



INSTITUT C.D. HOWE INSTITUTE

COMMENTARY
NO. 525

Tales from the Crypt – How to Regulate Initial Coin Offerings

ICOs fill an essential gap in funding for entrepreneurs that have limited access to other forms of startup financing. Regulating them needs to resolve the conflict between financial innovation and protecting investors.

Thorsten Koeppl and Jeremy Kronick

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COMMENTARY No. 525
November 2018
FINANCIAL SERVICES
AND REGULATION

\$12.00

ISBN 978-1-987983-82-1

ISSN 0824-8001 (print);

ISSN 1703-0765 (online)



A handwritten signature in black ink that reads 'Daniel Schwanen'.

Daniel Schwanen
Vice President, Research

THE STUDY IN BRIEF

Given the boom in, and media attention surrounding, Initial Coin Offerings (ICOs), this *Commentary* asks whether this new type of financing is one that fills a market gap in the financial sector, or is just a way of defrauding unsuspecting retail investors looking to invest in new startups.

We set forth arguments showing that ICOs do indeed fill an essential gap in funding for entrepreneurs that have limited access to other forms of startup financing such as crowdfunding, venture capital or bank lending. We point out that for an ICO to be the efficient way of financing, the business venture needs to develop:

- i. a decentralized platform, usually based on blockchain technology; where
- ii. a coin gives digital access to the platform; and serves as
- iii. a means of payment for users that engage in decentralized, person-to-person (P2P) exchange in order to create and transfer value between them.

If these features are fulfilled, using an ICO can be integral to the project's success, and we label it simply a "fundamental ICO." Based on such guidance, and very much in the spirit of "activity-based regulation," we suggest that Canadian securities regulators develop specific regulations for ICOs that move beyond the question of whether an ICO is a security or not and take into account the special nature of such financing. Alternatively, or until new rules arrive, regulatory relief could still be granted for fundamental ICOs under the Canadian Securities Administrators (CSA) Sandbox.

Our proposed test can also create guidelines for the right approach to taxation that is consistent with the value that is added by such financing. Tax rules can be based on the dual roles of the coins, which are both an investment stake and a currency.

There is value in bringing together economic, regulatory and legal aspects to develop a specific framework for the regulation and taxation of ICOs in Canada. This can ensure an environment that reaps the benefits of the ongoing blockchain revolution for the Canadian economy without exposing investors unnecessarily to fraud.

C.D. Howe Institute Commentary© is a periodic analysis of, and commentary on, current public policy issues. Michael Benedict and James Fleming edited the manuscript; Yang Zhao prepared it for publication. As with all Institute publications, the views expressed here are those of the authors and do not necessarily reflect the opinions of the Institute's members or Board of Directors. Quotation with appropriate credit is permissible.

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A young Canadian entrepreneur has her eureka moment and decides she is going to start the newest shop on Bay Street, “Bean and Weed,” targeting morning coffee drinkers and afternoon cannabis smokers.

First, she approaches a traditional Canadian lender – a bank or credit union – to seek startup funding. Not seeing enough upside, they politely decline to finance the project.

Next, our young entrepreneur considers the venture capitalist route. Such funds chase high-risk, high-return projects and are less constrained than banks by regulation. However, despite our coffee and cannabis business fitting in the high-risk category, its ability to scale up and generate high returns seems unlikely. As a result, venture capitalists and angel investors also demur.

Our entrepreneur then decides to go with the new craze and raises funds via an “initial coin offering” (ICO) issuing “CoffeePotCoin” against deposits in one of the most common cryptocurrencies, ether, available on the Ethereum platform. To promote the issue, the young entrepreneur partners with a computer programmer to write a white paper. This document outlines how potential investors can acquire digital coins in a staggered offering that rewards early movers, how the proceeds would be spent to set up the coffee shop, the potential extension into a national franchise and how a blockchain would be used to keep track of who owns these coins. The size of

the ICO is 40 million “CoffeePotCoin” with the exchange rate set at 1,000 CoffeePotCoins per ether for the first 10 million coins issued, then 500 CoffeePotCoins per ether for the next 20 million coins issued, with the entrepreneur and programmer keeping the remaining 10 million coins.¹

Although fictitious, the story of “CoffeePotCoin” is not far-fetched as total funds raised by ICOs in 2018 are now north of US\$20 billion worldwide, with the first \$1 billion sale occurring in March 2018.² This total is up dramatically from less than \$100 million in 2016 and \$6 billion in 2017. By the end of 2017, US\$175 million in ICO funding had originated in Canada – good for eighth place worldwide – with the US leading with more than \$1 billion in funds raised (Ernst & Young 2017). Many commentators have described this investment boom as a modern day bonanza where it is often hard to distinguish which projects are valid investments and which are fraudulent.

