

Blockchain Innovation and Securities Regulation

An Analysis of Initial Coin Offerings under the Financial Markets Conduct Act 2013

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people are not fortunate enough to get.

Preface

The inspiration for this dissertation arose during an internship with PwC in their management consulting team. Since that initial introduction to blockchain, my personal interest in the topic has increased rapidly. I leapt at the chance to incorporate further research into my university career.

I would like to thank Associate Professor Alex Sims at the University of Auckland, whose knowledge of crypto-currencies helped me to refine my research question. I would also like to acknowledge Blockchain Labs NZ for helping me to attend the NZ Blockchain Conference. The conference significantly improved my knowledge and understanding of blockchain, enabled me to connect with numerous incredible people that I may otherwise not have met, and provided me with further inspiration in tackling this complex subject matter.

As is typical in areas of emerging technology and law, the greatest challenge has been keeping up with the rapid changes and developments in the space. As such, this dissertation focuses primarily on New Zealand and the U.S., and the sources reflect the state of play as at the 3rd of September 2017. Readers should be aware that it does not directly analyse two events that occurred during September. On the 4th of September, seven regulators in China issued a joint decree declaring that Initial Coin Offerings were not authorised. The exact meaning and application of this decree remains controversial. Closer to home, on the 28th of September the Australian Securities and Investment Commission issued guidance explaining their view on Initial Coin Offerings, and how they will be regulated in Australia. In contrast to China, it sets out guidelines as to how issuers can operate within Australia's regulatory framework, whilst encouraging innovation and development in Fintech. These are incredible developments considering that when I began this project no primary sources from a regulator on Initial Coin Offerings existed! I look forward to watching this fascinating area evolve.

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Chapter I: Introduction

In 2009 Satoshi Nakamoto introduced the world to the infamous Bitcoin, the digital currency and payment exchange medium.¹ Fundamental to this innovation was the distributed ledger on which it ran, known as a blockchain.² When this digital currency first emerged, those studying and using it realised that blockchain was a technology that would revolutionise not only the economy, but in fact the whole world.³ Their prediction was correct. In the eight years since Bitcoin was released, a new paradigm of decentralised computing has emerged that applies blockchain technology well beyond currency. One of these fascinating applications is a new mechanism that businesses can use to raise capital, known as an Initial Coin Offering (ICO).⁴ At present ICOs have several significant advantages over traditional methods for raising finance, and consequently have the potential to disrupt and transform how businesses raise capital in the financial markets. At their simplest, ICOs allow entities to quickly raise large amounts of capital in the form of digital currency from an unlimited global market, without diluting the entity's equity.⁵ A further controversial 'advantage' is that in many jurisdictions ICOs are not directly regulated, removing various costs of compliance.

Whether the regulatory arbitrage is justified remains unclear. In the first half of 2017, technology start-ups raised the equivalent of over 1.2 billion USD using this funding method.⁶ Many projects have raised hundreds of millions of dollars in a matter of minutes. The increasing popularity of ICOs, and associated astounding figures are increasingly placing ICOs at the forefront of regulatory agendas, with Governments urgently investigating whether they should fall within the ambit of existing securities regulations. The focus of this dissertation is the status of ICOs under New Zealand's (NZ) main piece of securities legislation - the Financial Markets Conduct Act 2013 (FMCA). The first limb explains the nature of ICOs, whilst the second limb analyses the suitability of the FMCA as a framework to regulate them.

The FMCA regulates the capital markets in NZ. It was implemented in 2013 with the objective of strengthening and improving NZ's financial markets, representing a "once-in-a-generation re-write of securities law".⁷ However, in the four years that have passed, ICOs have emerged

¹ Satoshi Nakamoto *Bitcoin: A Peer-to-Peer Electronic Cash System* (2008).

² For more information on the evolution of accounting ledgers, see Nolan Bauerle "What is a Distributed Ledger" Coindesk <<https://www.coindesk.com/information/what-is-a-distributed-ledger/>>.

³ Jacek Czarniecki and others *Blockchain, Smart Contracts and DAO* (Wardynski & Partners) 2016 at 1.

⁴ Also increasingly referred to as a token generating event (TGE), or a token launch.

⁵ Lex Sokolin *Token Mania* (Autonomous Next) July 2017 at 1.

⁶ Ryan Brown "Start-ups raise record \$1.27 billion selling Bitcoin and other cryptocurrencies" *CNBC* (online ed, New Jersey, 18 July 2017).

⁷ See Simon Power, Minister of Commerce "Once-in-a-generation re-write of securities law introduced" (press release, 12 October 2011) <www.beehive.govt.nz/release/minister-welcomes-discussion-document-securities-law>; The FMA "Financial Markets Conduct Act" <www.fma.govt.nz/consumers/fmc-act/>.

as a disruptive force that may be a cause for re-examination. So far, both the NZ Government and Financial Markets Authority (FMA) have remained silent on the issue.⁸ As such it is unclear whether ICOs are a legal way for businesses to raise capital. The regulatory hesitation is not surprising. ICOs are technically complex, and this presents major challenges. In addition, it is generally well recognised that they are a potential platform for major technological innovation which many countries wish to lead. Unsuitable or pre-emptive regulation could have detrimental and unforeseen consequences.

ICOs are primarily used by technology start-ups that need funding to build projects that leverage blockchain technology.⁹ Rather than raising this capital by issuing shares in their company, they issue pre-mined digital and transferrable protocol tokens (tokens).¹⁰ The tokens do not represent a portion of ownership in the business (like equity), but (depending on their design) they have the potential to provide the owner with a return that is tied to the success of the venture.¹¹ Tokens pose a challenge to regulators and investors in that they share a mixture of characteristics with currencies, securities and assets, yet do not fit seamlessly in any one category. A second major difference to traditional fundraising mechanisms is that ICOs do not involve fiat currency.¹² At present, tokens must be purchased using crypto-currency (such as Bitcoin).¹³

This dissertation seeks to evaluate the status of ICOs and tokens under the FMCA. The first limb of the paper analyses the nature of ICOs. Chapter II introduces ICOs, explaining how they work, and why they are not easily assimilated with already regulated financing mechanisms, such as initial public offerings (IPO). Having established the technological elements that differentiate ICOs, chapter III focuses on the evolution of ICOs, analysing the relevance of Bitcoin, blockchain technology, smart contracts, and the Ethereum network. The chapter concludes by determining whether these technological differences in of themselves should place ICOs and tokens outside the ambit of securities regulation.

⁸ The FMA is the government agency responsible for enforcing securities, financial reporting and company law as they apply to financial services and securities markets. It also regulates securities exchanges, financial advisers and brokers, auditors, trustees and issuers including issuers of KiwiSaver and superannuation schemes.

⁹ Henry Engler “Initial Coin Offerings present dangers to investors, new challenge for U.S. regulators” *Reuters* (online ed, London, 14 June 2017).

¹⁰ Also known as ‘appcoins’. Rather than being mined by participants over time (like Bitcoin), investors in an ICO are rewarded with tokens that have already been ‘pre-mined’ by the development team. Without a premine, the ICO business model would not work, as there would be no way to reward investors for their contribution. However, there are negative side-effects of this process, see JP Buntinx “Instamine vs Premine” *The Merkle* (online ed, 18 April 2017).

¹¹ Henry Engler, above n 9.

¹² Fiat Currency is a legal tender that is backed by the sovereign government state that issues it. This differs from money whose value is underpinned by some physical good such as gold or silver (commodity money).

¹³ It is likely that the technology will advance so that fiat currency such as NZD can be used to purchase tokens directly.

Having determined that the rationale for regulating securities is broadly applicable to the way in which tokens are issued in an ICO, the second limb of the paper turns to the suitability of the FMCA as a framework for regulation. At the core of the FMCA are four defined categories of ‘financial products’.¹⁴ These are equity, debt securities, managed investment products (MIP), and derivatives. Offers of a “financial product for issue” requires disclosure to investors unless a specified exclusion applies.¹⁵ In 2013 Shelley Griffiths identified several key questions likely to emerge from this core provision, such as what constitutes a ‘financial product’, and to whom and how disclosure ought to be made.¹⁶ ICOs are certainly a cause for these questions to be studied. In addition, subpart 3 of part 9 provides the FMA with the power to declare that a security will be treated as an existing financial product (the designation power).¹⁷ Chapter IV analyses whether certain tokens would constitute any of the four defined financial products, and thereby require compliance with the Act. Chapter V analyses whether the designation power could provide an adequate solution where tokens are not captured.

In chapter IV a case study of an ICO is used to evaluate the applicability of existing regulatory regimes. In 2016, a newly founded investor directed venture capital fund called The DAO engaged in an ICO to raise funds. It created and issued DAO tokens to participants in return for crypto-currency. The DAO’s objective was to manage the fund on behalf of the participant by investing the accumulated funds in various other blockchain initiatives. There was an expectation that it would distribute positive returns to The DAO token holders. Whilst The DAO raised the equivalent of over \$150 million dollars in its ICO, the fund was subsequently subject to a catastrophic hack.¹⁸ The situation has given rise to many unprecedented legal questions, such as whether The DAO tokens were in fact securities, and whether the investors have or had any legal rights. Chapter IV is divided into two parts. First, the chapter examines whether The DAO tokens constituted a security under U.S. securities laws – the jurisdiction regarded as having the most encompassing securities laws. It is concluded that The DAO tokens did amount to an ‘investment contract’ and as such the ICO violated federal securities laws.¹⁹ Second, the chapter examines The DAO tokens in relation to each category of financial

¹⁴ Sections 6-10.

¹⁵ Shelley Griffiths “New Directions: Securities Regulations Become Financial Market Law” in J. Farrar & S. Watson (eds), *Company and securities law in New Zealand*. (2nd ed, Brookers, Wellington, 2013) 1179 at 1183.

¹⁶ Shelley Griffiths “New Directions and the Evolution of Financial Markets Law in New Zealand” in J. H. Farrar & S. Watson (eds.), *A to Z of NZ law: Company Law*. (Online ed, Thomas Reuters, Wellington, 2016) at [36.4].

¹⁷ Security is statutorily defined in the Financial Markets Conduct Act 2013, s 2.

¹⁸ See Lester Coleman “Ex-Ethereum Developer: How The DAO Hack Happened and What Comes Next” *Crypto Coins News* (online ed, Olso, 30 July 2016).

¹⁹ Under Section 2(a)(1) of the Securities Act 1933 and Section 3(a)(10) of the Exchange Act 1934, a security is defined to include the term ‘investment contract’, which has been interpreted by the courts as an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others, *SEC v. W.J. Howey Co.*, 328 U.S.. 293, 301 (1946) (Howey).

product under the FMCA. Ultimately it is concluded that The DAO tokens could constitute a MIP.

However, having established that securities laws are capable of capturing tokens that are in substance similar to existing financial products, the question remains as to whether the FMCA is capable of regulating the myriad of tokens that are designed in such a way that they do not fall within one of the four defined categories. One example of such a token is the Status Network Token (SNT). Chapter V examines whether the designation power is capable of bringing tokens like SNT within the ambit of regulation. It is ultimately concluded that the designation power as it stands is not capable of providing an adequate solution to regulate ICOs, and as such, recommendations for possible amendments are made.

Chapter II: The Emergence of Initial Coin Offerings

A What is an ICO?

An ICO is a way to raise capital from the public to fund the development of a new project that typically leverages blockchain technology. The capital is not raised in fiat currency, but in digital currency such as Bitcoin. In return for contributing, investors do not receive legally recognised ownership rights. Rather, they gain control rights over digital tokens which are expected or promised to have utility on the network being developed. These are freely transferrable on secondary markets. As a reasonably nascent phenomenon, ICOs are not directly regulated. The lack of Government oversight is attractive to start-ups who can bypass the time consuming and expensive process associated with a regulated offer of equity to the public.

The most disruptive feature of the technology underpinning ICOs is that it genuinely removes the need for intermediary institutions to be involved in the financing process. It also removes all jurisdictional and temporal boundaries. The blockchain enables funds to be securely transferred in a peer-to-peer manner almost instantaneously. This process contrasts dramatically to that endured by companies raising capital by traditional means, and is discussed in more detail in chapter III.

B How does an ICO compare to conventional forms of raising capital?

