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ARTICLE

Legal consciousness and the crypto phenomenon: property ideologies, innovations and potential ramifications on financial system stability

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Abstract

How does the understanding of law among individuals involved in the crypto phenomenon originate, and how does it impact the trajectory of this innovation? This article examines the legal consciousness of crypto industry participants and state actors, exploring their ideologies on law, property and innovation through extensive document and archival research. It highlights the interplay between the crypto industry's perception of crypto-assets' possessing dynamic and self-regulating qualities beyond traditional legal boundaries and the increasing willingness of state actors, despite their reservations, to utilise law as a flexible tool to embrace innovation and promote economic competitiveness. By employing Minsky's financial instability hypothesis, this article contextualises such legal consciousness within the financial system and contends that collective legal consciousness and associated behavioural dynamics substantially shape state–industry interactions, with the potential to destabilise the financial system. This article sheds light on the challenges presented by crypto-assets and the intricate interplay between law and technological advancements.

Keywords: Property law; finance; crypto-assets; legal consciousness; innovation; Minsky

1 Introduction

Crypto-assets have generated significant optimism, presenting themselves as transformative advancements. The invention of Bitcoin, the pioneering crypto-asset, sparked the rapid emergence of diverse crypto communities and a burgeoning crypto industry. Blockchain, the technology that underpins crypto-assets, is believed to offer superior solutions across many sectors. However, the crypto phenomenon has also been fraught with controversies: the downfall of FTX and other crypto exchanges and financial institutions since the early 2020s has prompted global regulators to scrutinise the potential implications for financial systems. Concerns have been raised regarding the speculative nature of crypto markets and the overly optimistic expectations surrounding the capabilities of crypto-assets.

This article seeks to examine the crypto phenomenon from a socio-legal perspective, exploring prevailing perceptions within the crypto industry regarding law and property, the origins of these perceptions, and the implications of these perceptions on interactions with state institutions. Currently, various theoretical works discuss the ideology of crypto-assets as it emerges at the intersections of law, politics and economics. Golumbia (2015) recognises how Bitcoin embodies an interaction between social and technical dimensions, with its ideological foundations rooted in libertarian sentiments rather than in comprehensive critiques of financial frameworks. Sharing similar views, Herian (2018) and Cohen (2019a, 2019b) argue that blockchain technology may

reinforce finance capital's dominance and neoliberal ideology, and its utopianism espouses an ideological purity that contradicts democratic principles. Opting to focus on the optimistic aspects of blockchain technology, theorists have explored its potentials, including forms of sovereignty, design practices to embed legitimacy into blockchain applications and formations of communities of meaningful human interactions (Diver 2021; Manski and Manski 2018; Robb et al 2021). In terms of blockchain's legal implications, Hildebrandt (2024) categorises blockchain technology as code-driven 'law' that works with data analytics to impact legal practices, and Rouvroy and Berns (2013) criticise the prioritisation of predictive analytics over human subjectivity, which can cultivate a hypercompetitive and quantified society. While these works have advanced discussions through the lens of ideologies, their approach is highly theoretical and, at times, makes assumptions about the crypto scene. We thus need to study the perceptions and values within the crypto phenomenon by drawing on the ideas regarding law expressed through the industry stakeholders' own voices and representations in order to understand how particular ideologies are manifested.

Legal consciousness offers a valuable approach in this respect, as it allows us to focus on how people actually experience, understand and interact with the law (Chua and Engel 2019; Halliday 2019). It invites us to explore the empirical realities of law and its associated ideologies. In the context of emerging technologies, legal consciousness provides great insights into how social actors shape the concept of legality and utilise legal frameworks. Given the crypto sphere's lack of precedents and inconsistent regulatory enforcement, exploring the legal consciousness of the actors involved is crucial for uncovering the ideas and conflicts shaping the interaction between law and technological advancements. Moreover, examining legal consciousness in this domain invites us to broaden our perspectives to include state actors, such as government officials and courts, whose decisions influence technological development. As Richards (2015) noted, 'Little attention has been paid to the legal consciousness of individuals applying the law.' State actors' perspectives on the regulatory subject, influenced by their ideological understanding and institutional roles, exert a profound impact on this issue's trajectory (Cooper 1995; Urquiza-Haas and Cloatre 2022).

As crypto-assets disrupt established norms and represent a novel form of property, the surrounding legal consciousness is greatly influenced by crypto-assets' property conceptualisations. These property ideas are intricately linked with legal consciousness and ideologies within the context of technological innovation. Furthermore, by examining the interactions between legal consciousness within the crypto industry and state actors, it becomes apparent that the dynamics of legal consciousness surrounding the crypto phenomenon have broader implications on the crypto system's stability. With the growing popularity of crypto-assets as an investment option, the decisions of individuals, influenced by their legal consciousness, have the potential to profoundly disrupt the financial system.

This article is structured into five parts. Section 2 provides an overview of the crypto phenomenon, tracing its origin and recent developments. Section 3 examines the literature on legal consciousness, emphasising the importance of considering state actors, the interplay between ideologies and innovations and their influence on systemic stability. Section 4 describes the methodology of data collection and analyses the divergent legal consciousness between crypto industry participants and state actors, focusing on property conceptualisations and innovation ideologies. It also explores the potential consequences of legal consciousness dynamics, particularly their impact on the trajectory of the crypto phenomenon and overall financial system stability.

