



RMIT Blockchain Innovation Hub

Comment on the Commonwealth Treasury's Initial Coin Offerings Issue Paper

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Executive Summary

- On 31 January 2019 the Australian Government released an “Initial Coin Offerings Issues Paper” (Issues Paper). This report provides a comment to the Issues Paper on behalf of the RMIT Blockchain Innovation Hub.
- The first major application of blockchain has been the development of cryptocurrencies. Attention now turns to Initial Coin Offerings (ICOs) which are an innovative new financing technique made possible through the ability of blockchain entrepreneurs to mint their own cryptocurrency for use in their application.
- There are currently 124 separate organisations contributing to the development of the Australian blockchain ecosystem. It is important for policy makers to realise that the question of ICO regulation is in the context of innovation policy as much as financial regulation.
- The primary purpose of an ICO is to raise early-stage capital funding for project development. However, ICOs also perform other economic functions. The emergence of blockchain can be best understood as a new governance technology for economic exchange. On this basis, ICOs can be best understood as investment finance innovation.
- A balancing of the opportunities and risks surrounding the development of the ICO market suggests the need for sensible and well-targeted public policies which manage key risks associated with investment-motivated token issuance whilst facilitating the productive, value-adding use of such techniques for fundraising.
- Recent research undertaken by staff at the RMIT Blockchain Innovation Hub assesses the extent to which countries within the Asia-Pacific Economic Cooperation (APEC) region maintain policies accommodating the development of blockchain within their respective jurisdictions. Australia was ranked within the top four of APEC members in terms of overall policy crypto-friendliness and received the highest available score for ICO regulation.
- While the Australian Securities and Investments Commission should be commended for providing a degree of regulatory certainty for ICOs of a crypto-friendly nature, the current guidance is not legally binding. In further developing regulatory policy, the major risk to be avoided with designing any regulatory regime is that it is overly prescriptive and inhibits innovation. Instead, policymakers should always seek to favour “permissionless innovation”.

1. Policy Context

A blockchain is a kind of distributed digital database, or ledger, with two critical properties: decentralisation and immutability. Formally, a distributed ledger technology is a:

... system of electronic records that (1) enables a network of independent participants to establish a consensus around (2) the authoritative ordering of cryptographically validated (“signed”) transactions. These records are made (3) persistent by replicating the data across multiple nodes, and (4) tamper-evident by linking them by cryptographic hashes. (5) The shared result of the reconciliation/consensus process – the “ledger” – serves as the authoritative version for these records.¹

Blockchain was invented by pseudonymous Satoshi Nakamoto to operationalise the decentralised digital currency Bitcoin. The Bitcoin white paper, published in 2008, rationalised the creation of Bitcoin based on surmounting the trust integrity of conventional payment systems.² As Satoshi described it, Internet commerce relies on payments systems managed by trusted third parties (that is, financial intermediaries) to process payments. Digital payments are reversible, reducing the reliability of the system and raising the possibility of fraud. Satoshi related the reversibility of electronic payments to the existence of the trusted third parties – territorial financial intermediaries “cannot avoid mediated disputes”, governed as they are by domestic law and national and international legal systems. Bitcoin would be a non-reversible digital currency “based on cryptographic proof instead of trust.”³

Industries and governments around the world continue to investigate various opportunities related to uses of blockchain and how it can impact organisations and economies. The generalisability of this technology for a wide range of concrete purposes has led blockchain researchers to conceive of the blockchain as a platform-based ecosystem technology. Specifically, blockchain is an electronic platform for users to interconnectedly record, store and validate data and similar information in a highly-secure environment and in multiple, often unforeseen, ways. Open-endedness of blockchain usage facilitates the creation of a diverse, yet mutually supporting, assembly of individuals and their organisations seeking to protect the integrity of their data and, in many cases, realise additional values associated with cross-party engagement within a distributed ledger management (eco)system.

¹ Michael Rauchs, Andrew Glidden, Brian Gordon, Gina Pieters, Martino Recanatini, François Rostand, Kathryn Vagneur and Bryan Zhang. 2018. *Distributed Ledger Technology Systems: A Conceptual Framework*. University of Cambridge. Cambridge Centre for Alternative Finance. https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2018-10-26-conceptualising-dlt-systems.pdf (accessed 15 February 2019).

² Satoshi Nakamoto. 2008. “Bitcoin: A peer-to-peer electronic cash system”. <https://bitcoin.org/bitcoin.pdf> (accessed 26 February 2019).