Traditionally, a company may only seek public financing through a regulated offer in compliance with the FMCA. This involves issuing either equity (shares) or debt securities to the public, and comes with extensive and ongoing disclosure obligations.²⁰ When a company

²⁰ See Financial Markets Conduct Act, pt 3.

issues its shares to the public for the first time, it is referred to as an IPO. With the exception of equity crowd funding (crowd funding), the Act generally draws a sharp distinction between offers made to the public at large, and those limited to individuals or groups who fall within an exempt class of investors (private offers).²¹ Issues to the public at large are generally subject to the Act's disclosure regime, but private offers are not. Crowd funding (and peer-to-peer lending) are the only mechanisms by which an offer can be made to the general public without having to comply with the FMCA's disclosure regime.²² Instead, the issuer is required to list their offer with an FMA licensed crowd funding provider, and companies are limited to raising \$2 million in any 12-month period.

A common type of private offer is one that is limited to wholesale investors.²³ A wholesale investor is a person deemed to be capable of looking after their own financial interests by reason of their commercial experience or expertise.²⁴ The cost of disclosure compliance is not justified for wholesale investors because it is presumed they will do the necessary due diligence themselves.²⁵ This investment environment comprises private equity, venture capital and angel investing, and is vital for young growth companies that are often otherwise prohibited from raising capital due to the cost of complying with reasonably extensive regulations.²⁶ Whilst these companies carry higher risk than more established institutions, there is also a potential for higher returns.

The FMCA is wide reaching, and the most comprehensive securities legislation in NZ's history.²⁷ Both the former Securities Act 1978 (SA) and the FMCA followed major financial failures, often affecting the life savings of investors.²⁸ This has resulted in a legislative environment in which, as described above, raising capital from a public audience is a time consuming, expensive and limited process.²⁹ In this environment, ICOs have emerged as a disruptive alternative. Unsurprisingly, ICOs are now at the forefront of regulatory scrutiny. Governments and lawyers alike appear perplexed as to whether this high tech and innovative mechanism is or should be subject to regulation.

²¹ Financial Markets Conduct Act, sch 1, s 3.

²² Under Financial Markets Conduct Act, sch 1, cl 6. The company is not subject to the disclosure regime that applies to larger offers. This is on the basis that there is less risk due to the relatively low level of capital at stake.

²³ Financial Markets Conduct Act, sch 1, cl 3.

²⁴ Stace and others *Financial Markets Conduct Regulation a Practitioner's Guide* (LexisNexis, Wellington, 2014) at 126.

²⁵ At 126.

²⁶ It is also used by companies that simply do not need to raise capital from such a wide group.

²⁷ Shelley Griffiths, above n 15, at 1181.

²⁸ Stace and others, above n 24, at v; Shelley Griffiths "New Directions and the Evolution of Financial Markets Law in New Zealand" in J. H. Farrar & S. Watson (Eds.), *A to Z of NZ law: Company Law*. (Thomas Reuters, Wellington, 2016) at [36.2].

²⁹ Limited in the sense that there is a cap on the amount of capital a company can raise in a given amount of time.

C Why are ICOs Different to Traditional Methods of Raising Capital?

Section A briefly introduced the unique characteristics of the ICO. This section expands upon these features. ICOs are popular with companies building decentralised network infrastructure. In a decentralised network, data is spread across multiple sites, rather than being held and owned by a central institution. The user interface for these networks are referred to as decentralised applications (DAPPS).³⁰ In contrast to a company that issues shares, the teams developing DAPPS are often unincorporated entities, and sell tokens. The legal nature of these tokens are subject to fierce debate, and likely represent and require recognition as a new asset class. The team that is seeking funding in an ICO generally advertises their concept by publishing and distributing a whitepaper on the internet which suggests that their tokens will in time have utility on the network they are developing.³¹ Tokens can vary significantly in design, but often provide various permissions on the network. These permissions are not presently recognised as legal rights.

In an IPO, the financial product on offer must be purchased by investors with fiat currency. In contrast, in an ICO tokens can only be purchased with crypto-currency. In addition to these differences it is important to emphasise that ICOs are conducted entirely over the internet. Anyone with an internet connection can participate in the offer regardless of where they are in the world, making ICOs are entirely borderless. Further, tokens and crypto-currencies are highly divisible, meaning an investor does not need to have a large starting capital to participate. Tokens are also very liquid, with a variety of token exchanges supporting an industry of secondary market token trading. Often this is an incentive for the public to participate, as significant capital gains can be made. ICOs have provided technology start-ups with the ability to access a vast amount of otherwise inaccessible capital. However, the funding method also raises concerns due to the lack of disclosure and governance regulations involved. There are increasing concerns that members of the public are speculating in token sales, without having a proper understanding of what they are purchasing. Tokens can be complex, and have been described as “defying simple categorisation, with their function limited only by the imagination of their creator and the technical constraints of the blockchain on which they operate”.³² Regardless of whether tokens are in fact securities, the manner in which they are

³⁰ Melanie Swan *Blockchain, Blueprint for a New Economy*, (O’Reilly Media, California, 2015) at 23.

³¹ A whitepaper is an authoritative research paper used by developers to explain a new concept. Its objective is to inform readers concisely about a complex issue and presents the issuing body’s philosophy on the matter. In the context of an ICO, they are often short and highly technical. Like companies in NZ publish a Product Disclosure Statement prior to an offer of shares to the public, developers often publish a whitepaper in the lead up to their ICO.

³² Henry Wells “Dawn of The DAO, Australian securities law and the second wave of blockchain innovation” (4 November 2016) Medium <www.medium.com/liberte-and-company/dawn-of-the-dao-f0f3bf1dea23>.

sold emulates the offer of a financial product, which involves management of financial risk. They are therefore of understandable concern to securities regulators.

Chapter III: The Technology Underpinning an ICO

As it may now be clear, ICOs are possible only as result of several recent advancements in technology. As such it is necessary and appropriate to briefly discuss how these technologies have evolved and work.

A Bitcoin: A Peer-to-Peer Electronic Cash System

Bitcoin is a digital cash and online payment system.³³ The major innovation is the complex cryptography which allows payments to be made from one device to another without requiring any intermediary to validate the transfer. Unlike transfers of fiat currency, which require a variety of intermediaries such as banks to process the payment and verify their validity, transfers of Bitcoin are genuinely peer-to-peer. The role of intermediaries is substituted and replaced by blockchain technology. The issue and supply of Bitcoin is also unique. Rather than being controlled by a central bank (or any institution or person) like fiat currency, the Bitcoin supply is regulated by mining encryption techniques which verify the payments made on the network.³⁴ Mining refers to the process in which computers race to solve complex algorithms that are generated by Bitcoin transactions.³⁵ The computer (or more commonly a group of computers now known as mining pools) that solves a given algorithm first is rewarded with Bitcoin.³⁶ When an algorithm is solved (and the Bitcoin therefore validly transferred), the block of data is added to the chain for all participants to see.³⁷ It follows that this public, automated ledger of Bitcoin transactions is known as the Bitcoin Blockchain.

Since 2009, the Bitcoin model has been copied, developed, and used to launch a wide range of other projects that utilise blockchain. However, in contrast to Bitcoin which first emerged via

³³ Bitcoin first emerged when its pseudonymous creator sent the whitepaper titled “Bitcoin: A Peer-to-Peer Electronic Cash System” to a cryptography mailing list in late 2008. The software was made available for download in January 2009, with the first Bitcoin being mined shortly thereafter.

³⁴ Melanie Swan, above n 30, at ix.

³⁵ See generally www.Bitcoin.org. Bitcoin miners perform this work because they can earn transaction fees paid by users for faster transaction processing, and newly created Bitcoins issued into existence according to a fixed formula. For new transactions to be confirmed, they need to be included in a block along with a mathematical proof of work. Whilst all crypto-currencies involve mining to generate new units, an ICO is an issue of ‘pre-mined’ tokens, so non miners can access them quickly. They can purchase them directly from the issuer who in turn raises capital quickly.

³⁶ This reward is the incentive to encourage miners to continue validating transfers of Bitcoin. In turn, Bitcoin cannot be transferred unless miners exist to solve the algorithms.

³⁷ The Bitcoin blockchain represents all of the past transactions that have occurred in the network since the first Bitcoin was mined in 2009.

public mining, the teams behind newer projects tend to pre-mine their coins and sell them to the public in an ICO. Each ICO is generally accompanied by a whitepaper explaining the technology and benefits of the concept. The tokens issued in turn represent value on the given blockchain that is used. There are now thousands of tokens which have been issued and can now also be mined or purchased online on crypto-currency exchanges. Bitcoin remains the largest blockchain network, followed by Ether, Ripple, and Litecoin.³⁸ In 2009, one Bitcoin cost US\$0.008. At the time of writing, one Bitcoin costs US\$4229.08.

B Blockchain

Whenever a transaction occurs in the economy, proof of the transaction is tracked in various accounting ledgers. These ledgers, which reference an enormous mass of data, are maintained and controlled by central institutions. For example, when Alice pays Bob for her coffee, Alice's bank updates its ledger to reflect this payment, whilst Bob's bank does the same. This occurs for the billions of transactions that occur every day. Centralised ledgers have many weaknesses. They are vulnerable to attack, prone to error, time consuming, and expensive.³⁹ A blockchain is a digital ledger that records digital currency transactions chronologically and publicly. A public blockchain has several important characteristics that differentiates it from a traditional ledger. First, the blockchain ledger is distributed. Rather than being stored with and maintained by one central institution, the ledger is distributed and synchronised across many computers (nodes). This makes it incredibly difficult to attack because a hacker would need access to every computer. This feature in turn makes blockchain incredibly secure. Second, public blockchains are not operated by an organisation or other familiar entity, but by the participants of the system itself. This means that any entity or individual can submit information to it. In order to be sure of the author's trustworthiness, information must be reviewed and confirmed before being accepted as a new block. The way that distributed operators of the blockchain evaluate and agree the data is true is through the process of consensus.⁴⁰ This consensus actually refers to sophisticated cryptography which prohibits Alice from spending Bitcoin she doesn't hold or spending her Bitcoin twice, and is a key reason why fraudulent transactions are kept out of the ledger.⁴¹ It is also difficult to falsify entries because new blocks can only ever be added to the chain, meaning that once a record is on the blockchain, it cannot be deleted or modified.⁴² Every record can be viewed by any member of the public, "allowing for any person

³⁸ Coinmarketcap "Crypto Currency Market Capitalizations" (April 2017) <www.coinmarketcap.com/charts/>.

³⁹ Sloane Brakeville and Bhargav Perepa, "Blockchain basics: Introduction to distributed ledgers" (9 May 2016) IBM Developer Works <www.ibm.com/developerworks/cloud/library/cl-blockchain-basics-intro-bluemix-trs/>.

⁴⁰ Chris Hammerschmidt "Consensus in Blockchain Systems. In Short." (28 January 2017) Medium <www.medium.com/@chrshmmmr/consensus-in-blockchain-systems-in-short-691fc7d1fefe>.

⁴¹ Ian Pattison "4 characteristics that set blockchain apart" (11 April 2017) IBM <www.ibm.com/blogs/cloud-computing/2017/04/characteristics-blockchain/>.

⁴² Hammerschmidt, above n 40.

⁴² Pattison, above n 41.

to individually verify the authenticity of each transaction recorded for any single entry in the database (the blockchain). This transparency means that blockchains are auditable”.⁴³ Whilst a blockchain is a public record of each transaction that has taken place, individual privacy is maintained. Only a string of numbers (known as an individual’s public key) is published, which is nearly impossible to link to any particular identity. In summary, “a blockchain can serve as an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way”.⁴⁴ Many blockchains now exist which record a large variety of different types of data.⁴⁵ The Harvard Business Review states “with blockchain, we can imagine a world in which contracts are embedded in digital code and stored in transparent, shared databases, where they are protected from deletion, tampering, and revision”.⁴⁶ The authors imagine a world in which “every agreement, every process, every task, and every payment would have a digital record and signature that could be identified, validated, stored, and shared”.⁴⁷ This will have a significant impact on intermediaries. “Intermediaries like lawyers, brokers, and bankers might no longer be necessary. Individuals, organisations, machines, and algorithms would freely transact and interact with one another with little friction. This is the immense potential of blockchain”.⁴⁸ It is this breakthrough that makes the ICO such a disruptive innovation.

C Smart Contracts

A smart contract is a contract embedded into code that can self-execute on the basis of pre-determined inputs.⁴⁹ Nick Szarbo, widely credited for the concept, explains smart contracts as a “set of promises, specified in digital form, including protocols within which the parties perform on these promises”.⁵⁰ The concept of a smart contract – moving legal transactions to the digital sphere – has existed since the early stages of the internet. However, “the concept that a computer protocol could execute contractual terms far exceeded the technological capabilities at the time”.⁵¹ Blockchain represents the type of technological platform that smart contracts have always needed in order to have practical application in the real world. When a smart contract is used to process a transaction, its terms must be embedded in both the hardware

⁴³ Hammerschmidt, above n 40; and see European Securities and Markets Authority Report: *The Distributed Ledger Technology Applied to Securities* (ESMA50-1121423017-285, 7 February 2011) at 4.