2 The crypto phenomenon

Broadly speaking, crypto-assets are digital representations of value or contractual rights that can be transferred, stored or traded electronically and are cryptographically secured using public, permission-less distributed ledgers known as blockchain (Chakravarty 2020; Dobrauz-Saldapenna

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and Klebeck 2019).[1] The first crypto-asset, Bitcoin, was created by a mysterious person or group named Satoshi Nakamoto in the aftermath of the 2008 financial crisis. In his first Bitcoin forum post, Nakamoto, widely regarded as a cypherpunk,[2] criticised banks for breaching public trust by fuelling credit bubbles and violating privacy (Nakamoto 2009b). In creating Bitcoin, Nakamoto envisioned a decentralised, peer-to-peer electronic transactions system that obviated the need for centralised intermediaries (Nakamoto 2009a). In contrast to fiat money, which originates from state sovereignty and is issued, controlled and backed by trust in governments or central banks, Bitcoin aims to become a form of private money that is completely market-driven – money that is 'issued' by individuals through the verification of transaction blocks, has a limited supply, and is not controlled by any central authority. Therefore, crypto-assets like Bitcoin embody a vision of using technology that is free from the extensive control of the state to engender secure communication and trade amongst individuals (Beltramini 2021; Jarvis 2021). The ultimate goal is to 'liberate' humanity from the grasp of powerful governments and corporations.

After the introduction of Bitcoin, thousands of crypto-assets have emerged, each with a different nature, working mechanism, and function. The crypto industry is now worth trillions and is more diverse and expansive than ever before. When crypto-assets represent the rights to things or the rights against individuals – such as serving as a payment method or as a voucher for a product or service – they are referred to as 'tokens' (Cong and Xiao 2021). Crypto-assets are now a popular means of finance for digital platforms and startups. There are decentralised finance (DeFi) platforms that enable transparent peer-to-peer transactions but pose risks due to their nascent regulatory environment, and there are also centralised exchanges such as FTX and Binance that simplify the trading process and provide user-friendly interfaces but that are prone to fraud and mismanagement of funds (Altschuler 2022; D'Alvia 2023; Sistoso 2021). These platforms have created a vibrant ecosystem of participants and services, and the crypto-industry often touts crypto-assets as a disruptive force in finance, boasting of their enhanced functionality, reduced costs, swifter speeds and increased transparency (Hines 2020). As crypto-assets gained popularity beyond the cypherpunk community, this innovation began to pose unprecedented challenges to state actors around the world.

3 Legal consciousness studies

Legal consciousness has emerged as both a theoretical concept and an empirical research focus to investigate the enduring power and ideological influence of law, particularly how law maintains its power despite the disparities between legal norms and their practical applications (Silbey 2005). As scholars explore the intersection of law and social phenomena, they have developed various approaches to studying legal consciousness, such as analysing the interaction between individual subjectivity and law, exploring the nuanced effects of law on individuals and examining how law can be leveraged to catalyse social change (Chua and Engel 2019). In studies that focus on the perspectives of average citizens, researchers explore issues of identity, domination and social structures, and also how average people's behaviours are shaped by their subjective perceptions of law (Halliday 2019). Studies employing this interpretive approach can be contextualised within specific contexts of social movements (Blackstone et al 2009; Hirsh and Lyons 2010), but they can also include a wider examination of how individuals perceive the law and utilise it to bring about change (Ellison 2017; Ranasinghe 2010). Exemplifying this approach, scholars like Filho and Blum

[1]For the purpose of this article, the discussion of crypto-assets is directed towards those 'traditional' and popular ones that embody the ideals and characteristics of being decentralised and market-driven in their creation, transaction, value determination and storage. The dynamics of crypto-assets – such as stablecoins and non-fungible tokens (NFTs), which have a more centralised nature – are not within the scope of this article.

[2]Cypherpunks are digital activists with typically right-wing, libertarian ideologies who are dedicated to fighting state infringement on privacy by creating anonymous systems with cryptography. Cypherpunks are not a monolithic group: there are also cypherpunks who are liberals and leftists (Hughes 1993; Jarvis 2021).

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(2021) studied the legal consciousness of Bitcoin users and discovered attitudes of both contestation towards and denial of the law.

While ideologies are recognised to be prominent within the crypto scene, legal consciousness effectively reveals how actors perceive social realities and articulate legal rationales and how such expressions can generate dynamics that lead to significant implications. It enables us to explore and contextualise the meanings that individuals attribute to their actions, as evidenced by their words and expressions, which bridge conceptual divides between the micro and macro, between agency and structure and between actions and ideologies (Dukes and Kirk 2022). We are also prompted to focus on broader socio-political ideologies in order to scrutinise the interconnection between legal consciousness and more specific, contextualised ideologies regarding property and innovation. With this objective, this article draws on the literature concerning law in the realms of property, innovation and finance and aims to integrate these realms with a dynamic perspective on legal consciousness. In doing so, it enriches and describes the subtle differences amongst these agendas while advancing discourse by emphasising the social and systemic implications of evolving legal consciousness dynamics.

3.1 State–industry interactions

The legal consciousness of state actors is frequently shaped by their uncertainty regarding the development of new technologies, the potential implications of these technologies, and the possibility of their outpacing existing systems (Johnson 2023). Because of the rapid emergence and evolution of new products and services, combined with the complex and highly uncertain nature of innovations, state actors often attempt to mitigate the risks posed by these innovations by gathering information, experimenting with regulations and building consensus (Fahy 2022). Consequently, the commanding influence of state actors remains a pivotal determinant of the fate of new technologies.

Furthermore, legal consciousness, being inherently fluid, evolves through social interactions. In these interactions, both those who are subject to the law and those who enforce it, express, interpret, reinforce or transform their attitudes and behaviours. The former may experience tensions in their legal consciousness and employ conflicting strategies amongst conforming, contesting and resisting state authority, all while grappling with the regulatory landscape (de Sá e Silva and Trubek 2018; Klambauer 2019). The latter's perception of law and disposition towards the administration of justice may be influenced by both state legal ideologies and their personal sense of justice and propriety (Hertogh 2010). At the same time, both sides' respective legal consciousness shares a dynamic relationship and is 'connected in ongoing processes of co-construction' where they apprehend and interpret each other (Headworth 2020).