Should we view “CoffeePotCoin” as using a new type of financing that fills a market gap in the financial sector? Or is it just a way of defrauding unsuspecting retail investors looking to invest in new startups? Not surprisingly, then, ICOs suffer from the well-known tension between creating a

The authors thank Rosalie Wyonch, Greg Cowper, James MacGee, anonymous reviewers, and members of the Financial Services Research Initiative of the C.D. Howe Institute for helpful comments on an earlier draft. They retain responsibility for any errors and the views expressed.

- 1 At roughly \$500 per ether, the ICO would raise \$12.5 million at full subscription, which is close to the average raised by ICOs.
- 2 See <https://www.coinschedule.com/stats.html?year=2018>.

dynamic environment for entrepreneurship and protecting investors from fraud.

In this *Commentary*, we argue that ICOs indeed fill an essential gap in funding for entrepreneurs that have limited access to other forms of startup financing such as crowdfunding, venture capital or bank lending.³ We point out that for an ICO to be the efficient way of financing, the business venture needs to develop:

- 1) a decentralized platform, usually based on blockchain technology; where
- 2) a coin gives digital access to the platform; and serves as
- 3) a means of payment for users that engage in decentralized, person-to-person (P2P) exchange in order to create and transfer value between them.

If these features are fulfilled, using an ICO can be integral to the project's success, and we label it simply a "fundamental ICO."

This economic insight can guide policymakers in how to protect investors and how to tax capital gains from such investments. Tax rules, for example, can be based on the dual roles of the coins, which are both an investment stake and a currency.⁴ But more importantly, regulators can use our description of an ICO's fundamental economic purpose to decide, on a case-by-case basis, whether it is, indeed, fundamental and not just a convenient way of financing that could be easily substituted with other forms of raising capital.

Based on such guidance, and very much in the spirit of "activity-based regulation," we suggest that Canadian securities regulators develop

specific regulations for ICOs that move beyond the question of whether an ICO is a security or not and take into account the special nature of such financing. Alternatively, or until new rules arrive, regulatory relief could still be granted for fundamental ICOs under the Canadian Securities Administrators (CSA) Sandbox, which we describe later in more detail.

Importantly, access to special regulations or regulatory relief should be based on a test that formalizes our economic insights into why financing through an ICO is necessary; in particular, their value-generating model that potentially merits a particular regulatory and tax treatment.⁵ We envision the test to be a holistic assessment of the ICO's purpose and, therefore, set a high bar for access to special treatment under the regulatory framework. While putting the burden of proof on entrepreneurs, we feel that such an approach can resolve the conflict between financial innovation and protecting investors, often seen as incompatible goals for policymakers.

WHY USE AN INITIAL COIN OFFERING?

ICOs are a form of crowdfunding where many investors – mostly with fairly small stakes – combine to fund a project. In an ICO, an entrepreneur raises funds from many investors in the form of government-backed currencies, such as the Canadian or US dollar, or from common cryptocurrencies, most commonly bitcoin and ether. In return, investors receive new tokens or coins. Typically, these coins are themselves

3 Importantly, we do not argue that ICOs provide value to people by simply giving them access to financing that they otherwise would not have.

4 We define currency as a medium of exchange, not in the more general definition as money. We do this to emphasize that coins arising from ICOs do not have to be widely used beyond the platform or be stores of value per se.

5 Indeed, some jurisdictions have already taken that approach with regard to ICOs. The Swiss Financial Market Supervisory Authority (FINMA) holds that a case-by-case assessment based on the economics of a project is necessary to evaluate how to regulate ICOs. "Circumstances must be considered holistically in each individual case...FINMA will base its assessment on the underlying economic purpose of an ICO" (FINMA 2018).

cryptocurrencies stored on either a new or existing blockchain as a smart contract.⁶

Over the last decade, crowdfunding has played a role in allowing small entrepreneurs to tap into the funds of retail investors. Crowdfunding also includes a new type of lending that is often labelled P2P, in which a platform brings together lenders and borrowers in a particular financial market segment. Recent Canadian examples of such platforms include LendingLoop and Lendified.