⁴⁴ Marco Iansiti and Karim R Lakhani "The Truth About Blockchain" *The Harvard Business Review* (online ed, Massachusetts, January 2017).

⁴⁵ This data is always represented by a protocol token or crypto-currency.

⁴⁶ Iansiti and Lakhani, above n 44.

⁴⁷ Above.

⁴⁸ Above.

⁴⁹ Kelly McFadzien *The Law [Is Not Always] In The Code – Legal Issues in Blockchain and Smart Contracts* (Chapman Tripp, Auckland, 2016) at 3.

⁵⁰ Nick Szabo *Smart Contracts: Building Blocks for Digital Markets* (1996).

⁵¹ Jacek Czarnecki and others, above n 3, at 5.

and in the software that runs the machine.⁵² The blockchain represents the software aspect. Contracts can be complex agreements between multiple parties who otherwise have no means to trust each other. The cryptography in the blockchain allows the smart contract data to be held, tracked and executed in a transparent and secure manner. The combination of smart contracts and blockchain technology has enabled the development of new decentralised business models – the aforementioned DAPPs. DAPPs are innovative because rather than being centralised and owned by one institution (such as Facebook), they are distributed networks that in theory give their users more control. Any centralised service can now potentially be built in a decentralised way using blockchain technology, considerably lowering transaction costs. One example is the Status Network (analysed in chapter V), which aims to be a decentralised social network in which users have both control over their data, privacy and the content that they view. The companies developing these distributed networks are the primary users of ICOs.

D Ethereum

Ethereum is a further critical development that has catapulted the popularity of ICOs. Ethereum is a platform which facilitates the relationship between blockchain and smart contracts. The platform provides developers with the technical support to run their own smart contracts and build decentralised networks.⁵³ Part of the technical support provided is the ability to create and issue tokens and consequently raise capital. Ethereum has its own protocol token called Ether, which is used to pay for transaction fees, miner rewards and other services on the network. Ethereum is widely regarded as catalysing the next hype cycle in computing, often referred to as ‘Web 3.0’.⁵⁴ The analogy to the internet is used because “the blockchain is like another application layer to run on the existing stack of internet protocols, adding an entire new tier to the internet to enable economic transactions, both immediate digital currency payments (in a universally usable crypto-currency) and longer-term, more complicated financial contracts”.⁵⁵ Web 1.0 was the read only web. This advanced into the mediated read and write web (Web 2.0), which catalysed the emergence of many now incumbent intermediary platforms that exist to help people successfully communicate and transact with people on the Web that they don’t know or trust.⁵⁶ In this structure there are perceived issues with security, privacy, censorship, transaction costs, and other inefficiencies stemming from the need to rely

⁵² Nick Abrahams *Smart Contracts: coding the fine print* (Norton Rose Fulbright, March 2016) at 7.

⁵³ Vitalik Buterin *Ethereum White Paper A Next-Generation Smart Contract and Decentralized Application Platform* (2013). Ethereum was a fundamental catalyst in the ICO revolution. However, not every ICO needs to use Ethereum.

⁵⁴ However, note there are key differences between the internet and blockchain. Joel Monegro, “Fat Protocols” (8 August 2016) USV <<http://www.usv.com/blog/fat-protocols>>; and Shivdeep Dhaliwal, “Despite Similarities, Is Blockchain Really the Next Internet?” *Coin Telegraph* (online ed, London, 10 March 2017).

⁵⁵ Melanie Swan, above n 30, at x.

⁵⁶ For example, Airbnb helps home owners to advertise and rent out their properties to people they do not know.

on an intermediary to validate the transaction in the first place.⁵⁷ Many of these problems can be solved by building new business models with blockchain and smart contracts, with Ethereum representing a platform on which they can be built. Platforms like Ethereum are a critical requirement in building this more transparent and unmediated Web 3.0.⁵⁸

E Raising Capital on the Ethereum Platform – Tokens

Running smart contracts and deploying DAPPS on Ethereum is not free. Ethereum charges a network fee which must be paid in Ether. To obtain Ether, teams will raise it from the public by selling their token in an ICO.⁵⁹ Ethereum itself facilitates ICOs. Developers can use the platform to create a token and sell it to the public, thereby raising the start-up capital they need to build a DAPP. At present there is no cap on the amount teams can raise, meaning astounding amounts can be raised if the public see value in the concept or it gains sufficient attention and hype. Investors can then hold the token until they can use it on the DAPP, or until they can sell it at a profit. The rights and obligations provided by a given token (also referred to as permissions) vary significantly, and are contained in the smart contracts deployed.⁶⁰ Hundreds of millions of dollars have now been raised using this new form of unregulated crowd funding on the Ethereum network. Some examples include OpenBazaar (a decentralized Craigslist), LaZooz (a decentralized Uber), Twister (a decentralized Twitter), Bitmessage (decentralized SMS), and Storj (decentralized file storage).⁶¹ The Ethereum network itself raised funds through its own ICO. At the time of writing, one Ether is worth USD\$320 and can be purchased on online exchanges. The owners of Ether who are not using it to build smart contracts are most likely holding it as an investment in the hope it will continue to rise in value. Since 2014, Ether tokens have increased in value by over 4000%.

F Is Regulation Appropriate?

1 The rationale for regulation of securities applied to ICOs

In the midst of the proliferation of ICOs, notably absent are the regulatory bodies to provide guidance on their legal status.⁶² The primary hurdle facing regulators is the nature of the tokens themselves. Tokens come in many varying forms. They have been described as “defying simple categorisation, with their function limited only by the imagination of their creator and the

⁵⁷ Such as a bank to transfer your online payment, or Airbnb to rent an apartment from someone.

⁵⁸ Shivdeep Dhaliwal, above n 54.

⁵⁹ Potential investors must obtain Ether themselves by mining it, or by purchasing it on an exchange.

⁶⁰ Jacek Czarnecki and others, above n 3, at 4.

⁶¹ Melanie Swan, above n 30, at 23.

⁶² Illiana Oris Valiente “Regulating ICOs: Striking a Balance in 2017” *Coin Desk* (online ed, London, 16 December 2016).

technical constraints of the blockchain on which they operate”.⁶³ A close analysis of many tokens often reveals that they look more like a software or a commodity, which do not historically trigger securities regulations.⁶⁴ In addition, it is possible that blockchain technology dispels the need for the disclosure required by existing legislation. This section examines the rationale for securities regulation in light of these claims, in order to broadly determine whether the arguments are justified. It ultimately concludes that if a token is in substance a security, disclosure regulations should apply regardless of whether that token is issued using blockchain and smart contract technology.

Securities regulation governs the public issue of securities, the secondary markets, asset management products and market intermediaries. The purpose of legislation in this area is to both facilitate businesses in accessing capital, and to protect the investors who provide the money.⁶⁵ It also aims to ensure the smooth functioning of trading, clearing and settlement mechanisms that will prevent market disruption and promote investor confidence.⁶⁶ Investors are deemed to require protection against issuers on the basis that the offeror has more information about what is being offered than the buyer. This is compounded by the fact that the value and quality of the security lies primarily in the future, and in the issuer’s control.⁶⁷ A potential shareholder’s ability to evaluate a company is particularly limited in the case of new companies, where there is no trading history, and little but the issuers assurances to go on.⁶⁸ The informational asymmetry between buyer and issuer, in addition to a general lack of factual information, is so extensive that the law deems it inappropriate to place the onus of inquiry and investigation solely on the purchaser.⁶⁹ Regulations attempt to reduce this imbalance of power and asymmetry of information by requiring extensive disclosure from the issuer about what is being issued. In NZ, the FMCA requires that investors are given full, timely and accurate information to enable them to make informed decisions about the financial products they are offered. Various legal mechanisms are put in place to ensure that the information provided by issuers is reliable, and corporate governance requirements ensure the effective accountability of management to shareholders.⁷⁰

⁶³ Henry Wells, above n 32.

⁶⁴ Thomas Gibbons “Purpose and Principles of Securities Regulation” in Stace (ed) *Financial Markets Conduct Regulation a Practitioner’s Guide* (LexisNexis, Wellington, 2014) 3 at 4-5.; *R v Moses* [2011] NZHC 646 at [35].

⁶⁵ Stace and others, above n 24, at v.

⁶⁶ Ana Carvajal and Jennifer Elliot *Strengths and Weaknesses in Securities Market Regulation: A Global Analysis* (International Monetary Fund, WP/07/259, November 2007) at 8.

⁶⁷ Ross Grantham and C. E. F. Rickett *Company and Securities Law: Commentary and Materials* (Brookers, Wellington, 2002) at 876.; and generally, A. C Page, R.B Ferguson *Investor Protection* (London, Weidenfeld and Nicholson, 1992) at 36-38.

⁶⁸ Ross Grantham and C. E. F. Rickett, above n 67, at 876.

⁶⁹ At 876.

⁷⁰ Financial Markets Conduct Act, pt 4.

If a token is a security, it would seem to be a natural assumption that the above regulations should apply. However, critics of this assumption argue that the blockchain technology on which ICOs are based intrinsically limits any asymmetries of information.⁷¹ Data stored on a blockchain is decentralised, open-source, and updated by consensus mechanisms. It could be possible that these properties provide more transparency and availability of information in comparison to traditional companies, such that the rationale for regulation does not apply. In contrast to companies that do not store their financials on a blockchain and only report once per year, in decentralised networks the storage and movement of funds can be viewed in real time. Because token holders can see how their contribution is being used, the structure arguably lends itself to enhanced peer-to-peer governance.⁷² Further, the code (which often contains everything from the way funds can be directed, to the bylaws and governance of the issuer) is publically available and accessible to all participants, enhancing transparency.⁷³

However, whilst the above points may be applicable to investors with an in-depth knowledge of cryptography and computer science, they are not sufficiently applicable to the public at large. Just as the phenomenon of big data has taught companies the value of data analytics, more information in relation to a company does not lend itself to a higher degree of understanding if that data cannot be analysed in a meaningful way. As stated by the Ministry of Economic Development in its regulatory impact statement prior to the review of the SA “lengthy disclosure documents do not provide well targeted information to investors”.⁷⁴ The objective is to facilitate capital market activity, and for this to occur, providing information well targeted to serve investors’ decisions and their abilities to understand the information provided is critical.⁷⁵ Where an offer is open to the public⁷⁶ it would be dangerous to assume that retail investors know how to comprehend code, and value the platform based on that code.⁷⁷ Decentralised networks are essentially dependent on the strength and security of their code. Without some standardised disclosure requirements, it is unlikely that retail investors (and arguably even wholesale investors who do not have blockchain or technology experience) will be able to identify and interpret the important nuances that should in fact be driving their decisions.⁷⁸ Further, they lack the presence of intermediaries that exist in traditional securities

⁷¹ See for example Alex Tarrock and Tyler Cowen “The End of Asymmetric Information” (6 April 2015) <<https://www.cato-unbound.org/2015/04/06/alex-tabarrok-tyler-cowen/end-asymmetric-information>>.

⁷² Note the immediate weakness in this argument – only aggregated data reveals the health of a company.

⁷³ Lior Zysman “DAOs and Securities Regulation” (30 September 2016) Smith and Crown <www.smithandcrown.com/daos-securities-regulation/>.

⁷⁴ Ministry of Economic Development “Review of Securities Law” (Regulatory Impact Statement, 17 March 2011) at 3.

⁷⁵ At 3.

⁷⁶ Meaning not limited to wholesale investors.

⁷⁷ At least whilst this is a nascent business model and it is fair to assume retail investors do not have the sophistication or experience to understand the new technology and how it relates to a protocols value.