Because the crypto phenomenon exemplifies a typical regulatory landscape – where rules exercise authority over subjects while the subjects simultaneously strive to shape those rules (Edelman and Suchman 1997) – this article aims to contribute to the study of legal consciousness amongst state actors by examining the significance of legal consciousness as a consequential factor in the reciprocal relationship between the crypto industry and the state. It also explores how legal consciousness may evolve through these interactions and subsequently impact behaviours.

3.2 Ideologies of property and innovation

In her work, Şerban examines how dispossessed subjects and government officials mobilised property rights ideologies during the process of Communist nationalisation (Şerban 2014). Her approach encourages us to delve into the conceptualisations of property when scrutinising regulatory dynamics. As Silbey has argued, ideology is defined not by its specific content but by its contextual construction and functions (Silbey 2005). Ideologies significantly influence perceptions

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of property rights, particularly in relation to the conceptualisation of crypto-assets as a distinct and innovative form of property rooted in technological advancements.

As crypto-assets and blockchain technology challenge traditional financial practices with their revolutionary potential, legal consciousness towards the crypto phenomenon becomes intertwined with ideologies of innovation. Even though law may be seen as slow-moving compared to the rapid pace of technological advancements, law undeniably shapes the trajectory of innovation (Butenko and Larouche 2015). Aiming to facilitate innovative developments while mitigating inherent risks, law frequently undergoes modifications in response to technological advancements (Moses 2011).

The approach of this article in studying the crypto phenomenon emphasises the interplay of ideas about property and innovation in shaping legal consciousness, thereby supplementing regulatory considerations. While the literature tends to focus on regulatory frameworks' ability to address innovation-related challenges and the potential destabilising impact of disruptive innovations (Allenby 2011; Kaal and Vermeulen 2017), this article takes us further: it prompts us to question the underlying ideologies and consciousness shaping the challenges faced by regulators of innovation. We are encouraged to consider the various destabilising effects of innovation across situations and the influences of specific ideologies and consciousness. Although assessing an individual's legal consciousness at a specific moment is possible, understanding the interactive processes and dynamic nature of legal consciousness in systemic destabilisation is equally valuable. This article brings these inquiries to the forefront by drawing from various disciplines to present deeper insights.

3.3 The role of legal consciousness on system destabilisation

Crypto-assets, with their distinctive characteristics of being both a technological and a financial innovation, have introduced novel markets and practices, causing significant disruptions to the traditional financial system. While Filho and Blum (2021) have explored the influence of legal consciousness on the dynamics of Bitcoin usage, the broader ramifications for the financial system and its future development remain unexplored. Undoubtedly, legal consciousness offers insight into the mechanisms through which state authority is sustained by enlisting participants to co-construct legality and internalise the system's values (Ewick and Silbey 1998; Young and Chimowitz 2022). However, collective legal consciousness has the power to profoundly influence the trajectory of a system. While legal systems are known for their stability and consistency and are generally resistant to disruption unless major political factors come into play, financial systems and their regulatory mechanisms are marked by dynamism, contestation and inherent instability.

Much scholarly work in the field of law and finance concentrates on financial markets' regulation, intermediaries and corporate governance. Their objective is to discern the connection amongst the legal framework, the techniques employed and the patterns of corporate financing and, ultimately, the capital market's development (Heremans and Bosquet 2011; Larrain et al 2017). In line with Heremans and Bosquet's (2011) proposition that the macro approach of law and finance can benefit from a more nuanced understanding of financial behaviour, this article, while drawing upon existing theory, suggests that by emphasising individuals' attitudes and perceptions towards rules rather than the effects of rules, the concept of legal consciousness can expand our current understanding of the financial system's dynamics in response to financial innovations.

To situate legal consciousness within the financial system and to expand the conventional view of individuals as mere responders and co-constructors, Minskyian perspectives offer a valuable framework. These perspectives allow for a critical examination of the role of legal consciousness, particularly in relation to psychological and behavioural dynamics that can serve as crucial indicators of a system's vulnerability. Contrary to conventional economic theory, which suggests that the financial market reaches equilibrium through self-correcting mechanisms, Minskyian perspectives assert the inherent instability of financial markets. The cyclic nature of free market

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capitalist economies, coupled with increased risk-taking and relaxed regulatory measures, are identified as key factors that contribute to system vulnerability (Minsky 1993; Minsky and Kaufman 2008; Palley 2011). Financial innovations initially bring about prolonged periods of prosperity, but because their success leads to an overestimation of potential profits, financing for new investments becomes increasingly daring but fragile (Davidson 2008; Keen 1995). Over time, institutions display a decreased willingness to regulate excessive risk-taking, leading to a relaxation of the regulatory environment as constraints are removed, capture occurs and past lessons are forgotten (Palley 2011). Hence, Minskyian perspectives allow for the examination of the interconnectedness between financial crises and the proliferation of financial innovation. Here, the crucial role of human psychology, manifested through legal consciousness, profoundly influences the boom–bust cycle and potentially disrupts the trajectory of the financial system.

4 Legal consciousness within the crypto phenomenon

This article explores the legal consciousness of participants in the crypto realm by analysing documents that express attitudes towards crypto-assets and their underlying blockchain technology. It relies on primary source materials, including *amicus* briefs, judgments, testimonies, letters, reports and speeches, with a focus on common law jurisdictions such as the United States, England and Australia. These jurisdictions were chosen for several reasons. They have witnessed significant crypto activity and hosted some of the largest crypto associations, exchanges and companies. It is estimated that approximately 48 million individuals in these countries own crypto-assets (TripleA 2023). State actors in these jurisdictions have taken proactive steps, including enforcement actions, the development of new legislation and policy initiatives, in response to the growing presence of crypto-assets. These jurisdictions also share common features such as free market, capitalist economies and open financial systems, which increase their vulnerability to instability risks compared to countries like China and India, where there is significant state control over the financial system and crypto activities.