At first blush, understanding the advantage of such funding relative to traditional ways of financing startups, such as bank credit and venture capital, is not straightforward. After all, one would expect that traditional lenders are more experienced at screening potential investments and monitoring progress in projects that get funded. And, indeed, venture capital funding still dwarfs these newer financial models in Canada (Figure 1). But with US\$175 million, or C\$227 million, worth of ICO projects funded in Canada at the end of 2017, compared with basically no funding before 2015, a detailed analysis seems warranted.

To do this, we begin with a review of the alternative ways of raising startup funds. In particular, we look at venture capital, crowdfunding and ICOs. The type of project being financed, regulatory requirements and the preferences of borrowers can be used to distinguish when and where these forms of startup funding are advantageous and create particular value for entrepreneurs and investors.⁷

Venture Capital

Venture capital (VC) typically invests in small businesses that have high growth potential. Once these businesses have been started, they often lack

access to established lenders and require advice to implement a growth strategy. VC firms are willing to provide funding and advice in return for large ownership stakes that they can eventually lay off in an Initial Public Offering (IPO) or corporate sale if the business growth strategy proves successful. The main tradeoff for the original entrepreneur is surrendering a significant stake and control in the company for a VC's capital and resources.

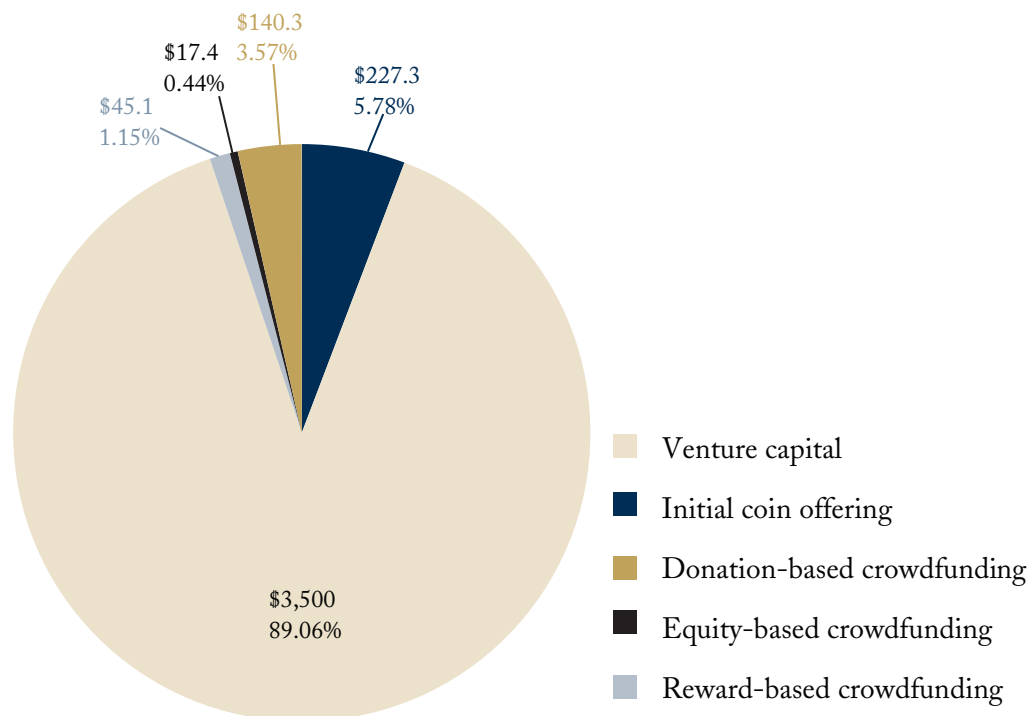
VC funds can often avoid or lighten disclosure rules by restricting participation to accredited investors. Despite this regulatory advantage, many VC funds are quite selective in their financing and target small companies that have sufficient inside management expertise and growth potential. Still this sector in Canada is sizable. According to the Canadian Venture Capital Association, VC investment in Canada was \$3.5 billion in 2017, reflecting more than 590 deals with an average value of some \$6 million. The sectors attracting the most VC funding were information and communication technologies, life sciences and clean tech. Interestingly, in 2016 all sales of VC investments were done through corporate acquisitions or, thought of differently, none were done through IPOs (Horn et al. 2017).