³ Ibid, 1.

Consistent with the notion of blockchain-as-ecosystem it is held by academics and industry experts that blockchain is well-positioned as the next generation of digital economic infrastructure for payments, contracting and record-keeping. Those activities represent the core of modern economic activity undertaken by individuals, firms and governments (in consumption or production roles). Blockchain infrastructure is presently under development by blockchain-industry start-ups, as well as incumbent firms – ranging from large technology companies to banks and consultancy firms – which predominantly still operate based on conventional ledgers. A salient matter in this context is the potential economic dividends arising from such activity. Recent research suggests that this new digital infrastructure could add significantly to productivity by reducing the costs associated with maintaining high levels of economic trust, which is estimated to be approximately 35 per cent of a modern economy.⁴

The first major application of blockchain has been the development of cryptocurrencies, as mentioned. Aside from using blockchain as the underlying platform with which to trade cryptocurrency on a global basis, blockchain developers have discovered how to use cryptocurrency as effectively an instrument for raising funds for new ventures. Initial coin offerings (ICOs) are an innovative new financing technique made possible through the ability of blockchain entrepreneurs to mint their own cryptocurrency for use in their application. In an ICO, a blockchain firm offers for sale a quantity of custom tokens that are intended to be used in some way by the blockchain application – usually as a medium of exchange within the application’s ecosystem. The funds are then used to support development of blockchain infrastructural platforms.

In addition to capital raising, to be discussed in further detail later, ICOs perform multiple economic functions for blockchain platforms. First, they act as a distribution mechanism for tokens necessary to maintain liquidity in the token market after its launch. Second, they provide an incentive for token holders to support the network (through development or community building) as token holders have a financial stake in its success. In this sense, ICOs appear an innovative way to encourage beneficial network effects.⁵ On the other hand, there is the risk that given ICO initiatives could fail to generate sufficient (crypto) finance or, worse still, prove to be fraudulent. Episodes of volatility in the value of new tokens as well as uncertainties concerning the application of certain regulations to ICOs could also pose risks to investors and consumers. A balancing of the opportunities and risks surrounding the development of the ICO market suggests the need for sensible and well-targeted public policies which manage key risks associated with investment-motivated token issuance whilst facilitating the productive, value-adding use of such techniques for fundraising.

⁴ Sinclair Davidson, Mikayla Novak and Jason Potts. 2018. “The Cost of Trust: A Pilot Study.” *Journal of the British Blockchain Association* 1 (2): 1-7.

⁵ Chris Berg, Sinclair Davidson and Jason Potts. (forthcoming). *Institutional Cryptoeconomics*. Cheltenham, UK: Edward Elgar.

From an economic perspective the utilisation of ICOs have proceeded at a reasonably impressive rate in recent years. According to the CoinDesk website, ICOs have cumulatively raised about \$US 23 billion between 2014 and 2018.⁶ In 2018 alone, ICOs raised about US\$8 billion.⁷ In terms of funds raised Australia represents a hub of ICO activity within the Oceania region, but on a global scale is a relatively small player – in 2018, Australian ICOs raised about \$30 million.⁸ In terms of the number of ICOs by country, ICOBench data indicates that Australia was situated in the top ten of ranked countries for 2018 (with 52 ICO projects).⁹

According to publicly available data, the majority of ICO funds raised globally last year were for the purposes of developing blockchain platform and cryptocurrency projects.¹⁰ Other applications of ICO fundraising included business services, banking, general investments, media, smart contract and IT developments. These uses are consistent with a deepening of early-stage platform and product development in relation to blockchain ecosystem infrastructure.

Therefore, it is important for policy makers to realise that the question of ICO regulation sits in the broader context of the Australian blockchain ecosystem. In December 2018, it was noted that there are 124 separate organisations in Australia working in this field in various sub-categories.¹¹

The significance of the policy context is that ICO regulation is not merely financial regulation. ICOs are related to venture financing for the blockchain ecosystem which, at its core, is innovation policy. The next section expands on the idea that ICOs are investment financing innovation.

2. ICOs as investment financing innovation

Any commercial venture needs financial resources to operate. What do ICOs offer that existing funding mechanisms do not? While blockchain is often talked about as a ‘general-purpose technology’, it is better understood as a new governance technology.¹² RMIT research has shown that ICOs can combine the best characteristics of existing capital fundraising methods.