4.1 Methodology

The data collection process followed a systematic approach, starting with internet searches, online database searches and manual searches to gather materials using search terms such as 'crypto-assets,' 'cryptocurrencies,' 'Bitcoin,' 'digital assets' and 'blockchain.' To ensure the selection of relevant sources, strict sampling criteria were applied: the sources needed to include descriptions, arguments or analysis that not only provided policy suggestions but also revealed attitudes and ideologies towards crypto-assets and their underlying technologies. In addition, these attitudes and ideologies had to come from relatively prominent players in the crypto industry, such as crypto trade associations, senior personnel in crypto companies or state actors like courts and senior government officials. Also, the sources had to be publicly available. By applying these criteria, approximately 120 sources were sampled. The process of organising and analysing the materials was facilitated by the qualitative research software NVivo.

The sampled *amicus* briefs had been submitted by key players in the crypto industry involved in crypto-related disputes from 2013 to 2023. The sample included congressional testimonies given by prominent representatives from the crypto industry. These testimonies involved direct exchanges between industry participants and state representatives and provided key insights into their interactions. Letters and reports within the sample conveyed the viewpoints of the crypto industry on topics including regulations, crypto-assets and the broader financial sector. Focusing on state actors, the sample encompassed policy reports and consultation documents relevant to crypto regulatory policies. Furthermore, speeches and statements released by parliament members and regulators were included, providing perspectives from state actors on the crypto phenomenon.

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This study utilised content analysis of documents as a research method. As highlighted by Şerban, archival materials can provide a valuable means of examining legal consciousness because these materials provide a candid view of individuals' perceptions of the law within a specific context (Şerban 2014). This non-intrusive methodology also reduced potential recall biases, as later narratives of legal consciousness are susceptible to influence from variables such as memory, the passage of time and other factors. Emergent coding is used in this article to align with its interpretive orientation. Rooted in grounded theory concept, emergent coding involves conducting an analysis without an initial theory and instead relying on the encountered data to develop a theory (Stemler 2015). Theoretical concepts related to property, innovation and finance were then applied to analyse the subsequent data, and categories were established following an initial examination of the data. Emergent coding is particularly valuable in exploratory content analysis as it facilitates a profound understanding through an inductive approach.

4.2 Perspectives of the crypto industry

The case of *Securities Exchange Commission v. Telegram* (2020), brought by the US Securities and Exchange Commission (SEC) against Telegram, a company who released a popular messaging app, is a pivotal case highlighting the property ideologies and legal consciousness of the crypto industry. Telegram received $1.7 billion from entities and individuals in exchange for its commitment to issue 2.9 billion 'Grams', a new crypto-asset, upon the release of a new blockchain. Telegram maintained that the sale agreements for Grams were lawful securities placements that were exempt from registration requirements, whereas the SEC argued that the agreements constituted an unregistered securities offering that violated the Securities Act. The Blockchain Association and the Chamber of Digital Commerce, both influential advocacy organisations in the crypto industry, submitted *amicus* briefs supporting Telegram's position.

In their respective briefs, the Chamber of Digital Commerce and the Blockchain Association conveyed their perspective that crypto-assets represent a property of diversity, choice and free will and largely operate outside the strict confines of state law. The Chamber of Digital Commerce stressed that 'crypto-asset' is 'not a homogeneous concept' but a broad term describing an array of tokens with varying characteristics (Chamber of Digital Commerce 2020). For its part, the Blockchain Association urged the court to appreciate the 'variety and nuance' inherent in the realm of crypto-assets and advocated against a 'one-size-fits-all' approach (Blockchain Association 2020). Stating that its mission is to educate policy-makers and courts to enable an 'innovative digital marketplace,' the Blockchain Association juxtaposed the property characteristics of crypto-assets with those of traditional currency:

> 'With a sovereign's traditional "fiat" currency, this willingness to exchange is usually automatic; the law dictates the national currency is a proper medium of exchange. A cryptocurrency, by contrast, has value only if actors in the market are willing to accept the currency – based on its security, efficiency, and acceptance – in exchange for other value' (Blockchain Association, 2020).

Crypto-assets, therefore, epitomise a commodity that functions entirely on free market principles. It is not established, regulated or controlled by state law; rather, it naturally operates as a consequence of market dynamics. The legal requirement for fiat currency is perceived as state coercion, whereas crypto-assets provide a pathway for avoiding state intervention. The diversity of crypto-assets can be attributed to intense market competition, which seeks to satisfy the unique requirements and preferences of consumers. This idea, influenced by Austrian school economists like Friedrich Hayek, reflects the pursuit of a self-regulating, non-coercive free market embodying individual liberty (Friedman 1962).

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Similar to the dynamism exhibited by the free market, crypto-assets are perceived to embody a dynamic and mutable nature, one that constantly evolves through the agency of individuals. For example, Telegram's sale of Grams adhered to the Simple Agreement for Future Tokens (SAFT), which was devised by the crypto industry to establish a compliant framework for the sale of crypto-assets. SAFT posits a model whereby investment contracts for tokens (i.e. SAFT) confer an obligation upon investors to finance developers, who, in turn, must use these funds to establish a network furnished with utility tokens, which would then be disseminated to the investors (Batiz-Benet et al 2017). It is envisaged that this network, once operational, would become decentralised and no longer rely upon a single entity for its operations (Batiz-Benet et al 2017). In its brief, the Chamber of Digital Commerce espoused the aforementioned narrative, contending that Grams could not lawfully be classified as securities because a decentralised network's token 'does not necessarily inherit the promises, representations, or obligations offered to purchasers' (Chamber of Digital Commerce 2020). The dynamic nature of crypto-assets, which is unconstrained by historical limitations, enables them to adapt to the expansion of the underlying network and to evolve in diverse ways, thus rendering as potentially inappropriate the application of existing legal labels.