Angel investors are one particular form of venture capitalist. These investors are typically wealthy individuals investing their own funds. They do not necessarily require that a business grows into a larger enterprise, meaning they can be thought of as a complement to VC funds for startup financing. One issue for angel investors is that there is no protection for share dilution. Therefore, returns must be extremely high, and the ownership stake demanded is often higher than with VC funds, making it an unappealing source of funding for many new businesses. Notwithstanding, being

6 A blockchain is a record-keeping system without a central authority to update information. A smart contract uses blockchain technology to verify and execute commercial agreements. For more details on blockchains, smart contracts and cryptocurrencies, see Koepl and Kronick (2017).

7 We leave out bank credit, as this traditional form of financing has vastly different characteristics than ICOs.

Figure 1: Money Raised via Non-Bank Lending in Canada – 2016/17 (\$C millions)



Source: Ernst & Young (2017), Canadian Venture Capital Association, Crowd Data Center, and Ziegler et al. (2017).

Note: To convert to Canadian dollars from US dollars we used average of daily exchange rates for a given year from the Bank of Canada.

classified as a personal small business investment means angel investing generally avoids onerous disclosure regulation.

Crowdfunding

Crowdfunding is typically the process of raising small amounts of funds from the general public through the Internet and social media. It is primarily donation-based, rewards-based or equity-based. We focus on the latter two since in both cases, investors expect some kind of return. In rewards-based crowdfunding, entrepreneurs typically pre-sell the product or service they offer in order to launch their business venture. Equity crowdfunding, on the other hand, as the name suggests, provides investors with ownership shares. As such, it is similar to equity financing, but

with rather small ownership shares for individual investors.

Entrepreneurs find rewards-based crowdfunding beneficial for several reasons. It gives them the chance to directly fund a particular product or project without diluting their control and ownership. Furthermore, they can tap into their customers directly for funding. This can lower the cost of capital, as entrepreneurs are matched with individuals who have the highest willingness to pay (De Luca and Margherita 2016). Similarly, crowdfunding renders automatic market feedback on the value of carrying out the project and, simultaneously, creates publicity for the venture. Such funding also tends to reduce risk for both the entrepreneur and investors, as carrying out the project is often tied to a successful pre-sale. Consequently, efficiency gains arise through

generating additional information on the likely success of a business venture (Belleflamme and Lambert 2014).⁸

The case for equity-based crowdfunding is less clear, as it could involve a loss of ownership as with traditional financing instruments. The main advantage seems to be that entrepreneurs can tap into a large pool of retail investors that have small sums to invest. Such small, widespread ownership stakes are attractive, as they often allow entrepreneurs to retain significant operational control over the project.

As of 2017, approximately US\$2.5 billion had been raised globally through equity crowdfunding, representing only 7.4 percent of the US\$34 billion total.⁹ However, equity crowdfunding is characterized by both a significantly higher average pledge amount and a significantly higher average campaign goal (Vulkan et al. 2015).

Crowdfunding got a big boost in Canada in 2016 when securities commissions decided to relax their rules on what types of investors could invest in private capital markets. Prior to these changes, companies wanting to raise capital were restricted to accredited investors with a net worth of \$5 million or \$1 million in investable assets. Now, with certain restrictions on the amount, essentially all retail investors can invest.¹⁰

One key benefit of both forms of crowdfunding is that expensive disclosure requirements can be much less onerous than with other types of

financing (e.g., IPOs). Some provincial regulators¹¹ have created crowdfunding prospectus exemptions in light of the high costs typically associated with a full prospectus and the fact that many of these businesses do not have the resources to take on such a task. For example, to protect investors and allow them to make an informed investment decision, a crowdfunding campaign in Ontario needs to provide a funding document that “includes information about who controls and runs the company, what the company does, why it is raising money, how much money it needs to raise and how it plans to use the money raised.”¹²

Initial Coin Offering (ICO)

ICOs raise funds by issuing a new cryptocurrency, usually classified as “coins,” against either legal tender (e.g., Canadian dollars) or other well-established cryptocurrencies such as bitcoin or ether. Such funding shows similarities with crowdfunding, as it is a sale of coins open to anyone, and the sale is usually tied to a particular project. Table 1 provides a summary of the characteristics of the different funding options. A key difference from crowdfunding, however, is that the coins neither confer legal ownership in the project to the investor nor necessarily allow for redemption in that they do not include a claim to a particular reward. This raises two questions.