⁶ <https://www.coindesk.com/ico-tracker> (accessed 15 February 2019).

⁷ <https://www.icodata.io/stats/2018> (accessed 15 February 2019).

⁸ Emma Koehn. 2019. “Regulators have ‘missed the boat’ on ICO rules, experts warn.” *The Sydney Morning Herald*, 1 February.

⁹ https://icobench.com/reports/ICO_Market_Analysis_2018.pdf (accessed 15 February 2019).

¹⁰ Ibid.

¹¹ Tom Terado. 2018. “What’s happening in the Australian Blockchain Ecosystem?”, Medium, 10 December. <https://medium.com/bitfwd/whats-happening-in-the-australian-blockchain-ecosystem-3553c028d134> (accessed 25 February 2019).

¹² Sinclair Davidson, Primavera De Filippi, and Jason Potts. 2018. “Blockchains and the Economic institutions of Capitalism”. *Journal of Institutional Economics* 14 (4): 639-658.

Traditionally, entrepreneurs starting businesses have relied on debt (loaning money from a bank, financial intermediary, or another third party) or equity (issuing shares or other forms of securities) to raise the level start-up funds required. Debt and equity are different types of governance arrangements.¹³ Nobel Laureate Oliver Williamson explained that, “debt is a governance structure that works out of rules and is well-suited to projects where the assets are highly redeployable. Equity is a governance structure that allows discretion and is used for projects where assets are less redeployable.”¹⁴ In 1988, Williamson proposed a hypothetical category of a new governance structure that he called “dequity”; combining the best features of debt and equity.¹⁵ In 2019, Berg, Davidson, and Potts considered that crypto-tokens may have these characteristics.

Tokens can both finance specific assets and can be themselves specific assets. Tokens can be governed by smart contracts that have the same rules-set as debt. At the same time they can be designed to only allow for discretion only under limited circumstances, according to pre-programmed criteria for action.¹⁶

Accordingly, ICO capital fundraising represents a major innovation in corporate finance – a new type of governance technology for capital raising in the commercial context. One of the key features of this new governance technology is that it is inherently decentralised. This has several implications. First, it removes the need for financial intermediaries and tokens can be offered directly to investors, increasing efficiency and the return on capital to token holders. Second, access to global capital markets for early-stage ventures can become borderless, rather than geographically clustered (e.g., Silicon Valley). Third, digitally-native tokens lower various transaction costs by removing friction from the system and provide enhanced liquidity over issuing shares. It is important to note that there is no single type of ICO. Supporting this innovation in investment financing is a challenge for policy accommodation, to be explored further in the next section.

3. Policy accommodation of ICO activity

The Australian regulatory regime, as the Issues Paper states, not only permits the hosting of ICO ventures but provides some regulatory clarity in the treatment of ICOs. Specifically, guidance from the Australian Securities and Investments Commission distinguishes between ICOs based on their nature or purpose.¹⁷ Essentially, the distinction is made on whether the ICO token is a financial

¹³ Oliver E Williamson. 1988. "Corporate finance and corporate governance." *The Journal of Finance* 43(3): 567-591.

¹⁴ *Ibid*, 581.

¹⁵ *Ibid*.

¹⁶ Chris Berg, Sinclair Davidson and Jason Potts. (forthcoming). *Institutional Cryptoeconomics*. Cheltenham, UK: Edward Elgar.

¹⁷ Australian Securities and Investments Commission. 2018. "Initial coin offerings and crypto-currency." INFO 255. <https://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings-and-crypto-currency/> (accessed 25 February 2019).

product or otherwise. If the ICO is a financial product (e.g. managed investment scheme, share offering, derivative or non-cash payment facility) then it is regulated under the provisions of the *Corporations Act 2001*. ICOs which are determined not to be financial products are subject to *Competition and Consumer Act 2010* Australian Consumer Law provisions.¹⁸ It has been suggested, on an anecdotal basis, from several industry participants and analysts that the Australian financial regulatory regime is perceived as reasonably accommodative toward the generation of ICO funding within its jurisdiction.¹⁹ However, although the guidance gives an indication about how agencies will enforce the law, it is not legally binding. Policy makers should now look at the path to securing this regulatory approach for the future.