As a result of these interpretations, there are certain seemingly conflicting perspectives regarding the role of law in the crypto industry. The crypto organisations sought 'clear, predictable guidance on how to comply with the law', and they anticipated that the court would 'identify the discernible parameters of the law and provide a predictable legal environment' for the industry, thus allowing the promotion of innovation (Chamber of Digital Commerce 2020). Simultaneously, crypto organisations maintain a pessimistic and unfavourable view of the law and its capabilities. There is a dearth of confidence in the regulatory framework, which reveals a resistant attitude towards the law's coercive authority and which is thought to impede the dynamic essence of crypto-assets. State law and its regulatory categorisations are thus seen as rigid, antiquated and incapable of accommodating the uniquely fluid nature of crypto-assets. This view is underscored by the Blockchain Association's emphasis that

> 'fixing the securities status of [future] tokens while the network remains under construction would obviously stunt this maturation [of tokens]. Tokens will struggle to evolve into currencies or commodities – or to ever function as intended – if securities-law restrictions persist regardless of their development' (Blockchain Association 2020).

The Chamber of Digital Commerce articulated a similar perspective concerning the misguided role and purported antiquity of the law:

> 'Existing law is decades-old and does not adequately address some of the unique characteristics of activities involving this technology which has stifled and will continue to jeopardize a multi-billion dollar technology sector and societal benefits in the United States' (Chamber of Digital Commerce 2020).

Coinciding with the perceived dynamic attributes of crypto-assets, there is a prevailing notion that the development and ownership of crypto-assets as opposed to fiat currency, which is subject to legal enforcement, are contingent upon decentralised and individualised efforts rather than upon centralised oversight. In the landmark English case *Tulip Trading Limited v. Bitcoin* (2022), the defendants, who were central developers and managers of crypto-asset networks, asserted that they did not bear any fiduciary or tortious obligations towards the plaintiff. They also stressed that crypto-asset networks are decentralised and constantly evolving and that despite their role as developers, they were merely a 'part of a large and shifting group of contributors without any organization or structure', meaning that the changes sought by the plaintiff to fundamentally transform the network 'went against the core values of Bitcoin as a concept'. In the California case

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Shin v. ICON Foundation (2021), the plaintiff, an ardent user of crypto-assets, contended that the defendant interfered with his right to possess and own ICX tokens, which he had acquired by exploiting a flaw in the system's protocols. The defendant framed their arguments in terms of the plaintiff's ability to establish legitimate ownership, asserting that inadequate investment of resources had been expended to procure the tokens, whereas the plaintiff argued that he had legitimately obtained ownership by staking a claim through minting and network interaction.

These court cases reflect an ideology that highlights the 'bottom-up' and individualistic character of property rights. In contrast to the notion that property rights are bestowed and regulated by state law, the cases assert that individuals play a central role in creating and upholding property, independent of centralised authorities, and that property owners should have the freedom to dispose of it, transfer it to others, and acquire the rights to other property (Attas 2004). Legitimate ownership of crypto-assets is achieved simply through the investment of time and money, as these assets represent rewards for facilitating transactions through a blockchain technology (CoinEx Academy 2022). This ideology exhibits striking similarities to the Lockean labour theory of property and the tenets of Austrian economics: property is what individuals convert into use through their own exertions, and ownership of property is natural, rather than a product of legal or institutional factors (Hodgson 2015; Rothbard 1998; von Mises 1951).

Influenced by these ideologies of property rights, the crypto industry exhibits a profound inclination towards scepticism regarding state intervention and the role of law in determining the characteristics, utilisation and rights associated with crypto-assets. The radical factions within the industry oppose legal oversight, asserting that crypto-asset transactions are irrevocably verified through encryption techniques, thereby entrusting the enforcement of rights to the code itself rather than to the law (De Filippi and Wright 2018). They view the pursuit of an appropriate legal framework as an anathema because the technology does not need law to regulate it (Lehmann 2019; Yeung 2019). The more mainstream voices within the industry, as represented by the parties in the cases just discussed, recognise the importance of complying with the law and call for the law to demonstrate flexibility and adaptability to accommodate crypto-assets when regulatory measures become unavoidable. Nonetheless, as demonstrated in the examples discussed, they maintain that crypto-assets possess the abilities to self-create, self-evolve, and self-regulate and do not need legal intervention. While seen as a means of liberation from the law, crypto-assets also espouse the notion of liberation from state authority. For instance, the Blockchain Association conceptualises encrypted peer-to-peer transactions as embodying the principles of the confidentiality and autonomy inherent in cash transactions, which are deemed indispensable to a free society (Whitehouse-Levine and Kelleher 2020). In line with the principles espoused in Austrian economics, this ideology envisions crypto-assets as a form of decentralised private currency that eliminates the 'evil' of state control over money and empowers individuals to evade the oppressive influence of governments (Hayek 1976; Huang 2019).

4.3 Perspectives of state actors

During the initial period of crypto-asset emergence, both regulators and courts exhibited apprehension. An instance of both can be observed in *US v. Petix* (2016), wherein the defendant was accused of operating an unlicensed money-transmitting business using Bitcoin. In addressing the question of whether Bitcoin qualifies as money, the court conveyed a legal consciousness emphasising that although Bitcoin can serve as a means of exchange, it is a type of property that exists outside of the state legal framework and thus lacks legitimacy and is marked by instability:

> 'Bitcoin operates as a medium of exchange like cash but does not issue from or enjoy the protection of any sovereign; in fact, the whole point of Bitcoin is to escape any entanglement with sovereign governments. . . . Bitcoins have value exclusively to the extent that people at

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> any given time choose privately to assign them value. No governmental mechanisms assist with valuation or price stabilization . . . ' (*US v. Petix* 2016).