- What features cause an ICO to have value?

8 Some have argued that crowdfunding disentangles geography from funding. VC funds tend to operate in geographic clusters for start-up. With crowdfunding, the location of entrepreneurs or the project matters less, as it can tap into retail investors independent of location (Agrawal, Catalini, and Goldfarb 2015).

9 <https://blog.fundly.com/crowdfunding-statistics>.

10 O'Hara (2016). Available at <https://www.theglobeandmail.com/globe-investor/investor-education/new-crowdfunding-rules-widen-pool-for-canadas-private-capital-markets/article28660189/>.

11 Securities are regulated at the provincial level in Canada. There are two primary types of exemptions, the Integrated Crowdfunding Exemption (AB, SK, MB, ON, QC, NB and NS) and the Startup Crowdfunding Exemption (BC, SK, MB, QC, NB and NS). These exemptions differ in that the former allows for greater investment amounts but comes with greater disclosure requirements.

12 <https://www.getsmarteraboutmoney.ca/protect-your-money/investor-protection/regulation-in-canada/equity-crowdfunding-in-ontario/>.

Table 1: Characteristics of Different Funding Options

	Ownership stake lost?	If yes, is it large?	If no, are there other direct investor rewards?	Strict regulatory criteria?	Does business have to be high-risk, high-return?	Are there high barriers to entry?	Large investor pool?
Venture Capitalists	YES	YES	N/A	DEPENDS	YES	YES	NO
Angel Investors	YES	YES	N/A	NO	YES	YES	NO
Crowdfunding – Rewards	NO	N/A	YES	NO	NO	NO	YES
Crowdfunding – Equity	YES	NO	N/A	DEPENDS	YES	NO	YES
INITIAL COIN OFFERINGS	NO	N/A	NO	DEPENDS	NO	NO	YES

Source: Authors' compilation.

- And what advantage does cryptocurrency financing have beyond traditional startup financing and, in particular, beyond a normal crowdfunding campaign?

Like with any fiat currency (a.k.a. cash), there is no real, fundamental value attached to the coin. Instead, the value arises from its usage within the project being financed.¹³ Interestingly, in the case of an ICO that generates value for investors, coins can be used in a dual role. First, they finance an initial investment while, in exchange, coin holders get digital access to an application or service. Second, the project commonly is a decentralized blockchain platform that offers its users the chance to transfer value among themselves in a decentralized fashion without the use of intermediaries. Such a platform usually needs to rely on a medium of exchange or a means of payment that supports trading, which the coin supplies. The coins are thus often referred to as “utility coins” or “payment coins.”

Hence, ICOs are primarily useful for financing a blockchain that creates value by setting up a technology (some call it a “micro-economy”) where participants can trade a particular product or service directly with each other without the use of intermediaries. Importantly, simply setting up a platform is not enough to give an ICO a particular advantage over other forms of financing such as crowdfunding. Restricting access to the platform gives value to the membership like creating a “club good.” However, the fact that the platform uses blockchain technology, allowing for decentralized transactions where the coin is necessary as a medium of exchange, makes an ICO advantageous over simple crowdfunding.

An ICO, therefore, exploits an economy of scope¹⁴ by relying on seignorage – the proceeds from issuing a fiat currency-like instrument – to finance the platform and by requiring the coin it has issued to serve as a medium of exchange. This

13 Sometimes an ICO is conducted to create coins that are claims against other assets. This creates an asset-backed security in disguise. This is not the subject of our discussion.

14 An economy of scope arises when producing multiple goods or services lowers the average costs of production.

reduces costs for users who would otherwise have to pay twice, once to invest in and access the platform, and a second time when acquiring another currency for trading. The value of the coin, itself, is thus intrinsically linked to its platform and the future value of services it provides for its users.