Regulators around the world are grappling with questions of how to classify ICOs for both securities regulation and tax treatment.²⁰ There are also issues with the conflict of laws and jurisdiction with as ICOs are carried out across borders.²¹ In this context, the Issues paper states that “Australia’s ambition is to be a global leader in technology and financial innovation that will contribute to productivity and economic growth, as well as the efficiency and inclusiveness of the financial system over the long term.”²² The remainder of this section addresses two questions:

- *How does Australia’s regulatory treatment compare to the rest of the Asia-Pacific Economic Cooperation (APEC) region?*
- *What are the benefits and risks associated with being a global best-practice regulatory jurisdiction?*

Crypto-friendliness

Recent research undertaken by staff at the RMIT Blockchain Innovation Hub assesses the extent to which countries within the APEC region maintain policies accommodating the development of blockchain within their respective jurisdictions.²³

¹⁸ Ibid.

¹⁹ Samuel Rae. 2018. “Australia’s policymakers have made the country an attractive ICO region.” <https://bitcoinist.com/australias-policymakers-made-country-attractive-ico-region/> (accessed 18 February 2019); Blockdiscover. 2018. “Australian Government making their country more attractive to ICOs.” <http://www.blockdiscover.com/ico-news/australian-government-making-their-country-more-attractive-to-icos/> (accessed 18 February 2019).

²⁰ For a discussion of the United States, see, e.g., Sabrina T. Howell, Marina Niessner, and David Yermack. 2018. “Initial Coin Offerings: financing growth with cryptocurrency token sales” NBER Working Paper no. 24774. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3206449 (accessed 26 February 2019).

²¹ See, for example, Iris M. Barsan. 2017. “Legal Challenges of Initial Coin Offerings (ICO)” *Revue Trimestrielle de Droit Financier* 3: 54-65.

²² Issues Paper, 1.

²³ Mikayla Novak and Anastasia Pochesneva. (forthcoming). “Toward a crypto-friendly index for the APEC Region.” *Journal of the British Blockchain Association*. doi: 10.31585/jbba-2-1-(1)2019.

Specifically, a qualitative index was developed to rank countries on the basis of four blockchain policy categories: (i) ICO restrictiveness; (ii) crypto exchange restrictiveness; (iii) cryptocurrency tax treatment; and (iv) general (blockchain) policy interest. The ICO sub-category consisted of two measures: (i) the ICO regulatory stance (ranging from allowed, neutral/no regulation, restricted, to disallowed); and (ii) Regulatory treatment by nature/purpose of ICO raising (binary rating, with distinguishing categories seen as “[facilitating] an environment of productive fundraising through the blockchain”.²⁴.

The results of the research were as follows:

- Australia was ranked within the top four of APEC members in terms of overall policy crypto-friendliness.²⁵
- Australia scored the maximum available points for crypto-friendly ICO regulation.²⁶

Benefits

There are several benefits for Australia maintaining a crypto-friendly ICO regulatory policy. As financial investment innovation, the primary benefit of ICOs is the access to early-stage capital finance that is facilitated for Australia’s blockchain ecosystem. The crypto-friendly index is corroborating evidence that Australia has performed reasonably well on ICO regulation to date. Additionally, the level of ICO activity shows that there is a low cost of participation and capital can be transferred reasonably quickly.

The nature of jurisdictional competitive advantage is changing. In the past, start-ups have had to leave Australia to seek early-stage venture capital. This is because venture capital firms were physically located in places like the Silicon Valley in California, USA, famous for start-ups and innovative high-tech companies. As previously mentioned, the decentralised nature of blockchain technology and ICOs lowers the cost of accessing global capital. This means that there is no need for blockchain ventures to relocate offshore to technology centres of excellence. The implication of this is that, for ICOs, jurisdictions will need to compete on crypto-friendliness. As the Issues Paper identifies, a number of jurisdictions are attempting to “establish themselves as a hub for innovative technologies that favour ICO fundraising” to encourage ICO activity.²⁷ This breeds positive spillovers for developers, exchanges, and other professionals servicing the blockchain ecosystem. It also raises the possibility of exporting Australian regulation to other jurisdictions. Entrepreneurship is a global market – early stage venture finance is a scarce resource, and one of the reasons it is so scarce is because of the regulatory environment.

²⁴ Ibid.

²⁵ Ibid. The underlying dataset can be made available to Treasury upon request.

²⁶ Ibid.

²⁷ Issues Paper, 6.