⁷⁸ Illiana Oris Valiente, above n 62, at 3.

offerings which are obligated to ensure investor rights are of paramount importance.⁷⁹ Given the number of participants in recent ICOs, many of which have then turned out to have faulty code (or be complete scams), it is apparent that the people currently able to invest are not benefiting from the so called ‘enhanced’ information available to them. The DAO hack is evidence of this. In 2016 The DAO, a decentralised venture capital project, launched its ICO on the Ethereum blockchain. The DAO code contained a bug, which was naturally available to view on the blockchain throughout the ICO (and later as people started to trade the tokens). Despite this, investors poured the equivalent of \$150 million dollars into the project. Within months a hacker took advantage of the vulnerability, and stole over one third of The DAO’s assets.⁸⁰

At present, it is unlikely that the use of blockchain technology in of itself is sufficient to negate the rationale for securities regulation.⁸¹ However, because of the varying nature of the tokens issued, a class-wide approach should not be taken to tokens as a whole. A case by case approach would be more appropriate and successful in ensuring that regulation is not applied to tokens that do not in substance amount to a security.⁸² If a token represents a financial risk, and emulates a security that falls within current regulations, then the underlying principles of securities laws should in some form apply regardless of the use of blockchain technology. However, it is also vital to recognise that this nascent technology is a revolutionary breakthrough in computer science. Blockchain has wide applications from business to government, and other areas yet to be imagined – all with the potential to improve many aspects of our society and economy.⁸³ Premature regulation of ICOs could stifle positive innovation in this space. DLA Piper relevantly notes that “unfortunately, most historical questions about whether an instrument is a security are poor analogues for complex, novel, technology-enabled business models” which emphasises the difficult task faced by regulators.⁸⁴ Further, ICOs have their own potential benefits that should be considered, such as improving market practices, and reducing the discrimination in deal access in favour of high net worth investors.⁸⁵ ICOs are a valuable opportunity for emerging technology entrepreneurs who need a funding method with

⁷⁹ At 3.

⁸⁰ Lester Coleman, above n 18.

⁸¹ Where the token does amount to a security per Financial Markets Conduct Act, s 2. For example, in its response to the UK Financial Conduct Authority's consultation on the use of distributed ledger technology, the Association of Financial Markets in Europe stated "regulation should focus on the activity taking place, not the technology that delivers it." See Dr Avtar Sehra and others *Economics of Initial Coin Offerings* (1 August 2017) at 23.

⁸² Regulators in the US are at present taking a case by case approach. In July 2017 the Securities and Exchange Commission determined that The DAO tokens constituted a security under US securities laws, see chapter IV below.

⁸³ Arthur Falls “Ether Review Legal Discussion #1 – Challenges in Blockchain Law” (Podcast, 14 May 2017) The Ether Review <www.etherreview.info/tagged/podcast>.

⁸⁴ Andrew D. Ledbetter and Trenton C. Dykes *SEC Report on Tokens as Securities: Seven Takeaways* (DLA Piper, 31 July 2017).

⁸⁵ Lior Zysman, above n 73.

the scale of crowdfunding which can also raise meaningful capital.⁸⁶ Albert Wenger of the venture capital firm Union Square Ventures argues that ICOs are vital to finance valuable tech projects that would otherwise remain unfunded.⁸⁷

It is feared that the current regulatory framework is not suited to accommodate blockchain applications. This is unsurprising given that much legislation, including the FMCA, was drafted prior to the emergence of Ethereum and without consideration of ICOs. One of the additional purposes of the FMCA is “to promote innovation and flexibility in financial markets”⁸⁸ and to this end the FMA states “our objective is to enable innovation, rather than trying to make new products fit into existing requirements”.⁸⁹ With this purpose in mind, it is vital that regulators are not only open to new paradigms of regulation to facilitate new technology innovations, but also promote it to the forefront of their regulatory agenda.

Chapter IV: Tokens under the FMCA

A Legal Framework

The FMCA governs how securities are created, promoted and sold in NZ, and the ongoing obligations on those who offer, deal and trade them. It also regulates the provision of certain financial services.⁹⁰ As stated by the Ministry of Business, Innovation and Employment (MBIE) “it aims to facilitate capital market activity, in order to help businesses to fund growth and individuals to reach their financial goals”.⁹¹ The main purposes of the Act are to:⁹²

- (a) promote the confident and informed participation of businesses, investors, and consumers in the financial markets; and
- (b) promote and facilitate the development of fair, efficient, and transparent financial markets.

The additional purposes are to:⁹³

⁸⁶ Andrew D. Ledbetter and Trenton C. Dykes, above n 84.

⁸⁷ The Economist “The market in Initial Coin Offerings risks becoming a bubble. But it may also spawn valuable innovations” *The Economist* (online ed, London, 27 April 2017).

⁸⁸ Section 4.

⁸⁹ The Financial Markets Authority “Support market innovation” <www.fma.govt.nz/about-us/what-we-do/support-market-innovation/>.

⁹⁰ Ministry of Business Innovation & Employment *Financial Markets Conduct Regulations Discussion Paper* (MBIE-MAKO-3342526, December 2012) at 4.

⁹¹ At 4.

⁹² Section 3.

⁹³ Section 4.

- (a) to provide for timely, accurate, and understandable information to be provided to persons to assist those persons to make decisions relating to financial products or the provision of financial services;
- (b) to ensure that appropriate governance arrangements apply to financial products and certain financial services that allow for effective monitoring and reduce governance risks;
- (c) to avoid unnecessary compliance costs; and
- (d) to promote innovation and flexibility in the financial markets.

Regulation in this area ensures that the capital markets operate efficiently. Regulations have costs, and whilst these are directed at businesses, they are ultimately borne by investors.⁹⁴ The FMCA seeks to minimise these costs while enabling the capital markets to operate as efficiently as possible.⁹⁵ In 2013 the FMCA replaced the SA. In contrast to the SA where “products were frequently regulated according to their legal form and how they are described” the FMCA focusses on economic substance, with the aim being that issuers cannot avoid regulations by the special structuring of their securities.⁹⁶

The SA broadly defined the term ‘security’ as “any interest or right to participate in any capital, assets, earnings, royalties, or other property of any person”.⁹⁷ By 2010 it was recognised that the different categories of securities were “out-of-date and in many cases uncertain”.⁹⁸ Products were “frequently regulated according to their legal form and how they were described, rather than their economic substance, allowing issuers to avoid regulations by special structuring of securities”.⁹⁹ In addition, the SA was criticised for regulating a variety of arrangements and transactions in which participants did not seek to earn a return or hedge risk, meaning the SA’s requirements were simply irrelevant and burdensome.¹⁰⁰ In response, the FMCA expressly targets four specified categories of financial products - equity, debt, MIPs and derivatives.¹⁰¹ These categories are each defined in more detail in section 8. The objective behind this is to only regulate products for which “generating a financial return or hedging a financial risk is a

⁹⁴ Ministry of Business Innovation & Employment, above n 90, at 4.

⁹⁵ At 5.

⁹⁶ Ministry of Economic Development *Review of Securities Law Discussion Paper* (1028046, June 2010) at 6.

⁹⁷ Securities Act 1978, s 2D.

⁹⁸ Ministry of Economic Development, above n 96, at 6.

⁹⁹ At 6. For example, issuers of some kinds of debt and interests in collective investment schemes may instead choose to issue specially structured company shares that have fewer regulatory requirements.

¹⁰⁰ Ministry of Economic Development, above n 96, at 6.

¹⁰¹ Financial Markets Conduct Act, s 7.

significant feature”.¹⁰² However, in recognition of the fact that market practices evolve continuously and new ways of investing and soliciting investments emerge regularly, the FMCA provides the regulator with a broad power to pull into the Act any other securities as is considered necessary.¹⁰³ A “security” is defined as “an arrangement or a facility that has, or is intended to have, the effect of a person making an investment or managing a financial risk”.¹⁰⁴ The FMA is directed when designating a security as a financial product to consider the economic substance of the security, and be satisfied designation would further the purposes of the Act.¹⁰⁵ To date there have been three designations, but none involving a product that does not already fit into at least one of the specified categories. The following analysis suggests that many tokens issued in an ICO are capable of falling outside the four discrete categories that are defined, making the designation power particularly relevant.

In this paper two ICOs are analysed under the existing regulatory framework. First, The DAO tokens are analysed under both U.S. securities laws and the FMCA. This analysis shows that The DAO tokens fall within the scope of the securities laws in each jurisdiction. Second, the token of a decentralised social network called ‘Status’ is analysed. This token (SNT) is not a financial product. However, it likely falls within the broader category of ‘securities’ that can be subject to designation.

B The DAO Case Study

1 Background and context

The DAO was developed by a company called Slock.it and had several managers (called curators) who planned to oversee the whole operation. The DAO was an unincorporated organisation developed on the Ethereum network as an investor directed venture capital fund.¹⁰⁶ It sold DAO tokens in return for Ether, a portion of which it would hold in a fund and invest in various projects. It was structured to operate as a profit making entity that would earn a return for the token holders.¹⁰⁷ Although not necessarily relevant in the determination of whether the tokens constitute a financial product, for context it is noted that The DAO was a Decentralised Autonomous Organisation. This is a self-executing entity based on a complex web of smart contracts, with the potential to automate many aspects of how companies are run. The legal status of this structure is universally unclear, and is likely to present novel legal

¹⁰² Ministry of Economic Development, above n 96, at 6.

¹⁰³ Financial Markets Conduct Act, s 562.

¹⁰⁴ Financial Markets Conduct Act, s 6.

¹⁰⁵ Section 563.

¹⁰⁶ See Christopher Jentsch *Decentralized Autonomous Organization to Automate Governance* (April 2016).

¹⁰⁷ Securities and Exchange Commission *Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO* (Securities and Exchange Commission, Release No. 81207, 25 July 2017).

questions in corporate law in the future.¹⁰⁸ The DAO’s contracts were coded to hold and deploy funds as voted on by the token holders.

C The DAO Tokens under U.S. Securities Laws

Following the hack of The DAO and the rise of ICOs throughout 2016 and 2017, the U.S. Securities and Exchange Commission’s Division of Enforcement (SEC) investigated whether a DAO token amounted to a security, meaning the offer had violated federal securities laws.¹⁰⁹ In a report issued on the 25th July 2017 the SEC concluded that The DAO tokens did constitute a security under the Securities Act 1933.¹¹⁰

Under Section 2(a)(1) of the Securities Act 1933 and Section 3(a)(10) of the Exchange Act 1934, a security is defined to include the term ‘investment contract’, which has been interpreted by the courts as an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others (the *Howey* Test).¹¹¹ This interpretation is broad in scope, with the Court stating it embodies a “flexible rather than a static principle, one that is capable of adaptation to meet the countless and variable schemes devised by those who seek the use of the money of others on the promise of profits”.¹¹² Because the broadly interpreted investment contract is able to capture such a diverse range of instruments,¹¹³ many ICOs exclude participation from US citizens in the hope of avoiding prosecution from the SEC. The SEC’s analysis is summarised below.

1 Investment of money

“Money” is interpreted broadly under the test, sufficient to encompass investment in the form of crypto-currency.¹¹⁴ This meant that the payments in Ether were “contributions of value” sufficient to “create an investment contract under *Howey*”.¹¹⁵

¹⁰⁸ Christopher Jentsch, above n 106, at 1.

¹⁰⁹ Securities and Exchange Commission, above n 107.

¹¹⁰ The report did not comment on the legal status of Decentralised Autonomous Organisations – this fell outside the scope of the report, see page 1 of the report.

¹¹¹ *SEC v. Edwards*, 540 U.S. 389, 393 (2004); *SEC v. W.J. Howey Co.*, 328 U.S. 293, 301 (1946); see also *United Housing Found., Inc. v. Forman*, 421 U.S. 837, 852-53 (1975) (The “touchstone” of an investment contract “is the presence of an investment in a common venture premised on a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others”).

¹¹² *SEC v. W.J. Howey Co.*, above n 111, at 299.

¹¹³ Marco Santori “Appcoin Law: ICOs the Right Way” *Coin Desk* (online ed, London, 15 October 2016).

¹¹⁴ *Useton v. Comm. Lovelace Motor Freight, Inc.*, 940 F.2d 564, 574 (10th Cir. 1991); Securities and Exchange Commission, above n 107, at 11.

¹¹⁵ Securities and Exchange Commission, above n 107, at 11.

2 Reasonable expectation of profits

Under U.S. case law, profits include any increase in value of an investment.¹¹⁶ The marketing materials promulgated by the founders of The DAO informed investors that “The DAO was a for-profit entity whose objective was to fund projects in exchange for a return on investment”.¹¹⁷ If the projects that The DAO invested in were successful, each token holder stood to share in the profits from those projects.