This insight is critical for understanding another important feature of ICOs. Issuing coins does not guarantee success of the platform. Issuers need incentives to follow through and build a micro-economy that creates value for the investors and its users. If issuers retain coins, they will be interested in the success of the platform as they can sell the coins later to new users that would like to tap into the decentralized transactions the platform provides. Hence, the value of the coin (a.k.a. return on the investment) is intrinsically linked to the value added by the platform and the value of goods or services exchanged on it.¹⁵

ICOs also match other advantages of traditional crowdfunding. For example, as the project develops and the underlying good or service is traded more often, coin velocity will increase. As this occurs, it creates a more liquid asset that can be easily traded. Furthermore, issuing a coin extracts information on the perceived value of the platform by potential users and, thus, can guide its scale and likely success. Similarly, threshold rules, as in crowdfunding, can protect small investors from losses as ICOs become valid only if a sufficient number of funds have been raised.

Of course, ICOs share with other forms of startup financing the high risk that a project will not make it from its successful funding stage to completion. This uncertainty gives rise to potential fraud, especially in an environment driven by public hype and easy online advertisements, as is currently the case with ICOs.

There is a certain leap of faith that investors take that the entrepreneur will make good on his or her business plan and carry out the project to their satisfaction. While incentives exist for entrepreneurs to succeed (for example, through the value of the retained coins), there is always potential for fraud. That is where the need for regulation to protect consumers arises and, hence, a balance needs to be struck with the costs of disclosure and other regulations, as we discuss later.¹⁶

At this stage, it is worth honing in further on how blockchain technology determines whether a platform requires an ICO or not. This technology allows one to build record-keeping systems in situations where there is a lack of trust. Traditionally in such situations, intermediaries – the government, financial institutions or private platform operators – took over the role of a central, trusted third party in order to enable people to trade. With blockchain, there is decentralized record-keeping where no designated third party is responsible for keeping records safe and accurate. Instead, the participants themselves compete to update records for a reward, and this competition protects the integrity of the records.¹⁷

The rise of cryptocurrencies is intrinsically linked to the idea of a blockchain, where coins are issued to reward updating of records. These coins can then be used to pay for goods or services. Thus, there is again the connection between seignorage and the coin's role as a medium of exchange. The key difference is that coins issued in an ICO are usually not meant to serve as a universal currency. Instead, they are a necessary part in enabling the decentralized exchange of a particular service or good on a platform (usually a blockchain) or – at a very minimum – gaining digital access to an application or service offered by the platform. At

15 We thank Jonathan Chiu, a Senior Research Advisor at the Bank of Canada, for this insight.

16 One possibility for reinforcing investor confidence is for the entrepreneur to collect all contributions in a multi-signature escrow wallet and define a process for returning the funds in case of failure.

17 For a basic discussion of blockchain technology, see Koepl and Kronick (2017).

Box: Examples of ICOs

In 2014, the Ethereum platform was launched with one of the first ICOs ever conducted. It raised 31,529 BTC (bitcoin), which were valued at roughly US\$20 million at that time in exchange for the native, initial Ethereum coin, called ether.^a The platform allows for the creation of smart contracts that are decentralized applications between users that are automatically executed and enforced against a payment of “gas,” which is quoted in ether. Ethereum has the distinctive feature that the platform can be used to create both cryptocurrencies and coins that are issued in an ICO.

An interesting example of an ICO on the Ethereum platform is Augur. This platform introduces a decentralized prediction market where people can bet on an event. A designated arbiter decides – like an oracle – whether the event has occurred or not. Importantly, an arbitration decision can be challenged by a “reporting system” where the Augur coin holders can pledge their coins on possible events. This is like a vote where the pledged coins are redistributed from losing stakes to winning ones. The coins are called REP (reputation) coins and serve a dual purpose of financing the building of the platform and being a currency used to place bets.

The most lucrative ICOs in recent history are Filecoin, which raised over US\$200 million for creating a platform for decentralized data storage, and Tezos, which introduced a new blockchain for smart contracts where verification of updates is based on a voting scheme (Proof-of-Stake) rather than a costly competition (Proof-of-Work). The latter ICO raised about 65,000 BTC (bitcoin) and more than 300,000 ether. A final example is the EOS.IO platform, which aims to build scalable blockchain solutions. This ICO is explicitly designed to release coins over time to the developing team and, while its ICO is still ongoing, its market capitalization is estimated to be in the US\$1 billion range.

