of crypto assets remains ambiguous. The fundamental question that arises is whether crypto assets can be categorized as *objects* (*benda*) within the meaning of the Civil Code. This qualification is crucial, as it determines the applicable legal regime for crypto assets in various aspects of civil law, such as property rights, security interests, inheritance, and others.

Although specific regulations regarding crypto assets have begun to be issued by the Commodity Futures Trading Supervisory Agency (*Badan Pengawas Perdagangan Berjangka Komoditi* or *Bappebti*), which classifies cryptocurrencies as commodities tradable on futures exchanges, comprehensive and clear regulations regarding their material status have yet to be established. Therefore, it is important to conduct an in-depth study of the qualification of crypto assets as *objects* from the perspective of Indonesian civil law (BAPPEBTI, 2019, 2021; Indonesia, 2011).

Aulawi (2024) examines the legal challenges faced by crypto assets within the Indonesian legal system, particularly regarding their material status as *objects* under the Civil Code and the legal implications for property rights, security interests, and inheritance. This study focuses on the key issue of how crypto assets should be categorized as *objects* under Indonesian law. However, while it provides valuable insights into the ambiguity of crypto assets' position within the existing legal framework, it does not offer clear solutions concerning the legal reforms needed to accommodate this new technology. Additionally, it does not explore in depth the broader impact of crypto asset development on regulatory frameworks and the wider legal system in Indonesia.

Another study by Baiquni et al. (2023) discusses the phenomenon of crypto assets as part of digitalization and technological advancement, emphasizing their potential to transform traditional financial systems. While this research highlights the benefits and challenges of crypto assets, particularly in terms of transaction efficiency and low transfer costs, it does not address the legal implications of the emergence of crypto assets within Indonesia's legal framework, especially the uncertainty faced by stakeholders. The study mainly focuses on technical and economic aspects without linking them to the legal perspective, which could significantly influence the development of crypto assets in Indonesia.

This study aims to analyze the qualification of crypto assets as *objects* within the Indonesian civil law system based on the Civil Code, identify the juridical implications of this qualification on

property rights, security interests, and inheritance, and examine the legal protection available to crypto asset owners from the perspective of Indonesian property law. The benefit of this research is to contribute to the development of clearer regulations regarding the material status of crypto assets in Indonesia and to provide in-depth legal insights for stakeholders in managing, protecting, and optimizing the use of crypto assets in the country.

Materials and Methods

The research method employed in this study is a normative juridical approach, which aims to analyze the legal challenges and opportunities presented by crypto assets within the context of Indonesia's legal system. This approach involves the examination of applicable legal norms, particularly those contained in the Civil Code (*Kitab Undang-Undang Hukum Perdata* or *KUHPerdata*) and other relevant regulations concerning the status of crypto assets as legal objects. The study evaluates whether crypto assets can be categorized as objects (*benda*) under Indonesian law and analyzes the juridical implications arising from this qualification, especially in relation to property rights, security interests, and inheritance.

Furthermore, the normative juridical approach includes an analysis of the legal void (*rechtsvacuum*) present in the regulations regarding digital assets in Indonesia and how this gap may impact the rights and legal protection of crypto asset owners. The study seeks to identify and elaborate on existing legal gaps, providing recommendations for the formulation of clearer and more comprehensive regulations to accommodate the rapid development of digital technology, particularly with respect to the management and legal protection of crypto assets.

Results and Discussion

Basic Concept of Crypto Assets and Their Characteristics

Crypto assets or cryptocurrencies are essentially a form of digital currency designed to serve as a medium of exchange using cryptographic technology to secure financial transactions, control the creation of additional units, and verify asset transfers (Noh & Bakar, 2020). In contrast to conventional financial systems that are centralized and controlled by monetary authorities such as central banks, crypto assets operate through a decentralized system known as a blockchain. This blockchain technology is a distributed database that records all transactions in interconnected blocks and is secured through cryptography (Jeegers, 2023; Kochergin, 2022; Morozova et al., 2020; Omelchuk et al., 2021).