3 Derived from the managerial efforts of others

The key question under this prong of *Howey* is “whether the efforts made by those other than the investor are the undeniably significant ones, those essential managerial efforts which affect the failure or success of the enterprise”.¹¹⁸ The Slock.it co-founders were active in the marketing of The DAO, answering interested investors questions online, writing frequent blogs and informing the public on a number of topics related to the future of The DAO, including “security concerns, ground rules for how The DAO would work, and the anticipated role of DAO token holders”.¹¹⁹ They also told investors that Slock.it would pitch the first contract to The DAO which they expected to be profitable. The SEC concluded the activities of the co-founders “led investors to believe that they could be relied on to provide the significant managerial efforts required to make The DAO a success”.¹²⁰ Participants relied on the team for the safeguarding of their funds, and determining which projects would be put forward for a vote. The curators “exercised significant control over the order and frequency of proposals and could impose their own subjective criteria for whether the proposal should be whitelisted for a vote by DAO token holder”.¹²¹ Whilst investors were able to exercise a vote as to which projects would receive funding, they were not required to exercise a vote. In this sense the investors “had little choice but to rely on their expertise”.¹²² The role of the curators in vetting proposals, combined with the team’s active oversight of The DAO’s operation meant that the curator’s efforts were “essential to the enterprise”.¹²³ The investors expectation of profits was therefore derived from the managerial efforts of others.

The report is ultimately the first assertion by any regulatory agency that the sale of a blockchain token constituted an illegal sale of unregistered securities. The reaction to the report has been

¹¹⁶ *SEC v. Edwards*, above n 111, at 393.

¹¹⁷ Securities and Exchange Commission, above n 107, at 11-12.

¹¹⁸ *SEC v. Glenn W. Turner Enters., Inc.*, 474 F.2d 476, 482 (9th Cir. 1973).

¹¹⁹ Securities and Exchange Commission, above n 107, at 12.

¹²⁰ At 12.

¹²¹ At 12.

¹²² At 13.

¹²³ At 12; *SEC v. Glenn W. Turner Enters., Inc.*, above n 118.

mixed, with some suggesting that it is very specific to The DAO.¹²⁴ However, others anticipate that this is merely the beginning of a wider crackdown on ICOs.¹²⁵ The former is a more realistic interpretation of the report. Whilst it is likely the SEC will continue to examine ICOs, the facts and circumstances considered in the report do not capture every token as a security. As such, the report has not sealed the fate of all ICOs and blockchain tokens as securities – it should depend on the circumstances of each ICO, including the “economic realities of each transaction”.¹²⁶ Nonetheless, as a result of the report, it is predicted that teams looking to ICO will be more stringent about the nature of their tokens, and may additionally exclude U.S. citizens from participating in the hope of avoiding the SEC’s oversight.

D The DAO Tokens Under the FMCA

As in many other parts of the world, participation in ICOs is becoming more popular in NZ.¹²⁷ However, unlike the SEC, the FMA has not issued a statement concerning their legal status. This section analyses how the FMA might view The DAO tokens if an investigation took place. Three of the four financial products are analysed - debt securities, equity, and MIP.¹²⁸ It is concluded that The DAO tokens did meet the elements of an MIP, and therefore should have been registered under the FMCA.

1 Debt security

A debt security is a type of financial product intended to capture and regulate loan agreements. Debt securities are defined in the FMCA as “a right to be repaid money or paid interest on money that is (or is to be) deposited with, lent to, or otherwise owing by, any person”.¹²⁹ In return for the investors’ provision of money up front, the issuer generally agrees to pay the investor back their initial investment plus interest. The interest functions as an incentive for the investor to enter the agreement, reflecting the lender’s return on their investment. Debt securities include debentures, bonds and notes; convertible notes; and certain redeemable shares but exclude certain shares in co-operative companies; certain derivatives; and certain

¹²⁴ U.S. Securities and Exchange Commission “SEC Issues Investigative Report Concluding DAO Tokens, a Digital Asset, Were Securities” (press release, 25 July 2017). The press release states regulation will depend on “the facts and circumstances, including the economic realities of the transaction”.

¹²⁵ Jeff John Roberts “The SEC’s Big Digital Coin Ruling: What It Means” *Fortune* (online ed, New York, 26 July 2017).

¹²⁶ U.S. Securities and Exchange Commission, above n 124.

¹²⁷ Per the Financial Markets Conduct Act, s 47(2) financial products are offered in NZ if an offer of the financial products is received by a person in NZ, unless the offeror demonstrates that it has taken all reasonable steps to ensure that persons in New Zealand (other than persons referred to in subsection (3)) may not accept the offer.

¹²⁸ The fourth financial product, derivatives, is not analysed. After some consideration, it is concluded that The DAO tokens do not share relevant similarities with derivatives and as such it was not useful to include the analysis.

¹²⁹ Section 8(1)(a).

units or interests in registered schemes.¹³⁰ The transaction that took place between investors and The DAO was an investment of Ether into a fund. Whilst investors were provided with limited voting capabilities, the investors expected the assets to be managed on their behalf with the objective of this management being to provide a return on their investment. Participants would be able to on-sell their tokens in secondary markets, but investors did not contract for, nor were they provided with the right to repayment of their principle investment. As such, the transaction did not constitute a debt security as statutorily defined. However, as *Howey* illustrates, the scope of securities laws can be wider than it would ordinarily seem. The Supreme Court decision of *Hickman and Ors v Turner and Waverley Ltd (Blue Chip)* highlights this theme in relation to the scope of the ‘debt security’.¹³¹ The case was decided under the former SA, but its relevance under the FMCA is yet to be tested. If its wide interpretation of debt securities is upheld The DAO tokens could feasibly be captured in this category.

The case followed the collapse of the Blue Chip property scheme which occurred in 2008. Blue Chip organised for the complainants to enter into sale and purchase agreements (SPA) with a property developer. When the scheme collapsed, the investors argued that the SPA constituted a debt security, and thus Blue Chip had violated the SA by failing to register the offering and comply with the Act. At first it appeared there would be a number of hurdles preventing the success of this argument. First, the sale of property is not ordinarily considered a security because it is not financing in nature. However, in the Blue Chip scheme it was never intended that those funding the development (the investors) would ever live in it or use it.¹³² The scheme was financing in nature because Blue Chip organised for investors to enter into a complex arrangement with the developers to fund the properties, and promised the investors that they would eventually see a return on investment.¹³³ Typically, the investors borrowed the money that they put into the arrangement. Blue Chip organised the borrowing arrangements with independent third parties, typically helping them to get a mortgage over their houses to secure the borrowing.¹³⁴ However, to bring the debt security claim against Blue Chip, the investors had to prove that they had “a right to be paid money or interest on money that is deposited with” Blue Chip.¹³⁵ Problematically, the SPAs was between the developers and the investors, not Blue Chip.¹³⁶ However, the Court nevertheless found that the investors had a right to be

¹³⁰ Section 8(1)(c).

¹³¹ [2012] NZSC 72.

¹³² Greg Ninness “Property Investing the Hands Off Way” *Sunday Star Times* (online ed, Auckland, 22 October 2006).

¹³³ *Blue Chip*, above n 131, at [61].

¹³⁴ Barry Allan “Blue Chip and Attribution” (2012) NZLJ 317 at 317.

¹³⁵ Securities Act 1978, s2D. Note the difference to ‘repaid’ under the Financial Markets Conduct Act.

¹³⁶ Barry Allan, above n 134, at 317.

paid money by Blue Chip because under the contracts Blue Chip had agreed to pay the investors ‘fees’, which all resembled interest payments.¹³⁷

Therefore, the Supreme Court concluded that the SPAs could be debt securities because they conferred on the investors the right to be paid money that was owing to them by Blue Chip (in the form of fees). The Court stated “money was put up by investors on the promises by Blue Chip of reimbursement or a return”.¹³⁸ Blue Chip was an ‘issuer’ despite not receiving any money directly from the investors because it nonetheless received a number of benefits which could be described as ‘money's worth’.

The impact of the decision expanded the former understanding of what constituted a debt security. If a scheme when looked at as a whole appears to be a mechanism for obtaining finance from the public, it may be deemed a debt security.¹³⁹ To this end it arguably could capture the issue of The DAO tokens despite the lack of agreement to repay the money initially invested. The DAO token sale was a mechanism by which The DAO sought financing to invest in other projects (as the SPAs were a mechanism for financing in *Blue Chip*), and the token holders expected to receive regular payments from The DAO in the form of ‘rewards’ when projects were successful. The whitepaper states “reward tokens are generated when The DAO makes any transaction spending Ether... The DAO can use these rewards to fund new proposals or to fairly distribute the rewards to the reward token holders (using a proposal which gets voted on by The DAO token holders). Then the token holders of The DAO will be able to claim the Ether they have earned for their contribution to the original DAO that issued the reward token”.¹⁴⁰

However, it appears unlikely that the interpretation taken in *Blue Chip* will be relevant under the FMCA.¹⁴¹ In light of the *Blue Chip* litigation, a slightly different definition of debt security was introduced in the FMCA, more extensively defining its characteristics.¹⁴² The new definition refers to a right to be “repaid” money, in contrast to the broader right to be ‘paid’ money.¹⁴³ Further, the new definition limits the scope of ‘money’ because it no longer includes

¹³⁷ *Blue Chip*, above n 131, at [10]; E Mackenzie Jones “Has the Supreme Court Turned and Waved Goodbye to the Essence of the NZ Securities Regime? – An analysis of the Purposes Underpinning Securities Market Regulation in NZ” (LLB (Hons) Dissertation, University of Otago, October 2013) at 30.

¹³⁸ *Blue Chip*, above n 131, at [61].

¹³⁹ Murray Tingey *What is a ‘Security’ and When Does a Sale of Land Require a Prospectus? The Supreme Court Reverses Previous Thinking* (Bell Gully, August 2012).

¹⁴⁰ Christopher Jentsch, above n 106, at 10.

¹⁴¹ For further commentary on the relevance of the case under the Financial Markets Conduct Act, see Thomas Gibbons, above n 64, at 12.

¹⁴² Shelley Griffiths “Securities Regulation” in John Farrar and Susan Watson (eds) *Company and Securities Law in New Zealand* (2nd ed, Brookers Ltd, Wellington, 2013) at 1025.

¹⁴³ Financial Markets Conduct Act, s 8(1)(a); Securities Act 1978, s 2; E Mackenzie Jones, above n 137, at 47.

‘money’s worth’.¹⁴⁴ It is apparent from the consultation leading to the FMCA that stakeholders were concerned about the ramifications that a wide interpretation would have. A wide interpretation would essentially make the debt security a ‘catch-all’ category for novel instruments that arose, or simply lead to a myriad of exemption notices for instruments that were not in substance as debt security, but would be caught under the wide interpretation. The designation power would be better suited to capture novel instruments such as the Blue Chip SPAs.¹⁴⁵ In the case of The DAO contracts, purchasing a token did not provide the token holder with rights to be repaid the Ether they invested. In reality they contracted to have their funds managed on their behalf, trusting the curators to invest it in new blockchain projects that might earn them a return on their investment.

2 Equity

Equity is defined in the FMCA as “a share in a company”.¹⁴⁶ The Companies Act 1993 sets out a variety of statutory rights and powers attached to shares.¹⁴⁷ A share confers on the holder:¹⁴⁸

- (a) the right to one vote on a poll at a meeting of the company on any resolution, including any resolution to:
 - (i) appoint or remove a director or auditor;
 - (ii) adopt a constitution;
 - (iii) alter the company’s constitution, if it has one;
 - (iv) approve a major transaction;
 - (v) approve an amalgamation of the company under section 221;
 - (vi) put the company into liquidation;
- (b) the right to an equal share in dividends authorised by the board; and
- (c) the right to an equal share in the distribution of the surplus assets of the company.

¹⁴⁴ Notably, the other three financial products still include money’s worth.

¹⁴⁵ Kelly McFadzien, above n 49, at 3.

¹⁴⁶ Financial Markets Conduct Act, s 8(2).

¹⁴⁷ Companies Act 1993, s 36, subject to s 53 which provides the ability to negate, alter, or add to the rights and powers by the constitution the constitution of the company or in accordance with the terms on which the share is issued under section 41(b) or s 42 or s 44 or s 107(2), as the case may be.

¹⁴⁸ Financial Markets Conduct Act, s 36.

Tokens do not represent shares in a company.¹⁴⁹ Whilst the team issuing tokens in an ICO may be an incorporated company, their shares (whether publically or privately held) are distinct from the tokens they issue. Whereas the shares are legally defined and carry the legal rights and functions described above, the tokens being issued represent utility on the network they are pitching. Alternatively, the ICO may not be run by an incorporated entity at all, but rather by a DAO. In this situation, the tokens cannot be classified as equity, as there is no company in which the shares could be offered. This was certainly the case with The DAO. Whilst The DAO was created by a team who were organised as a privately held company (Slock.it), The DAO tokens were not linked in any way to Slock.it's equity. As aforementioned, The DAO itself was not an entity that could legally issue shares. A DAO is a purely digital, largely automated, unincorporated entity that is neither legally recognised or registered in any jurisdiction. The tokens sold did not represent ownership rights in this novel structure, which in a sense purported to be 'ownerless'. This was made explicit to all participants in the token sale. The participants received rights to ownership of an asset (their digital token) but it is clear that this was not equity in any company. It follows that The DAO tokens were not equity as defined in the FMCA.