Risks

Recent research undertaken by economists at the Mercatus Center, George Mason University (United States) emphasise the risks arising from overly prescriptive approaches to technological innovation.²⁸ As noted in the Issues Paper several jurisdictions, such as China and the Republic of Korea, have banned or actively sought to suppress cryptocurrency trading or issuance, including ICOs. Although suppressive treatments of ICOs are rationalised because of financial stabilisation or consumer protection, there is the risk that, to some degree, such activity would diminish the exercise of entrepreneurial insight, experimentation and innovation with respect to how financing from ICO launches may be deployed to strength or deepen blockchain networks.²⁹

To the extent that blockchain network development represents an economic development opportunity in the broad sense, a less-than-facilitative policy environment may threaten future income and other losses. Overly prescriptive approaches to ICO, or other forms of technological, regulation also prevent policymakers from undertaking meaningful engagement with regulatees in relation to matters of shared interest, and the learnings which emanate from such interactions. The value of a relatively “permissionless tilt” with respect to technological regulation, in contrast, is that it provides greater economic certainty, offers the potential to encourage entrepreneurship in new and unforeseen directions for the benefit of a national economy, and facilitates policy learning and intelligence in a complex world.

A specific risk that policy makers should be mindful of is the potential of unintended consequences of regulation that could spill over more broadly into the blockchain ecosystem. While the development of an ICO policy is likely to deliver benefits such as regulatory clarity to blockchain participants and other interested parties, the generic imperative of realising quality policy settings equally applies to blockchain technology more broadly. The capacity of blockchain to enable secure and decentralised transfer of values across digital networks places a premium upon high-quality, incentive-compatible *and interconnected* policies. Complete certainty specifically for ICOs should not compromise a more general cypto-friendly policy disposition.

²⁸ The representative treatment of this approach is presented by Adam Thierer. 2016. *Permissionless Innovation: The Continuing Case for Comprehensive Technological Freedom*. Revised and Expanded Edition. Arlington, VA: Mercatus Center.

²⁹ It is acknowledged that in the face of highly permissioned, or suppressive, policy treatments individuals and groups may still engage in blockchain activity through various guises of technological “shadow economies” (as seen in the two countries mentioned in the main body of the text). This kind of participation is, in part, a function of enforcement stringency and effectiveness on the part of regulatory agencies.

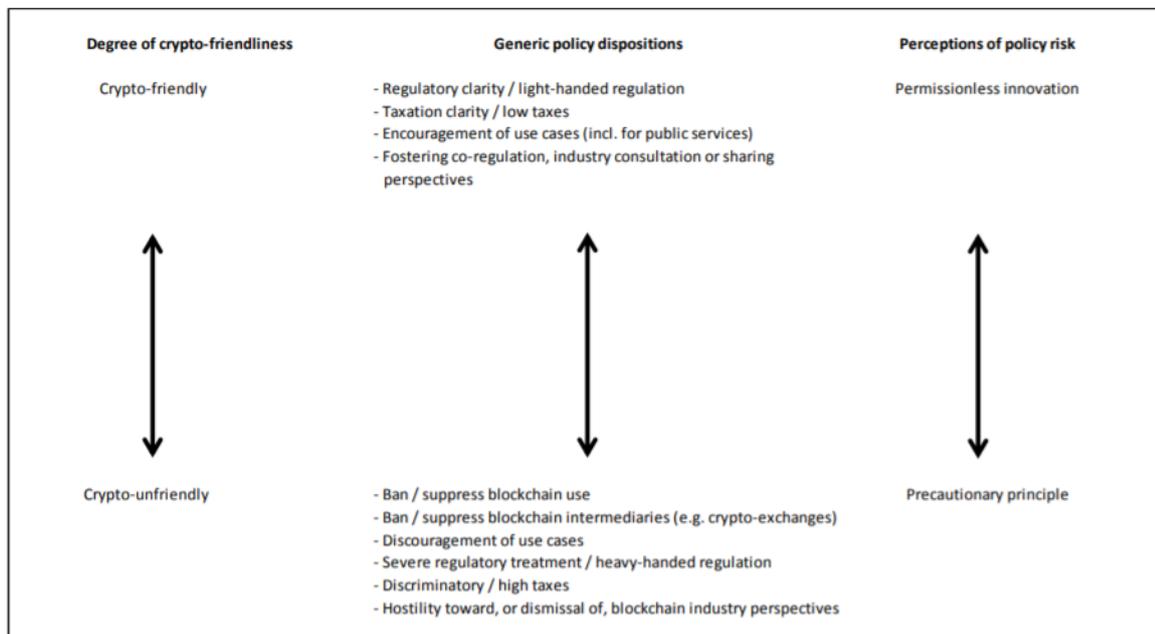
4. Australian ICO policy, and potential reforms³⁰