Some of the key characteristics of crypto assets that are relevant in the context of physical analysis include:

- 1) Intangibility: Crypto assets have no physical form and only exist in digital form.
- 2) Economic value: Although intangible, crypto assets have economic value that can be measured and traded.
- 3) Portability: Crypto assets can be transferred from one party to another through a blockchain network.

- 4) Exclusivity of ownership: Ownership of crypto assets is exclusive through the possession of a "private key" that gives full control to the owner.
- 5) Quantity limitations: Some crypto assets such as Bitcoin have a maximum amount that can be created, so they have the characteristic of scarcity.

In Indonesia, the development of crypto assets began with the emergence of crypto asset trading platforms around 2014, although at that time it had not received official recognition from the government. Only in 2018, through the Regulation of the Commodity Futures Trading Supervisory Agency Number 5 of 2019 concerning Technical Provisions for the Implementation of the Physical Market of Crypto Assets on the Futures Exchange, crypto assets were officially recognized as commodities that can be traded on the futures exchange. This regulation was then updated with Bappebti Regulation Number 8 of 2021.

Concept of Objects in the Civil Code

To analyze the qualification of crypto assets as objects, it is important to first understand the concept of objects in the Civil Code. In the Indonesian civil law system, the regulation regarding objects (*zaak*) is contained in Book II of the Civil Code on Property.

Article 499 of the Civil Code states: "According to the understanding of the law, what is called material is, every property and every right, which can be controlled by property rights." From this definition, it can be understood that the objects in the Civil Code include two things, namely:

- 1) Goods (*goed*), which refers to tangible material objects or tangible objects.
- 2) Recht (*recht*), which refers to immaterial objects or intangible objects.

Furthermore, the Civil Code divides objects into several classifications:

- 1) Tangible and intangible objects: Based on Article 503 of the Civil Code, objects can be in the form of tangible objects (*lichamelijk zaak*) and intangible objects (*onlichamelijk zaak*).
- 2) Movable and immovable objects: Article 504 of the Civil Code divides objects into movable objects and immovable objects. Movable objects can be further divided into movable objects due to their nature (Article 509 of the Civil Code) and movable objects due to the provisions of the law (Article 511 of the Civil Code).
- 3) Expendable and non-expendable objects: Article 505 of the Civil Code regulates expendable and non-expendable objects. Expendable objects are objects that are used up because they are used, while objects that cannot be spent are not used up because they are used.
- 4) Existing objects and objects that will exist: Article 1334 of the Civil Code distinguishes between objects that already exist (*tegenwoordige zaken*) and objects that will exist (*future zaken*).

Important criteria in determining whether something can be categorized as an object according to the Civil Code are:

- 1) Can be controlled by humans (appropriability).
- 2) Has economic value.
- 3) Transferability.
- 4) Ownable.

Juridical Analysis of Crypto Assets as Objects in the Civil Code

To analyze whether crypto assets meet the qualifications as objects according to the Civil Code, it is necessary to analyze the characteristics of crypto assets in relation to the concept of objects in the Civil Code.

Crypto Assets as Intangibles

Crypto assets obviously do not have a physical form because they only exist in digital form within the blockchain network. Therefore, if categorized as objects, crypto assets are included in the category of intangible objects (*onlichamelijk zaak*) as referred to in Article 503 of the Civil Code (Wibowo et al., 2024).

In this context, crypto assets have similarities to other forms of intangible objects known in civil law such as intellectual property rights, stocks, or other securities. However, the main difference is that crypto assets are not issued by a centralized entity such as a corporation (in the case of stocks) or a state (in the case of government securities) but rather are created and operated through a decentralized system.

Crypto Assets as Movable Objects

Referring to Article 509 of the Civil Code, movable objects are objects that can be moved or moved. Meanwhile, Article 511 of the Civil Code states that what is considered a movable object because of the provisions of the law are the rights to movable objects.