3 Managed investment product

An MIP is an interest in a managed investment scheme (MIS). An MIS means a scheme to which each of the following applies:¹⁵⁰

- (a) the purpose or effect of the scheme is to enable persons taking part in the scheme to contribute money, or to have money contributed on their behalf, to the scheme as consideration to acquire interests in the scheme; and
- (b) those interests are rights to participate in, or receive, financial benefits produced principally by the efforts of another person under the scheme (whether those rights are actual, prospective, or contingent, and whether they are enforceable or not); and
- (c) the holders of those interests do not have day-to-day control over the operation of the scheme (whether or not they have the right to be consulted or to give directions).

The elements of the MIP and associated MIS in substance align with those set out in the *Howey* Test. It would not be surprising if the FMA looked to adopt the reasoning in the SEC report as a basis for determining that The DAO tokens, and other blockchain based venture capital firms

¹⁴⁹ However, a company can 'tokenise' their equity by issuing equity in the digital form of a blockchain token. For example, see generally www.overstock.com.

¹⁵⁰ Financial Markets Conduct Act, s 9(1).

that emerge in the future constitute a MIP. The effect of The DAO scheme was that persons could contribute Ether as consideration to acquire tokens that represented an interest scheme. Subject to whether Ether constitutes money, this element is met. The tokens (the relevant interest here) represented rights to participate in the financial benefits produced principally by the curators and contractors.¹⁵¹ The second element is met. Whilst The DAO token holders did have limited voting rights, they did not have day to day control over their investment in any meaningful sense when compared to the significant role played by the Curators. The third element is also met.

The critical question within the MIP definition is whether Ether and other crypto-currency raised in ICOs constitute ‘money’. Section 9(1)(a) specifies that “the purpose or effect of the scheme is to enable persons taking part in the scheme to contribute *money*”.¹⁵² This raises two important questions: what exactly is ‘money’ and do digital currencies fall within this scope?

There is a substantial body of law dedicated to the concept of money. However, lawyers and legislators have deliberately avoided attempting to formulate a legal definition.¹⁵³ It follows that it is not statutorily defined in the FMCA, or any other NZ statute. The FMCA simply states that money includes ‘money’s worth’ for the purpose of each financial product except for debt security.¹⁵⁴ Rather than being explicitly defined, money is characterised by three key functions.¹⁵⁵ These are medium of exchange, unit of account, and store of value.¹⁵⁶ It is highly debated as to whether digital currencies fulfil these functions. Critics argue that the medium of exchange function is limited due to a lack of vendors accepting digital currencies, and the store of value function is limited because the value of the currencies is highly volatile. However, as digital currencies gain wider acceptance it is increasingly possible to argue they do have all the essential functions of money. Bitcoin serves as a medium of exchange when Bitcoins are sent to vendors in exchange for goods and services, it functions as a unit of account when vendors denominate the prices of goods and services in them, and it is used as a store of value when users hold Bitcoins to send or sell them in future.¹⁵⁷

¹⁵¹ The rights were outlined in the smart contract they underpinned each token agreement, and were stated on The DAOs website. The curators would vet proposals and manage the operational aspects of the system, whilst contractors would theoretically build successful networks that would provide tokens holders with financial returns. The financial returns included ‘rewards’.

¹⁵² Emphasis added.

¹⁵³ David Fox and Wolfgang Ernst *Money in the Western Legal Tradition: Middle Ages to Bretton Woods* (1st ed, Brookers, Wellington, 2003) at 7.

¹⁵⁴ Most likely in order to avoid another debt security situation experienced with *Blue Chip*.

¹⁵⁵ David Fox and Wolfgang Ernst, above n 153, at 7.

¹⁵⁶ See European Central Bank, *Virtual Currency Schemes* (ECB Publications, October 2012). There are also other characteristics, such as durability.

¹⁵⁷ Sergei Scherbak “How Should Bitcoin Be Regulated” (2014) 7 EJLS. 41 at 52.

A further question is whether digital currencies can constitute money given they do not constitute legal tender in any jurisdiction, nor are they subject to any consistent global regulatory framework.¹⁵⁸ Legal tender is the currency issued by the Reserve Bank under the Reserving Bank of New Zealand Act 1989.¹⁵⁹ The Reserve Bank issues NZ Dollars, and clearly does not issue, nor is it capable of issuing or controlling digital currencies such as Bitcoin.¹⁶⁰ It follows that virtual currencies do not have the ultimate backstop that sovereign currencies have, in that they are not backed by the Government insisting that the currency is legal tender (meaning they must be accepted as payment for a debt).¹⁶¹ This has led to various investigations into government controlled virtual currencies, and the legal framework that could facilitate it.¹⁶² However, there are many questions about how this can be achieved, so for the moment the regulatory landscape remains in a state of flux.¹⁶³ Ultimately, the virtual currencies that are run on public blockchains, and are currently used to purchase tokens in ICOs do not have the status of legal tender in any jurisdiction.

Given that money is characterised by its functions, and not its status as legal tender, it is concluded that the fact that it is not legal tender does not necessarily exclude virtual currencies from constituting money for the purposes of the FMCA. The above analysis reveals that the concept of money is much broader than legal tender, and that the FMCA widens this further by

¹⁵⁸ Inland Revenue Service (Notice 2014-21, 26 March 2014); Inland Revenue Service “IRS Virtual Currency Guidance: Virtual Currency Is Treated as Property for U.S. Federal Tax Purposes; General Rules for Property Transactions Apply” (25 March 2104) <www.irs.gov/newsroom/irs-virtual-currency-guidance>.

¹⁵⁹ The NZ Dollar (NZD). See Reserve Bank Act of New Zealand 1989, s 27. Similarly, in the U.S. legal tender is “the coin and paper money of the United States or of any other country that is designated as legal tender, which circulates, and is customarily used and accepted as a medium of exchange in the country of issuance”. See Inland Revenue Service, above n 158, at 1.

¹⁶⁰ Bitcoin is generated according to the protocol via mining. Note the Reserve Bank could digitise the NZD, however this use a private blockchain, which is distinct to virtual currencies such a Bitcoin that run on a public blockchain.

¹⁶¹ This does not preclude something being ‘money’ see David Fox and Wolfgang Ernst, above n 153, at 14 for evidence that currencies can be privately created and operate outside the Governments monopoly on coinage.

¹⁶² Australia, South Korea, Zimbabwe, Canada, the Bank of England and the People's Bank of China are all studying the technology intently, see James Eyers “Central banks look to the future of money with technology trial” (21 November 2016) Financial Review <www.afr.com/technology/central-banks-look-to-the-future-of-money-with-blockchain-technology-trial-20161117-gss4nd>; and Samburaj Das “Singapore Trials its Digital Dollar via an Ethereum Blockchain” *Crypto Coins News* (online ed, Oslo, 8 June 2017).

¹⁶³ Buddle Findlay has described the regulatory landscape as a ‘dense fog’ in Simon Jensen *Bitcoin regulation in New Zealand: A dense fog* (Buddle Findlay, 12 December 2014). This is largely a result of the unique characteristics which can leave digital currencies looking like a hybrid of currency, commodity, security, information, and payment system. There are also many actual and perceived risks associated with digital currencies which discourages Governments from declaring them as legal tender and promoting their use (for example, anonymity).

including ‘money’s worth’.¹⁶⁴ The lack of legal tender status or other regulatory framework is therefore unlikely to effect the applicability of section 9(1)(a). This is further supported by one of the purposes of the Act - to protect investors from significant financial risk. As suggested by the inclusion of ‘money’s worth’, it would be logical for the section to encompass any contribution valued by the participant. It is therefore likely that the contribution of Ether and Bitcoin to The DAO would constitute an investment of money, and it follows that The DAO tokens were an MIP.

E Conclusion

The above analysis suggests that if blockchain technology is used to emulate existing regulated structures, the use of such novel technology and automation will not remove them from the purview of NZ securities laws. The DAO ICO was likely an unregistered offering of an MIP offered to the public in contravention of the FMCA. Any entity that wishes to raise funds from the public by way of ICO and manage these assets like they are an MIP in the future is well advised to comply with the FMCA, or at least approach the FMA for guidance in order to avoid potential liability.

Chapter V: Tokens that are not financial products

A Token Designs that Sit Outside the Four Defined Categories

The analysis of The DAO tokens makes clear that securities laws are capable of capturing tokens that share the characteristics of and behave like existing financial products. However, The DAO is only one of many types of tokens that have been issued in an ICO. Beyond The DAO catastrophe, there a multitude of tokens that do not fall within the four defined categories. These tokens share minimal resemblance with The DAO token design, and the SEC report provides no guidance on whether these other varieties will be subject to securities laws. A key differentiating feature of such tokens are what permissions or powers the protocol token grants the user.¹⁶⁵ The term ‘permission’ does not refer to legal rights. It refers to what capabilities the user has on the network as a result of having access to the networks token.¹⁶⁶ For example, ownership of Bitcoin provides the holder with the ability to send Bitcoin to other users. In more complex examples (such as The DAO), permissions can provide anything from the ability to vote on key decisions regarding how the platform is built and maintained, where data is stored, and how content is presented. These permissions are fundamental to building new eco-systems

¹⁶⁴ Financial Markets Conduct Act, s 6. However, see Peter Spiller *NZ Law Dictionary* (8th ed, LexisNexis, Wellington, 2015) at 193. This defines money as currency authorised as a medium of exchange by the law of NZ or another Country.

¹⁶⁵ Peter Van Valkenburgh *Framework for Securities Regulation of Cryptocurrencies Version 1* (Coin Centre, January 2016) at 26.

¹⁶⁶ Securities and Exchange Commission, above n 107, at 26.

in which the token is the basis for co-operative control.¹⁶⁷ Peter Van Valkenburg provides the example of how a protocol token could enable a decentralised YouTube. The majority of the decisions critical to YouTube’s success are made by its directors and employees (for example, how the user face is designed and whether content is censored). In the decentralised version ‘YouCoins’ would allow users to make the decisions. YouCoins could also be required for a user to upload a video, or view a new video. Content providers would be paid in YouCoins each time their content is viewed.¹⁶⁸ Such examples hint at the role tokens play in disrupting and democratising existing business models, and how their functionality can set them apart from shares. According to lawyers, and happily for the issuers, these tokens are less likely to be subject to securities regulations.¹⁶⁹ Van Valkenburg’s example is not merely theoretical – it is quickly turning into a reality, with a plethora of projects and eco-systems now funded by selling tokens in ICOs in a variety of different industries.

B Status Network Token (SNT) Case Study

The Status Network is one example, which issued its tokens in June 2017. Status is a user-driver network with the aim of decreasing data collection and manipulation by centralised social networks such as Facebook. Modelled on the popular Chinese mobile app WeChat, it aims to give users control of their personal data through a variety of decentralised applications such as an open source messaging platform, payment system, and web-browser. In centralised social networks, the owner of the network can manipulate information that the user consumes while engaged with the network, and effectively “manipulate what that user thinks, feels and believes”.¹⁷⁰ The owner relentlessly monetises user information, and tracks user behaviour to provide what it thinks to be relevant advertisements. This can leave the user feeling stalked and concerned about their privacy. Users log into the network with the intention of connecting with friends, but are “powerless to control the information they consume” with “no choice but rely on the owners and advertisers to behave ethically, or stop using the network entirely”.¹⁷¹ Status aims to create a network in which the users are stakeholders, producing a platform whereby the behaviour of the software aligns with the interests of the users. Status sold SNT to the public in 2017, raising over USD\$100 million worth of Ether in under 24 hours.¹⁷² An owner of SNT can use it to access the platform, and also pay for various services and features on the

¹⁶⁷ In contrast to centralised networks in which users have little or no control over their own data and privacy.

¹⁶⁸ Peter Van Valkenburgh, above n 165, at 27.

¹⁶⁹ See generally Peter Van Valkenburgh, above n 165.

¹⁷⁰ Status Research & Development GmbH *The Status Network A strategy towards mass adoption of Ethereum* (15 June 2017) at 4-5.

¹⁷¹ At 5.