In the Canadian context, three recent ICO examples are worth mentioning. The most prominent is Kik, the Waterloo startup that provides a messaging/chat app. Interestingly, this ICO was conducted after some initial VC funding. The company cited two reasons for this step. First, having a currency – Kin coins – allows the app to transform the chat app into a micro economy where people can transact in a decentralized fashion using Kin. Second, establishing an ICO keeps control within its developer community since there is no intention to sell the company down the road.

Another Canadian example is Coin Funder Inc., the first ICO in the CSA Sandbox, which builds a platform for “smart coin asset management,” essentially facilitating future ICOs. The third example is BUNZ, which recently issued a coin (BTZ) in order to improve the functioning of its bartering platform. The coins are distributed free to its members. This coin issue does not raise capital and, therefore, does not fall under our ICO definition as a value-generating form of financing. Instead, it is a cryptocurrency offering that allows its users to engage more efficiently in a decentralized exchange on an already existing platform.

a <https://www.coindesk.com/ethereum-bitcoin-decline-9-million-funding-shortfall/>

the same time, these coins provide the funding for creating and maintaining the platform that supports direct, decentralized exchange among its users. The box above provides some examples where ICOs have been used to set up blockchain-based applications to illustrate this point.

A summary of our points on ICOs should help our readers understand why such investments can be unique in creating a fundamental economic value.

- An ICO exploits an economy of scope between raising funds from issuing coins (seignorage) and using these coins for access to a digital platform where the coins are used in decentralized trade of applications and services (medium of exchange). It is this feature that distinguishes ICOs from ordinary crowdfunding.
- ICOs, therefore, have a unique advantage when financing a blockchain-based platform that enables its users to trade, exchange value and run applications without the use of an intermediary, so that a medium of exchange is required. The value of the coin derives from the value of the decentralized applications and services the blockchain supports for its users.
- Coins play three main roles in an ICO. First, they are akin to memberships in a platform since users need to have coins to access it. This makes them commodity-like assets. Second, they also serve as a medium of exchange giving them a currency-like feature in the context of the blockchain-based platform. This dual role explains the common usage of the terms “utility coin” and “payment coin” to describe and distinguish them

from plain cryptocurrencies that are a general means of payment. Third, when retained by the issuer, they give incentives to the issuer to create value when designing and investing in the platform.¹⁸

These insights will prove useful when discussing how to regulate and tax such investments.¹⁹

HOW SHOULD CANADIAN SECURITY REGULATORS APPROACH ICOS?

Background

The CSA approach to regulating ICOs has to this point been focused on determining whether an ICO implies the issuance of securities. This is the case whenever an ICO passes a “four-prong test”²⁰ where it is deemed to be:

- 1) An investment of money,
- 2) in a common enterprise,
- 3) with the expectation of profit, and
- 4) with that profit to come significantly from the efforts of others.²¹

This approach is motivated by two concerns. First, the CSA recognized in August 2017 that cryptocurrencies, by their very nature, raise concerns for investor protection, as “... investors may be harmed by unethical practices or illegal schemes, and may not understand the properties of the investment products that they are purchasing.”²² Second, the CSA is worried that ICOs are being

18 Retaining the coins also provides the issuer the option to use them as a rewarding mechanism or to eliminate them, leading to an increase in value. It is also possible to freeze them in case multiple funding rounds are required.

19 This *Commentary* largely excludes a discussion of anti-money laundering concerns. It is very likely that ICO businesses will be subject to the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (<http://laws-lois.justice.gc.ca/eng/acts/P-24.501/page-1.html#h-2>) and, as a result, will require a compliance program that meets all legal requirements. However, the rules are set up such that the level of detail required is tailored to the size, complexity and risk of exposure to money laundering of the business.

20 Also known as the Howey test dating back to *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946), a US Supreme Court case that is also used in Canada to determine whether an instrument qualifies as an investment contract within the definition of the relevant provincial securities legislation.