Crypto assets can be transferred virtually from one owner to another through transactions within the blockchain network. Therefore, crypto assets can be categorized as movable objects, both because of their virtually movable nature and because they resemble rights to movable objects (Baiquni et al., 2023).

Categorization as a movable object is important because it determines the applicable legal regime, such as the way of transfer and encumbrance. Movable objects can be transferred by means of real surrender (*feitelijke levering*) or symbolic surrender.

Crypto Assets in the Context of Material Criteria

If analyzed based on material criteria in the Civil Code, crypto assets show the following characteristics:

- 1) Human-controllable (appropriability): Crypto assets can be controlled through the ownership of a "private key" that provides exclusive access and control over the asset within the blockchain network. Although this control is different from physical control over tangible objects, it conceptually fulfills the element of control that is one of the characteristics of objects.
- 2) Has economic value: Crypto assets have economic value that can be measured with conventional currencies. This value is determined by market mechanisms based on supply and

demand. The existence of this economic value fulfills one of the important characteristics of the concept of objects in civil law.

- 3) Transferability: Crypto assets can be transferred from one owner to another through transactions within the blockchain network. These transfers are permanently recorded and cannot be changed in a distributed ledger. This ability to be transferred is in accordance with the characteristics of the object in civil law.
- 4) Ownable: Crypto assets can be owned exclusively by "private key" holders. This ownership gives the exclusive right to use and transfer such assets. This characteristic is in line with the concept of ownership in civil law.

Based on the above analysis, it can be concluded that crypto assets meet the qualifications of an object in the sense of the Civil Code, especially as intangible objects (*onlichamelijk zaak*) and movable objects. This categorization is supported by the characteristics of crypto assets that can be mastered, have economic value, are transferable, and can be owned.

Juridical Implications of Qualifying Crypto Assets as Objects

The qualification of crypto assets as objects in Indonesian civil law has various juridical implications for aspects of material rights, guarantees, and inheritance.

Implications for Property Rights

If crypto assets are qualified as objects, then material rights (*zakelijke rechten*) can be attached to them as stipulated in Book II of the Civil Code. These property rights include:

- 1) Property rights (*eigendom*): Based on Article 570 of the Civil Code, crypto asset owners have the full right to enjoy and use their assets, as well as transfer them to other parties. The ownership of crypto assets is evidenced through the mastery of the "private key" that provides exclusive control over the asset within the blockchain network.
- 2) Other property rights: Theoretically, crypto assets can also be charged other material rights such as collateral rights, although in practice there are still limitations because there are no specific regulations governing this.
- 3) Legal protection: Because of qualifying as an object, the owner of crypto assets has the right to obtain legal protection against interference from third parties, including in the event of theft or misuse. The principle of *droit de suite* inherent in property rights allows the owner to sue anyone who takes control of his assets unlawfully.

Implications for Assurance Aspects

The categorization of crypto assets as objects has implications for their possible use as collateral objects in loan-borrowing transactions. However, there are some challenges:

- 1) Pawn (*pand*): Theoretically, crypto assets can be pawned objects as intangible movable objects based on Articles 1150-1160 of the Civil Code. However, the "handover" mechanism in conventional pawns needs to be interpreted progressively in the context of digital assets, for

example through the handover of "private keys" or through smart contract mechanisms in blockchain.

- 2) Fiduciary: Crypto assets can also be the object of fiduciary guarantees based on Law Number 42 of 1999 concerning Fiduciary Guarantees which stipulates that the object of fiduciary guarantees includes movable objects, both tangible and intangible. Article 1 number 2 of the Fiduciary Law states that "Fiduciary Guarantee is the right to guarantee movable objects, both tangible and intangible, and immovable objects, especially buildings that cannot be encumbered with the right of dependency..." However, the challenge is in the fiduciary guaranteed registration mechanism that still does not accommodate digital assets such as crypto assets.
- 3) Guarantee execution: Another problem is related to the mechanism for the execution of guarantees in the event of default. The price volatility of crypto assets can make it difficult to assess the value of collateral, and conventional execution mechanisms may not be appropriate for digital assets.