¹⁷² Brian D. Evans “Status ICO Raised More Than \$100 Million for Ethereum-Powered DAPPs on iOS and Android” *Inc Magazine* (online ed, New York, 21 June 2017).

network.¹⁷³ SNT also provides the holder with the ability to vote in proposals as the software goes through further development stages to reach the objectives stated above. Owners of SNT can trade and sell their tokens on a range of secondary market exchanges.¹⁷⁴

An SNT token does not constitute one of the four products regulated by the FMA. It is not a debt security because ownership does not provide the holder with a right to be repaid anything. SNT is not equity because it is not a share in an incorporated entity.¹⁷⁵ However, tokens do behave like shares in that speculation and/or success of the network can lead to the token increasing in value. Finally, although it is possible that SNT could be classified as an investment contract in the United States under *Howey*, it does not constitute an MIP under the FMCA. Status is not a scheme that accumulates and deploys its client's money into other investments with the objective of making them a return, as is the case in a MIS. Status raised the money in the ICO specifically so it could be spent on the development of the Status network. The FMCA provides examples of certain schemes, and these in of themselves highlight the minimal similarities that the Status network shares with those envisioned by the Act.¹⁷⁶ However, just because a token falls outside of the four defined categories does not automatically mean that tokens cannot or will not be regulated. The FMA has the ability to declare that a token is a financial product, subject to a test set out below.¹⁷⁷

C Designation Power

The purpose of the designation power is revealed in The Review of Securities Law Discussion Paper which stated:¹⁷⁸

Inevitably, some financial products will be created that are, in substance, similar to the regulated categories of financial products, but which are crafted in such a way that they fall outside the definitions adopted in statute, or their status is unclear. This may be because the product is genuinely innovative and takes a form that was not anticipated by the Act, or because an issuer has carefully structured a transaction to avoid the Act, or because of ambiguities in applying the definitions. Such products could harm retail investors if not appropriately regulated. In response to this issue, we consider that the Authority should

¹⁷³ For example, one paid feature is push notifications. The set-up is similar to in-app purchases that generally occur in fiat currency.

¹⁷⁴ For example, Poloniex exchange, which is a purely crypto to crypto exchange based in the U.S. See generally www.poloniex.com.

¹⁷⁵ The creators behind the network are incorporated as a private company in Switzerland under the name 'Status Research & Development GmbH'.

¹⁷⁶ Examples given throughout the Financial Markets Conduct Act include Kiwisaver and Superannuation schemes. Also see Ministry of Economic Development, above n 96, at 29 which states "The Ministry proposes a new category of collective investment schemes to cover managed funds, property syndicates, and other investments that are managed on someone else's behalf".

¹⁷⁷ Financial Markets Conduct Act, s 562.

¹⁷⁸ Ministry of Economic Development, above n 96, at 31.

have the discretion to designate financial products into one of the categories, including the ability to re-classify products.

In many respects, tokens issued in ICOs appear to be consistent with the reason for providing the designation power. When faced with a product that does not fit into one of the prescribed categories, the FMA can declare that it will nonetheless be treated as if it were one of the prescribed products.¹⁷⁹ As such, the FMA could declare that SNT, despite not meeting the technical definition of equity (or any other financial product), is to be treated as equity.

1 Security

Products are susceptible to the designation power provided that they meet the statutory definition of a ‘security’. The FMCA defines a security as:¹⁸⁰

- (a) an arrangement or a facility that has, or is intended to have, the effect of a person making an investment or managing a financial risk; and
- (b) includes—
 - (i) a financial product; and
 - (ii) any interest or right to participate in any capital, assets, earnings, royalties, or other property of any person; and
 - (iii) any interest in, or right to be paid, money that is, or is to be, deposited with, lent to, or otherwise owing by, any person (whether or not the interest or right is secured by a charge over any property); and
 - (iv) any renewal or variation of the terms or conditions of any existing security; but
- (c) does not include any interest or right that is declared by regulations not to be a security for the purposes of this Act.

This definition is broad enough to encompass all tokens that have been issued so far. For example, purchasing SNT involves an arrangement with the issuers of SNT tokens. Whilst tokens are often compared to commodities due to their utility, they also have the effect of a purchaser making an investment, because the purchaser is susceptible to both an unlimited gain, and a complete loss. The purchaser is at the whim of the developers to ensure there is a platform on which their token can be used, and demand for the token at all. In this respect it also requires the holder to manage financial risk. It is therefore likely that SNT falls within the category of products that can be subject to designation.

¹⁷⁹ Financial Markets Conduct Act, s 562.

¹⁸⁰ Section 6.

The FMA’s broad designation power is limited by several procedural requirements set out in section 563 FMCA. Relevantly, the FMA cannot make a declaration unless:

- (1) it has consulted the persons or representatives of the persons that the FMA considers will be substantially affected by the declaration;¹⁸¹
- (2) it has had regard to the economic substance of the relevant security;¹⁸²
- (3) it is satisfied that the declaration is necessary or desirable in order to promote either or both of the main or additional purposes of the Act.¹⁸³

2 Economic substance

There is no additional statutory guidance on what factors influence the economic substance analysis. The Act merely states it must be considered. However, the FMA has issued three designation notices since the FMCA was enacted, which provide useful indicators of how the analysis is approached. Two of these indicators are considered below. Whilst the decision is multi-faceted, the examples suggest that the FMA will consider how similar the product is to a given category, and whether this justifies like treatment.¹⁸⁴ As we know, the ICO itself is a quick way for start-ups to raise capital, and in this way it is similar to issuing equity. Whilst the permissions that come with owning a token are not ownership rights in an incorporated company, the permissions are similar to the rights that come with owning shares.¹⁸⁵ Both provide the opportunity to realise unlimited gains or loss of the initial investment, with price influenced by market supply and demand. These factors may be sufficient for the FMA to consider designating certain tokens as equity.¹⁸⁶

The former designation notices suggest that the FMA must first consider that the token is in the same market as equity.¹⁸⁷ On the basis of recent market behaviour, it likely that retail investors will increasingly incorporate tokens into diversified portfolios. A number of factors

¹⁸¹ Section 563(1)(d). The FMA typically invites the public to submit on a consultation document.

¹⁸² Section 563(b).

¹⁸³ Section 563(a); see generally FMA “About Designations <www.fma.govt.nz/compliance/designations/about-designations/>.

¹⁸⁴ Financial Markets Conduct Act (Communal Facilities in Real Property Developments) Designation Notice 2016; Financial Markets Conduct Act (Shares in Investment Companies) Designation Notice 2017; Financial Markets Conduct Act (Tonga Development Bank Ave Pa’anga Pau Vouchers) Designation Notice 2016.

¹⁸⁵ Like shares provide the owner with limited voting rights, SNT tokens provide the owner with the right to vote on software proposals for future development, as well as a variety of other permissions.

¹⁸⁶ However, this would depend on the nature of the token.

¹⁸⁷ This was considered in the Financial Markets Conduct Act (Communal Facilities in Real Property Developments) Designation Notice 2016, cl 5. The FMA issued a designation which declared that shares in companies set up to manage costs in real property were not equity. One reason for this decision was that it did not consider that the shares in these companies were part of the same market as financial products.

have influenced this view. Crypto-currencies have a rapidly increasing market capitalisation.¹⁸⁸ If Bitcoin was a stock, it would be the seventy-fourth biggest by market capitalisation on the S&P 500.¹⁸⁹ In 2017 crypto-currency returns have eclipsed those achieved on the S&P, Dow Jones Industrial Average, and Nasdaq.¹⁹⁰ Mainstream media are increasingly covering crypto-currencies, often reporting them as an investment option.¹⁹¹ In July 2017 the popular investment magazine *Barrons* featured Bitcoin on its cover.¹⁹² The article warned readers not to treat crypto-currencies as an investment fad.¹⁹³ Depending on the jurisdiction, it is also possible to buy a security that tracks the price of crypto-currencies.¹⁹⁴ It is increasingly likely that Exchange Traded Funds will be approved by regulators and thus available for retail investors to access more easily.¹⁹⁵ These factors indicate the potential that various tokens have to be a relevant investment alternative to shares in the financial markets.

A second relevant factor considered by the FMA in the Communal Facilities Designation Notice was that “the underlying intent of the shares was to provide a mechanism for use and enjoyment of communal facilities attached to property and attribute cost rather than generate return or manage financial risk”.¹⁹⁶ Arguably, a comparison could be made to tokens which provide utility and enjoyment of a platform by providing capabilities on a network. However, the ‘underlying intent’ of the shares only held so long as they could not be traded or offered to persons who did not have an interest in that specific real property, and would not provide any return independently of the associated real estate. This contrasts significantly to tokens that can be traded on secondary market exchanges as soon as they are deployed.

¹⁸⁸ See generally Coinmarketcap “Crypto Currency Market Capitalizations” <www.coinmarketcap.com/charts/>.

¹⁸⁹ As at August 2017. See Arjun Kharpal “Bitcoin market cap is within touching distance of major stocks like Netflix” *CNBC* (online ed, New Jersey, 15 August 2017).

¹⁹⁰ R Ryan Vlastelica “What delivered the best return of 2017’s first half? Bitcoin and Ethereum” *Market Watch* (online ed, New York, 29 June 2017).

¹⁹¹ For example, see Harvey Jones “Investment Risk: How Bitcoin turns early investors into millionaires” (August 23 2017) *The Express* <www.express.co.uk/finance/personalfinance/844749/Investment-risk-Bitcoin-investors-millionaires>; Jack Schofield “How can I invest in Bitcoin” *The Guardian* (online ed, London, 29 June 2017); Jen Wiczner “Here’s why you should buy Bitcoin and Ethereum” *Fortune* (online ed, New York, 30 June 2017).

¹⁹² Avi Salzman “Beyond Bitcoin: How Blockchain is Changing Banking” *Barrons* (online edition, New York, 1 July 2017).

¹⁹³ Above.

¹⁹⁴ For example, the Bitcoin Investment Trust (OTCQX:GBTC), created in 2013 by a company called Grayscale, see www.grayscale.co/.

¹⁹⁵ Drew Pierson “How, When and Where Will Regulators Accept Bitcoin EFTs” *Coin Desk* (online ed, London, 30 May 2017).

¹⁹⁶ Financial Markets Conduct Act (Communal Facilities in Real Property Developments) Designation Notice 2016, cl 5.

It is ultimately concluded that the similarities that certain tokens share with equity would be sufficient for the FMA to conclude the economic substance test was met such that a designation could be made.¹⁹⁷

3 Declaration necessary or desirable to promote the purposes of the Act

Finally, the FMA must consider that the declaration is necessary or desirable in order to promote any of the main or additional purposes of the Act.

The main purposes are to:¹⁹⁸

- (a) promote the confident and informed participation of businesses, investors, and consumers in the financial markets; and
- (b) promote and facilitate the development of fair, efficient, and transparent financial markets.

The additional purposes are:¹⁹⁹

- (a) to provide for timely, accurate, and understandable information to be provided to persons to assist those persons to make decisions relating to financial products or the provision of financial services;
- (b) to ensure that appropriate governance arrangements apply to financial products and certain financial services that allow for effective monitoring and reduce governance risks;
- (c) to avoid unnecessary compliance costs; and
- (d) to promote innovation and flexibility in the financial markets.

These purposes highlight that investor protection is not the sole focus of the Act. This contrasts to the SA, which over time was interpreted as existing for the overly simplistic notion of investor protection, which garnered criticism.²⁰⁰ A sole focus on investor protection ignores other important aspects of and participants in the capital markets. A securities regime should balance both investor protection and the interests of issuers, as issuers will be more likely to

¹⁹⁷ Regardless of the other differences. The most prominent of which is that the token does not provide ownership rights, unlike a share.

¹⁹⁸ Financial Markets Conduct Act, s 3.

¹⁹⁹ Section 4.

²⁰⁰ Thomas Gibbons, above n 64, at 15.

succeed in a regulatory environment that facilitates economic growth.²⁰¹ This in turn will “keep the engines of industry turning”.²⁰² The FMCA restores the balance that was lost in the SA by promoting confident participation in the markets by all stakeholders.²⁰³ The first main purpose of the Act attempts to accommodate both investors and businesses, and given that they are both noted in the same sub-clause, it is presumed that they are of equal weighting.²⁰⁴ Further, the additional purposes of promoting innovation and ensuring appropriate governance are new to the FMCA. These “reflect a more modern, forward thinking securities law” than was evident in former regimes, and recognise that “compliance for its own sake can become a disincentive to capital raising and entrepreneurialism”.²⁰⁵ Ultimately, the FMCA reflects a regime where different aspects of the capital markets are weighed and balanced more evenly.²⁰⁶

The analysis below shows that designation of a protocol token will not promote the purposes of the Act. Rather, it is concluded that regulating tokens as an existing financial product will inhibit the purposes of the Act.²⁰⁷ If a protocol token is designated as equity, the issuer must comply with the disclosure regime structured for equity. If an investor reads a Product Disclosure Statement (PDS) prepared in accordance with equity guidelines, this could very easily misrepresent tokens as equity and mislead investors in their investment decisions. This would be detrimental to the main purposes of the Act, particularly informed participation, and transparent markets.