In *AA v. Persons Unknown* (2019) and the UK Jurisdiction Taskforce's (UKJT) (2019) Legal Statement on Cryptoassets and Smart Contracts, which utilised the test in *National Provincial Bank Ltd v. Ainsworth* (1965) to evaluate crypto-assets, reservations were expressed – because of the potential for blockchain revisions that could undermine the immutability of crypto-asset transactions – that crypto-assets might not possess the requisite degree of permanence or stability. Regulators and politicians have similarly viewed crypto-assets as a form of property that carries risks and instability. During the early years of crypto-assets, significant caution was exercised regarding their potential to facilitate fraudulent activities, illicit transactions and security breaches (Her Majesty's Treasury 2015; Security and Exchange Commission 2013). As the crypto-assets market expanded, the focus shifted to the risks posed to investors. Evaluations have been conducted to assess the potential threat of crypto-assets to financial stability (Financial Stability Oversight Council 2022; Her Majesty's Treasury 2021; Reserve Bank of Australia 2022). Janet Yellen, the US Secretary of the Treasury, has emphasised the need to 'maintain visibility into potential build-ups of systemic risk' (Yellen 2022).

Although state actors initially displayed scepticism towards crypto-assets, over time, the legal consciousness has evolved to recognise and support their integration into existing legal frameworks. One such instance was *Securities and Exchange Commission v. Shavers* (2013), which involved an enforcement action against an industry Ponzi scheme denominated in Bitcoins. The court decided that Bitcoin legally qualifies as money because it can be used to purchase goods or services and can be exchanged for established currencies. Regulators across various jurisdictions have, primarily for the purpose of enforcement, also acknowledged and recognised crypto-assets as digital currencies (Department of Treasury 2014; Financial Conduct Authority 2019; Financial Crimes Enforcement Network 2013). As the popularity of Initial Coin Offerings (ICOs) grew, financial regulatory agencies began to recognise tokens with certain characteristics as being securities that should be subject to financial market laws.[3] This recognition has ultimately culminated in lawsuits such as the *Telegram* case mentioned earlier.

Courts have extended legal recognition to crypto-assets by comparing them to established categories of property. For example, the California court in the *Shin* case mentioned earlier applied a three-part test to determine whether the plaintiff could claim a property interest. The test evaluated whether such an interest could be precisely defined, exclusively controlled and legitimately claimed. Likewise, crypto-assets are recognised as property due to their specificity and identifiability, which stem from their reliance on blockchain technology. Despite differences in court rulings on the 'tangibility' of crypto-assets, cases like *Ox Labs, Inc. v. Bitpay, Inc.* (2021) and *Kleiman v. Wright* (2018) support this recognition.

In what way is this legal consciousness connected to property ideologies? According to Epstein (2011), modern states typically employ a 'top-down' approach to property, viewing property rights as 'arbitrary assemblages' created for instrumental purposes. This perspective stands in contrast to Lockean beliefs and instead aligns with the Hobbesian proposition that the state grants and institutionalises rights based on its authority, positioning itself as the institution that determines all property relations (Hobbes 2009; Lopata 1973). The UKJT Statement defines property as a 'power recognised in law as permissibly exercised over the thing' (UK Jurisdiction Taskforce 2019). *AA v. Persons Unknown* (2019) also exemplifies this, as the court expressed uncertainty regarding whether Bitcoin falls within the recognised categories of property in English law, namely, personal property in action or personal property in possession. Hence, the ideology of property rights embraced by state actors is inherently statist. In relation to crypto-assets, state

[3]ICO is a new way of raising capital by selling crypto-assets to the public in exchange for money or other crypto-assets, similar to the traditional IPO (initial public offering) process (Szwajdler 2022).

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actors evaluate associated rights using established legal principles and categories and favour the preservation of legal consistency and uniformity. By defining the specific boundaries of property rights, the state reinforces property norms and expects citizens to have a vested interest in upholding the existing legal order (Lindsay 2021). This standardisation of rights, which aims to enhance efficiency, also prioritises the preservation of stability and predictability in legal frameworks (Hamill 2015).

In the statist view of property rights, the law is seen as the exclusive means of legitimising property. However, when state actors confront technological innovations like crypto-assets, there appears to be a tendency to utilise the law not only to legitimise such innovations but also to foster and nurture their development. The UKJT Statement's consultation paper demonstrates a highly favourable outlook towards the crypto phenomenon, describing it as a technological advancement with 'far-reaching implications for financial markets' (UK Jurisdiction Taskforce 2019). The Statement also explicitly outlines its objective of demonstrating how the current legal system can effectively support crypto-assets, which illustrates how, in the context of crypto-assets, the law is deemed a crucial and adaptable tool for accommodating innovative needs:

> 'In commerce, the law is there to support and fulfil reasonable expectations. . . . Time and again over the years the common law has accommodated technological and business innovations, including many which, although now commonplace, were at the time no less novel and disruptive than those with which we are now concerned. In no circumstances therefore are there simply no legal rules which apply' (UK Jurisdiction Taskforce 2019).

Because the law is perceived as 'endlessly creative,' with a history of accommodating technological and business innovations (UK Jurisdiction Taskforce, 2019), it falls upon the law to establish a solid foundation for the growth of crypto-assets, which are compared to previous innovations. Unsurprisingly, the Statement utilises the test in *Ainsworth* to encompass crypto-assets within the realm of property, a move that has been cited and echoed by other common law courts, such as the Singaporean court in *Quoine Pte Ltd v. B2C2 Ltd.* (2019) and the New Zealand court in *Ruscoe v. Cryptopia Ltd.* (2020).

Despite the inherent instability and uncertainty that are associated with crypto-assets, state actors' legal consciousness indicates their willingness to grant legal recognition to these assets and even to employ law as a means to promote their growth. This reflects, as D'Alvia (2020) notes, a characteristic of modern economies in which contradictory views are held regarding uncertainty: blaming uncertainty for indeterminacies and a mysterious character yet also seeing the elimination of uncertainty within free markets as weakening progress, innovation and system adaptability. Innovation, and the process of creative destruction (the replacement of existing technologies, skills, ideas and organisations with technologies seen as more effective and efficient are seen as vital sources of economic growth in capitalist states (Schumpeter 2008). In the *Tulip Trading* case discussed earlier, the English court ruled that Bitcoin is not yet suitable for use as security for costs due to its 'high level of volatility', but it left the door open to less volatile digital currencies as an innovative form of security. In *Ruscoe*, the New Zealand court even stated that crypto-assets are a 'secure method of transfer' and that a failure to recognise them as property could hinder 'honest commercial developments'.