Implications for the Inheritance Aspect

As an object that can be owned, crypto assets also have implications for the inheritance aspect:

- 1) Inheritance object: Crypto assets can be part of the legacy property (boedel) that can be inherited to the heirs under Article 833 of the Civil Code. This means that once the owner of a crypto asset dies, it can pass to his or her heirs.
- 2) Technical challenges: The main challenge in crypto asset inheritance is accessibility. If information regarding the "private key" is not passed on or shared before the owner dies, the heirs may not be able to access the asset even though it legally belongs to them. This is different from conventional assets that can generally be identified and accessed through certain administrative procedures.
- 3) Proof aspect: In the context of inheritance disputes, proving ownership of crypto assets can also be challenging due to the pseudonymous nature of blockchain transactions. In the absence of clear documentation regarding ownership, heirs may struggle to prove that certain crypto assets belong to the heirs.

Legal Protection for Crypto Asset Owners

The qualification of crypto assets as objects provides the basis for legal protection of their owners in the perspective of civil law. Some of the relevant aspects of legal protection include:

Protection of Property Rights

As property owners, crypto asset owners have the right to be protected from third-party interference based on the principle of *droit de suite* inherent in property rights. In the event of theft or misuse of crypto assets, the owner can file a civil lawsuit based on Article 574 of the Civil Code which regulates the demand for return of objects (*revindicatie*).

The challenge in the implementation of this protection is in the aspect of proving ownership and identifying the perpetrators of the breach, given the pseudonymous nature of blockchain transactions. However, advances in digital forensic technology and international cooperation in cyber law enforcement can help address these challenges.

Contractual Protection

In crypto asset transactions through trading platforms (exchanges), crypto asset owners also get protection based on a contractual relationship with the platform. Trading platforms registered with Bappebti are required to comply with various provisions to protect users, including implementing the principles of knowing users, anti-money laundering, and adequate security systems as stipulated in Bappebti Regulation Number 8 of 2021 concerning Guidelines for the Implementation of Crypto Asset Trading on Futures Exchanges.

In addition, based on Article 1338 of the Civil Code, a legally made agreement is valid as a law for the parties who make it. Therefore, crypto asset owners who feel aggrieved by a default by a trading platform can file a civil lawsuit under Article 1243 of the Civil Code regarding compensation due to default.

Protection from Unlawful Acts

Crypto asset owners are also protected from third-party unlawful acts (*onrechtmatige daad*) based on Article 1365 of the Civil Code which states: "Every unlawful act, which brings harm to another person, obliges the person who, by mistake, publishes the loss, to compensate for the loss." This protection covers various forms of unlawful acts such as fraud, market manipulation, or hacking that result in losses for crypto asset owners.

In the digital context, this protection is also strengthened by Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Information and Electronic Transactions which specifically regulates cybercrimes. Article 30 of the ITE Law regulates the prohibition of unauthorized access to electronic systems, which can be applied in cases of hacking to steal crypto assets.

Conclusion

Crypto assets can be classified as objects under the Indonesian Civil Code, specifically as intangible and movable objects, given their characteristics such as control via *private key*, economic value, transferability through *blockchain* transactions, and exclusive ownership. This qualification enables the attachment of property rights, use as collateral (such as pawns or fiduciaries), and inheritance, although practical challenges remain, particularly regarding proof and accessibility. The legal framework also provides protection for crypto asset owners, including property rights based on *droit de suite*, contractual safeguards, and protection from third-party unlawful acts. However, significant practical challenges persist, especially in proving ownership and enforcing rights in the digital domain. For future research, it is suggested that Indonesia develop more comprehensive regulations to address technical and legal challenges related to crypto

assets, including clearer guidelines for transferability, proof of ownership, and enforcement within property and inheritance law, as well as consider updating the Civil Code to better accommodate digital assets and ensure effective legal protection within the evolving legal landscape.

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