The most important consideration however is that the equity PDS regime itself is unlikely to be the best mechanism to achieve informed and confident participation in the market.²⁰⁸ Both investors and teams looking to raise capital in an ICO would benefit from a disclosure regime tailored to the technical nature of ICOs. Tokens do not represent ownership in a company and unlike equity they are technical in nature. Investors require different information from blockchain start-ups than they do from more established companies issuing equity, and the

²⁰¹ E Mackenzie Jones, above n 137, at 11.

²⁰² Thomas Gibbons, above n 64, at 11.

²⁰³ Thomas Gibbons, above n 64, at 15.

²⁰⁴ Peter Fitzsimons “Securities Act 1978, Financial Markets Conduct Bill and Primary Securities Offerings – Part 1” [2011] CSLB 97 at 100.

²⁰⁵ Thomas Gibbons, above n 64, at 12.

²⁰⁶ At 16.

²⁰⁷ This is not intended to mean that no disclosure regime is appropriate, see section (d) below.

²⁰⁸ Per Financial Markets Conduct Act, s 48, the Act requires offerors to prepare and lodge a PDS, the purpose of which is to provide information that is likely to assist a prudent but non-expert person to decide whether or not to acquire the financial products. The content requirements differ for each type of product, with equity disclosure rules tailored to the offer of shares in a company and these are set out in These are set out in the Financial Markets Conduct Regulations 2014 pt 1 sch 3.

disclosure regime must reflect this.²⁰⁹ Under the present disclosure regime for equity, blockchain start-ups could omit critical information to the disadvantage of unwary or non-technical investors.²¹⁰ Disclosure guidelines specific to ICOs would be most successful in ensuring that investors are provided with the information they need to make an informed decision about the product. The content requirements for a tailored disclosure regime would need to differ from those specified in the equity PDS.²¹¹ It should require that issuers provide detailed information on the protocol, the network, the reason why the token exists, the technology used, the proposed implementation, the token supply, the token distribution and the fairness of the pricing mechanism.²¹² There are other possibilities that could ensure appropriate governance, such as committing to an independent security audit, using a public blockchain, and publishing all code.²¹³

In addition, such guidelines are likely to be welcomed by teams looking to issue tokens in an ICO. At present, there is uncertainty amongst start-ups who have no clear guidance on whether they need to comply with the present disclosure regimes, and if so, which regime.²¹⁴ In part as a response, the blockchain community has in essence developed its own disclosure regime, reflected in the whitepaper.²¹⁵ However, whitepapers are difficult for non-technical people to analyse, leading many to rely primarily on secondary sources and peer review. Peer reviews vary widely and are potentially biased.²¹⁶ Whitepapers could benefit from regulatory oversight to ensure their materiality and reliability. The lack of formal accountability is a significant concern in the industry.²¹⁷ However, requiring teams looking to raise capital in an ICO to publish a PDS is not going to solve these problems. It would likely lead to unnecessary compliance costs, with teams continuing to prepare a whitepaper for one audience, and a futile PDS to meet the regulatory requirement. This would not leave retail investors better off.

²⁰⁹ See Alejandro Gomez de la Cruz “10 things you should know before investing in ICOS” (9 April 2017) ICO Funding <www.blog.icofunding.com/10-things-you-should-know-before-investing-in-icos-initial-coin-offerings-cd4a94b82dd7>.

²¹⁰ Above.

²¹¹ For example, a legal limit or minimum requirement on the timeline of the network. Often the development stage of many teams carrying out ICOs varies significantly, and it is often not clear how far away the team is from launching their network. Disclosure requirements here could increase market transparency, and help investors to delineate between different offers.

²¹² Peter Van Valkenburgh above n 165, at 4.

²¹³ Peter Van Valkenburgh above n 165, at 5.

²¹⁴ Many teams consider themselves to fall outside securities legislation given the many differences discussed in this paper, however they remain fearful of penalties in the event the differences are considered irrelevant or misunderstood by regulators.

²¹⁵ Unlike a PDS this contains all of the technical information, including the code, which will be used to build the network. This was of course how Bitcoin was originally introduced.

²¹⁶ This is known to fail as an accountability mechanism, for example with The DAO, and there are many claims of insider trading.

²¹⁷ This has prompted the development of various best practice guidelines and articles by experts in the community. However, it lacks force absent any legal requirement to follow it.

Informed and confident participation in the market will not be promoted by applying a disclosure regime to ICOs that was drafted for an entirely different financial product. It is vital that the disclosure specified is both meaningful and accessible for the intended audience.

A further consideration is that the Act seeks to promote innovation and flexibility in the financial markets.²¹⁸ It is widely recognised by regulators around the world that premature or rigorous regulation could stifle innovation.²¹⁹ Pigeonholing tokens like SNT into the equity category on the basis that they do share some similarities is unlikely to fully appreciate the unique nature of the technology, and the role ICOs play in developing new markets and growing the economy. Designation has the potential to stifle innovation.

To balance this analysis, it is important to consider why designation could further the purposes of the Act. The primary reason is that it would subject ICOs to the FMCA's rules on fair dealing. Market participants would benefit from such oversight as it would reduce governance risks. Such rules could disincentivise scam ICOs in which teams leave a network undeveloped after receiving funding.²²⁰ However, on balance it is considered that this oversight could be achieved through other more appropriate mechanisms such as tailored disclosure rules for ICOs. It is not desirable to facilitate fair dealing through a designation which is otherwise not fit for purpose. Therefore, designation is not necessary or desirable to promote the purposes of the Act. It is in fact more likely to obstruct the Act by generating confusion, allowing risk to go undisclosed, and potentially stifling innovation.

The main purposes of the Act would not be promoted by requiring ICOs to comply with the existing disclosure regimes. Rather, ICOs should be delineated, with tokens recognised as a separate product. This could be achieved by drafting a regime based on the current whitepaper framework. Such guidance should seek to elevate the standards of entrepreneurs seeking to

²¹⁸ Section 4(d).

²¹⁹ Such as the onerous 'Bitlicense' (business license of virtual currency activities) requirements issued by the State of New York in 2015, Title 23. Department of Financial Services Chapter I. Regulations of the Superintendent of Financial Services Part 200. Virtual Currencies (2015). These regulations immediately resulted in at least ten Bitcoin companies announcing they were stopping all business in New York State due to the regulations, see Roberts, Daniel "Behind the 'exodus' of Bitcoin start-ups from New York" *Fortune* (online ed, London, 14 August 2015). The New York Business Journal also called this the "Great Bitcoin Exodus" see Michael del Castillo "The 'Great Bitcoin Exodus' has totally changed New York's Bitcoin ecosystem" *New York Business Journal* (online ed, New York, 12 August 2015). See further the statement by a representative the Peoples Bank of China in Samuel Haig Peoples Bank of China in as reported by Samuel Haig "PBOC Discusses ICO and Cryptocurrency Regulations" (13 July 2017) Bitcoin.com <www.news.Bitcoin.com/pboc-discusses-ico-and-cryptocurrency-regulations/>.

²²⁰ Fair dealing is set out in the Financial Markets Conduct Act, pt 2. These rules include prohibiting misleading and deceptive conduct.

leverage the funding model, promote confident and informed participation in the market, and be flexible enough to facilitate innovation.

D Criticisms of the Designation Power

The analysis above reveals an inherent limitation in the designation power. The power is designed to allow the FMA to bring within its ambit genuinely innovative products, yet it has no power over securities that truly are original – such that they actually fall outside one of the four defined products. The designation power is not therefore an effective regulatory tool in the case of many tokens issued in ICOs.²²¹

The analysis of ICOs suggests that the designation power would be more effective if it was amended to allow the FMA to recognise new types of financial products where the situation so requires. Such an amendment may be necessary if the FMA is going to have any effective mandate over innovative products. However, widening the power must also be balanced against the undesirability of overcomplicating the Act by introducing additional financial products. To this end, other ways to widen the designation power to a lesser but still effective extent could be investigated. For example, the FMA could be provided with the ability to prescribe a tailored disclosure document and governance requirements to specific ICOs in certain cases, without requiring a new category for ICOs to be defined. In either case, the alternative that must be weighed is leaving the space unregulated, or incorrectly pigeon-holding tokens into a category that they are not.

Alternatively, the fact that certain tokens that are securities do not constitute existing financial products could indicate that they are not suited to fall under the ambit of the existing securities regulation at all. However, the designation power again does not provide for such a declaration. Whilst section 562 allows the FMA to “declare that a security that would otherwise be a financial product of a particular kind is not a financial product”, the tokens at issue are not “otherwise a financial product”.²²² In summary, this analysis shows that the designation power is in need of re-examination in light of emerging and innovative crowd funding mechanisms such as ICOs.

Chapter VI: Conclusion

This paper highlights a tension between innovative business models and securities regulation. It explains how ICOs emerged, and how they facilitate the creation and issuance of tokens to successfully fund highly technical blockchain infrastructure.

²²¹ That are not in substance one of the four defined financial products, like The DAO tokens which were an MIP.

²²² Section 562(c). Note however that the FMA does have an exemption power, set out in s 556 which the FMA could consider exercising.

Depending on how they are structured, these tokens may in some instances constitute regulated financial products. Where tokens are structured in a manner such that they provide the holder with rights similar to those provided by debt or shares, then the tokens are likely to constitute a financial product and require compliance with the Act. There is growing legal consensus that where a token is in substance a security, it should be subject to existing financial regulations. Where securities are available for the public to invest their money in, it is vital that they have access to reliable and standardised information so that they have the basic ability to inform themselves of the risks. Without any clear regulatory guidance, market participants are left operating in a state of uncertainty. Unclear legal boundaries are likely to deter or at least hinder entities looking to innovate in the space. In turn, they leave investors at risk of making poor investment choices, or viewing the lack of protection as a barrier to entry. The absence of transparency in the market is not desirable.

In turn, the understanding that certain tokens must comply with traditional regulations has the potential to latently imply that other tokens legitimately fall beyond the regulatory ambit. This has encouraged teams to pursue token designs that are more likely to fall outside the regulatory ambit. Such an approach is not only misinformed, but it is unlikely to produce the most innovative and desirable technology solutions.

Technology advances have created a regulatory spectrum in which securities and commodities are gradually becoming less distinguishable. Regulators need to determine where digital assets lie. Whilst there is growing recognition that leaving new instruments such as tokens outside of the regulatory ambit is in most cases unlikely to benefit the participants in the market, it is vital that the appropriate regulations are applied.

This paper has highlighted that whilst the designation power could be an appropriate solution, the power itself is prescribed in a way that limits its effectiveness. In order to bring new instruments within the ambit of the Act, the FMA is confined to designating these into categories of existing products. In the case of many tokens, this is unlikely to be fit for purpose. Where tokens are designed in such a way that they share minimal resemblance to the existing categories, such a declaration would be unlikely to promote the purposes of the Act, particularly transparency, confident and informed participation, and the promotion of innovation. Exercising the designation power in relation to these tokens risks having a detrimental and stifling effect. This analysis ultimately leads to the conclusion that the designation power should be re-examined, and the powers of the FMA potentially widened to allow a more tailored disclosure regime to be developed. Alternatively, there are a number of other ways that regulation could be approached. NZ could create a licensed ICO market to sit alongside the crowd funding and peer-to-peer lending platforms. Alternatively, or additionally, NZ could establish a regulatory sandbox in which business can test technology not yet fully released to the general public without being subject to certain legal requirements. Not only would this attract and promote innovation in an environment where the overall safety of the

financial system is maintained, but it would provide regulators with the ability to directly observe how this new technology works in practice and gain a better understanding before preemptively issuing regulations.

NZ is in an incredibly strong position to encourage innovation in the blockchain space. The small geography, population, and comparatively less complex regulatory system are all key characteristics that set NZ apart.²²³ NZ should leverage these features, pursue their mandate to promote innovation and flexibility, and take the regulatory steps to attract and encourage blockchain innovators.

²²³ For example, in the U.S, navigating the numerous pieces of legislation related to the financial markets is notoriously complex. Securities are regulated at both the Federal and State level, and there are approximately 9 different Federal Agencies involved in financial market regulation alone.

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