The significance of policy action for technological acceptability and usage is that, with respect to blockchain (and its applications, including ICOs), it territorially affects the opportunity set of viable blockchain-enabled activities within, and amongst, political jurisdictions. Countenancing the possibility of heterogeneous policy responses toward the blockchain, it is possible to discern varying degrees of policy crypto-friendliness. The term “crypto-friendliness” is intended to encapsulate the extent of policy accommodation toward distributed ledger technology. A more crypto-friendly environment reflects styles of policy development that effectively treat blockchain as a positive opportunity for crypto-economic development. Alternatively, crypto-unfriendliness is likely to correspond with policies which severely constrain opportunities for engagement and learning with blockchain.

Corresponding with these two polar positions of crypto-friendliness and crypto-unfriendliness are differing policy bundles. Jurisdictions toward the crypto-friendly end of the blockchain policy spectrum are more likely to proactively clarify the tax treatment of blockchain tokens and assets, and to not tax those instruments punitively. Measures attempting regulatory certainty with respect to crypto-economic activities, without undermining the growth and development of blockchain use and adoption, are also consistent with crypto-friendliness. Other features of a crypto-friendly policy environment include the facilitation of use cases, the instigation of “sandboxing” or other regulatory trials of blockchain, as well as political statements and official reports highlighting the potential benefits of blockchain. Figure 2 illustrates the degrees of crypto-friendliness.

³⁰ Much of the discussion in this section is drawn from Mikayla Novak. (forthcoming). “Crypto-friendliness: Understanding blockchain public policy.” *Journal of Entrepreneurship and Public Policy*. Earlier version: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3215629 (accessed 18 February 2019).

Figure 2 – Degrees of Crypto-friendliness³¹



The Issues Paper notes the diversity of regulatory approaches toward ICOs in a range of jurisdictions, including Switzerland, the Isle of Man (United Kingdom) and Wyoming (United States).³² As a matter of principle, it appears that a significant challenge for regulators is to ensure that regulatory frameworks and specifications are in place which pre-empt fraudulent or illicit activities whilst permitting (if not promoting) token issuances that create economic value. Reinforcing the need to effectively “separate the wheat from the chaff,” Li and Mann call for recognition by regulatory authorities of the economic value presented by ICOs via the development of blockchain platform infrastructure.³³

This insight alludes to the notion that general-purpose technologies, such as blockchain platform infrastructure, are not solely of relevance to financial regulators (given the financing role of ICOs) but to designers and implementers of *innovation policy* more broadly, the latter tending to cut across multiple agencies and varied policy perspectives. The affordances of the technology, especially its potentially transformative capacity to support networked interactions, arguably extends beyond the regulatory mandate and capacities of the ASIC implying the need for new public policy disposition in respect of blockchain (and, it may be suggested, other “new wave” technologies such as artificial intelligence and the Internet of Things).

³¹ Ibid.

³² Issues Paper, 11-13.

³³ Jiasun Li and William Mann. 2018. “Initial Coin Offerings and Platform Building.” https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3088726 (accessed 18 February 2019).

The globalised extent of blockchain-enabled activities also suggests, as broadly studied by Professor Jason Potts, a need to reinterpret national innovation policy in a global context wherein policymakers can contestably learn from, and coordinate with, other jurisdictions with respect to “network-facilitative” ICO policy.³⁴

³⁴ Jason Potts. 2016. “Innovation policy in a global economy.” *Journal of Entrepreneurship and Public Policy* 5 (3): 308-324.

About the RMIT Blockchain Innovation Hub

The RMIT Blockchain Innovation Hub (BIH) is the world's first social science research centre into blockchain technology. Founded in 2017 at RMIT University, we are an interdisciplinary team of researchers in economics, political economy, organisational theory, law, sociology, politics and communications. The RMIT BIH is developing the foundational theory of institutional cryptoeconomics, business strategy and adaptation to blockchain technologies, mapping the blockchain economy, and identifying the public policy challenges that will hold back or accelerate this economic revolution. We are working across a range of blockchain applications including supply chains, civil society, health care and digital identity.

Website: <https://sites.rmit.edu.au/blockchain-innovation-hub>