Like the courts, regulators have shown a favourable outlook towards crypto-assets and have made efforts to establish a standardised framework to promote their use, shifting their focus from curbing unlawful activities to managing systemic risks and maximising potential benefits. The Australian Treasury, for example, is exerting efforts to create a classification system for crypto-assets to ensure that 'regulation stays fit for purpose as business models and technologies change' (Australian Government 2023). Regulators' optimism towards the potential of crypto technologies to enhance financial services is growing, and they are advising businesses to take advantage of the

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purported benefits to enhance their growth, advance competition, and expand into new markets (Australian Government 2023; Her Majesty's Treasury 2023; Department of the Treasury 2022).

4.4 Potential proliferations on the financial system

The robust ideological foundations of crypto-assets distinguish them from earlier financial innovations. While financial innovation is purported to address unmet needs and enhance the financial system (Johnson and Kwak 2012; Merton 1992), the crypto industry, fuelled by property ideologies and the resulting legal consciousness, further champions a revolution of the financial system based on democracy, decentralisation and equity. Charles Cascarilla, the CEO of Paxos, a blockchain technology company, asserts that crypto-assets are imbued with the noble cause of creating a better financial system:

> 'Digital assets and blockchain technologies can create a more efficient, secure, and innovative financial system, and a more inclusive and equitable global economy. . . . Digital assets are vastly more accessible. Anyone with a smartphone can download a wallet app to send and receive assets. . . . Digital assets can also reduce bias in finance. [Blockchain] is agnostic to a user's race, gender, nationality, or income. And blockchain permanently and publicly records transactions, reducing errors, fraud, and systemic risk' (United States Congress 2022).

How accurate are these optimistic claims about crypto-assets paving the way to a fairer financial system? Upon closer examination, they largely reveal themselves to be self-aggrandising, ideological narratives. Crypto networks claim to operate on a decentralised governance model, yet hierarchies and conflicts persist. Programmers of blockchain technology often seek to exert authority over other network members in order to shape their own objectives (Bousfield 2019). Despite claims that crypto-assets can erase inequality by serving the financial needs of marginalised populations, such as women and individuals in the global South, ironically, these groups are less likely to own smartphones than are men in the global North (Council on Foreign Relations 2019; GSM Association 2022). In the US, where smartphone adoption is widespread, only 26 percent of crypto investors are women, with high-earning White men constituting the majority of crypto owners (Gemini 2021). Founded on individualistic property ideologies, crypto-assets embody a legal consciousness marked by resentment towards state legal interventions and a belief in the free market as a solution to societal issues. This intertwines crypto-assets with power structures and neoliberal ideology, as crypto-assets claim to provide targeted benefits to the disadvantaged while disregarding the fundamental issues of gender and social hierarchies (Henshaw 2022).

Although the potential of crypto-assets to fulfil their promises remains uncertain, their appealing ideologies and legal consciousness continue to foster collective optimism (Morning Consult 2023; Steinmetz et al 2021). Despite setbacks in the crypto industry, such as the downfall of FTX, the unflagging optimism regarding crypto-assets persists. Reports from 2022 indicate that most crypto-asset owners plan to buy more in the future, while many crypto derivatives traders maintain that Bitcoin prices will resume their upward trajectory (Acuiti 2022; Rhode 2022). The crypto industry participants' optimistic outlook, influenced by their legal consciousness, has arguably contributed to the ongoing rise in the value of crypto-assets. This collective attitude has also resulted in a greater inclination to direct investments towards risky ventures. Speculation in the crypto market has become a prominent feature, with almost half of crypto-asset owners reportedly buying them solely for speculative purposes (Financial Conduct Authority 2020). Major centralised exchanges now enable investors to engage in high-leverage and derivative instruments, thus allowing for significantly larger investments in relation to their capital base (Agrawal 2023). This leads to a decrease in cash reserves, an increase in liabilities, and the acquisition of more illiquid assets, resulting in a gradual decline in the liquidity of crypto-assets.

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Accordingly, the crypto phenomenon is experiencing growing financial vulnerability, which aligns with the Minskyian hypothesis.

Over time, crypto-assets, originally conceived by Nakamoto as a means to challenge financial intermediaries, have begun to experience the problems found in traditional financial markets. The case of FTX illustrates that the crypto-industry has disregarded historical lessons by establishing centralised intermediaries that obscure risk profiles and misuse investor funds for leveraged bets, contradicting the transparency, accountability and self-governing capacity that crypto-assets are purported to embody (Fu et al 2022; Leclair and Rule 2022). But despite all these challenges, the crypto industry insists on viewing crypto-assets as a solution to the financial system's problems. Proponents continue to advocate for the law to facilitate financial innovation instead of protecting the existing financial system, calling for the 'modernisation' of purportedly old-fashioned and narrow-minded legal frameworks and the incorporation of the alleged benefits of crypto-assets:

> 'Crypto is a technology that makes the existing financial system work better. But the benefits, such as enabling faster and cheaper payments or settling in real-time, require laws and rules that reflect a new way of thinking and an eye toward progress. We need policymakers to work together to develop a comprehensive framework that provides pathways for customers . . . ' (Grewal 2023).

Consequently, the state actors described by Minsky as 'stabilising institutions' become susceptible to influence from the crypto industry. As these entities perceive innovation to be essential for economic competitiveness, the risk of regulatory capture grows, with their perspectives becoming increasingly aligned with the interests of those they regulate – i.e. the proponents of the crypto industry. We should recognise that the practical benefits of crypto have yet to be fully realised and that its alignment with modern legal systems remains uncertain (Schuster 2021). Nonetheless, the tone of some policy-makers evinces a pronounced enthusiasm for crypto-assets: in policy statements, these policy-makers place significant emphasis on the potential benefits and opportunities associated with crypto, highlighting how this promising technology, currently in its infancy, is set to revolutionise established industries (Department of the Treasury 2021; UK Government Chief Scientific Adviser 2016).

In the UK, there is a notable trend of state actors adopting the viewpoints of the crypto-industry. For instance, stablecoins, a type of crypto-asset that derives its value from the assurance that the holder can redeem them for a corresponding amount of reserve assets in the fiat currency, present significant risk factors: issuers may manipulate the reserves and engage in perilous investment practices, posing the danger of substantial redemptions akin to bank runs. Despite this, policy-makers have shown proactive support for the extensive adoption of stablecoins and crypto technologies. Although they claim to support technology neutrality in legislation, their stance reflects a legal consciousness that rejects 'prescriptive' and 'rigid' legal frameworks and seems to advocate for the involvement of the crypto-industry in developing new regulations:

> 'The government recognises that . . . current legislative provisions may contain obstacles or ambiguities which hinder the adoption of DLT, or mean it is difficult to realise the potential benefits fully. The government intends to support industry in ensuring that legislation and regulation can accommodate tokenisation and DLT in FMIs' (Her Majesty's Treasury 2022).

The solutionist discourses put forth by the crypto industry, aided by that industry's persistent lobbying endeavours, seem irresistibly attractive to regulators and policy-makers (Public Citizen 2022). Although many financial markets have shifted towards uncertainty-aversion since the 2008 financial crisis, state actors within our capitalist economies still strongly believe that uncertainty and risk are inherent and even necessary in financial markets in order to drive competition, innovation and adaptability (D'Alvia 2023). Even common law has facilitated the adaptation and

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widespread adoption of crypto-assets by broadening the category of personal property in action to include various intangible assets, prompting courts to explore inventive interpretations of property and to extend established legal frameworks in order to encompass these emerging assets (Aksoy 2023; Bevan 2018; Holdworth 1920; Lehavi 2019).

When viewed through a Minskyian lens, it becomes evident that the interplay of legal consciousness between the crypto industry and state actors is contributing to a pattern reminiscent of the 2008 financial crisis, when the growth of shadow banking and securitisation evaded regulatory oversight and when pre-crisis regulatory reforms allowed non-traditional lenders to operate with less scrutiny, resulting in riskier securitised mortgages replacing traditional ones (Campbell 2010). Given the resemblance between crypto-assets and securitisation as a novel financial innovation and the shared characteristics of DeFi industry and shadow banking (Allen 2023), the prevailing legal consciousness dynamic could lead to relaxation of regulations, reduced market discipline and increased financial fragility. If little is done to tame the wild horse of crypto-assets, these outcomes have the potential to ultimately destabilise the system and escalate the likelihood of another financial crisis.

5 Conclusion

This article critically analyses the legal consciousness of participants in the crypto phenomenon. It explores the perceptions of industry players who view crypto-assets as dynamic and self-regulating entities that challenge restrictive laws while also examining the perspectives of state actors who increasingly demonstrate a willingness to adapt laws to accommodate innovative financial practices. This article further highlights the potential influence of collective legal consciousness on the trajectory of innovation within the industry–state dynamic, which could lead to system destabilisation. Although this article does not evaluate the specific risks associated with the crypto phenomenon or provide normative suggestions, it does emphasie property ideologies as a fundamental driver of legal consciousness and offers a novel framework for integrating legal consciousness into the analysis of the interplay between law and innovation.

Interestingly, there is an increasing trend of the crypto industry going towards greater centralisation, which departs from the original ideals of Bitcoin. Stablecoins, backed by national currencies and relying on centralised issuers and blockchains, are becoming popular due to their perceived stability (Grobys et al 2021). Before its discontinuation, there were serious concerns that Diem (formerly known as Libra), a stablecoin launched by Facebook, could undermine the stability of the US dollar and other national monetary systems by challenging monetary sovereignty, disrupting traditional banking and accelerating capital outflows in emerging markets (Pupolizio 2022). Furthermore, central bank digital currencies (CBDCs), digital representations of sovereign currency issued by central banks or monetary authorities, are now being considered in many countries and have been implemented in a few (Lee et al 2021). The emergence of CBDCs from China has the potential to challenge the dominance of the US dollar by causing disruption to the international monetary order and changing power dynamics in the global financial system (Huang and Mayer 2022; Shen and Wang 2021). Future research could explore the intricate dynamics of legal consciousness in the context of these novel crypto-asset trends. Such an investigation could provide a deeper understanding of the behavioural patterns emerging in these dynamics and how they could challenge established norms and undermine system stability on a global scale.

The academic discourse surrounding the interplay between law and innovation is an evolving discussion that is arguably 'only in its infancy' (Schreiber 2021). Studies usually revolve around two themes: criticism of the sluggishness of law, which is seen as a potential barrier to innovation; and recognition of law as a facilitator enabling and supporting innovation (Brodley 1990; Ranchordas 2015; Silva and Guimarães 2016). With legal consciousness, research will offer

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insights into the multifaceted aspects of law, transcending mere rule systems to encompass the contextualised meanings and perceptions that individuals associate with legal consciousness. It is acknowledged that legal consciousness can imply an approach that is individualistic and reductionist, thus leading us to neglect the processes involved in its formation and origins (Harding 2011). Therefore, this article traces legal consciousness back to its ideological foundations and extends the utility of the legal consciousness concept by analysing its potential future implications. It is important to note that this article does not claim that crypto-assets will inevitably trigger a financial crisis. However, considering the fading memory of the 2008 financial crisis and the influential role of young adults who are members of Generation Z in shaping the trajectory of crypto-assets, it will be important in future research to adopt a nuanced and critical perspective to examine the relationship between law and innovation.

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