21 CSA Staff Notice 46-307.

22 CSA Staff Notice 46-307.

used to circumvent existing securities regulation and has taken the stance that “... the totality of the offering or arrangement is considered”²³ when deciding whether an ICO means the offering of a security.²⁴

In principle, this is a reasonable course given the CSA’s mandate. Our analysis does nothing to change the view that most ICOs indeed issue securities according to the CSA’s definition. And, of course, as soon as ICOs are deemed an issuance of securities the institution-based framework for securities regulation should kick in.

This framework requires Canadian and non-Canadian companies and individuals to comply with registration requirements as market intermediaries (e.g., dealers or advisers), to provide a prospectus when issuing securities to non-accredited Canadian investors and possibly to satisfy marketplace requirements when the issuance is related to securities trading. These requirements are fairly onerous for startups, and many provinces have introduced regulatory relief in the form of an offering memorandum prospectus exemption²⁵ and special crowdfunding rules²⁶ to encourage easier access to capital markets.

Under these exemptions, regulatory relief may be provided in two ways. First, by not requiring the disclosure of full prospectuses to non-accredited investors, though these investors are limited in the amount they can invest. For example, in Ontario crowdfunding investment by retail investors is limited to \$2,500 per project and \$10,000 per year. These limits are higher

for accredited investors. Similar limits apply to exemptions under the offering memorandum relief. Second, issuers are required to satisfy less onerous disclosure requirements, such as offering documents describing the project to be financed, periodic financial statements and a mandatory notice of discontinuing the project. However, basic “know-your-client” requirements still have to be satisfied, and investors must sign a so-called Risk Acknowledgement Form.

The CSA’s Regulatory Sandbox

The CSA has also recognized that even seeking regulatory relief can be a cumbersome process, especially for fintech businesses that operate in a fast-paced world where innovation often means live experimentation. It, therefore, has introduced the CSA Regulatory Sandbox as an umbrella for expedited, more flexible application of exemptions. The Sandbox “... allows firms to ... obtain exemptive relief from securities law requirements, under a faster and more flexible process than through a standard application, in order to test their products, services and applications ...”²⁷ Some provinces – the best example is Ontario’s “OSC Launchpad” – have even created a streamlined procedure for access to the Sandbox.

ICOs can, therefore, apply to their local securities regulator for access to the Sandbox. Within the Sandbox, prospectus exemptions and other relief can be tailored to the particular project. On the surface, this seems to strike the right

23 CSA Staff Notice 46-308.

24 CSA Staff Notice 46-308.

25 For details see <https://www.stikeman.com/en-ca/kh/canadian-securities-law/new-offering-memorandum-exemption-increases-access-to-capital-markets-in-ontario> and the OSC regulation NI 45-106. <http://www.osc.gov.on.ca/en/15126.htm>.

26 For details, see Multilateral CSA Notice 45-316 (<https://lautorite.qc.ca/fileadmin/lautorite/reglementation/valeurs-mobilieres/0-avis-acvm-staff/2015/2015mai14-45-316-avis-acvm-en.pdf>), OSC regulation NI 45-108 (http://www.osc.gov.on.ca/en/SecuritiesLaw_45-108.htm) and Alberta Securities Commission Rule 45-417 (http://www.albertasecurities.com/Regulatory%20Instruments/5377349%20_%20ASC%20Rule%2045-517.pdf).

27 See CSA https://www.securities-administrators.ca/industry_resources.aspx?id=1588.

balance. On the one hand, startups get easy access to a new financing model within the regulatory framework. On the other hand, investors seem to be protected as existing rules can be applied on an ad hoc basis.

What is left in the dust, however, is transparency about why a particular ICO can get regulatory relief and guidance about what form the relief should take. Addressing these questions, however, requires a reorientation of how to think about regulation when ICOs are recognized as a new form of financing. This calls for a new, activity-based approach to regulating ICOs, as has happened with other forms of financing in the past, such as crowdfunding.

Toward a Regulatory Framework for ICOs

At the moment, the CSA seems to be stuck on the question of clarifying whether a particular ICO is a security or not. Here, the CSA has clarified that “... not only the technical characteristics ... but the economic realities of the offering as a whole [matter], with a focus on substance over form.”²⁸ This points toward applying a regulatory regime that gives credit to ICOs’ special nature along the lines we have pointed out in this *Commentary*.

As we have argued, ICOs are an efficient form of funding platforms (i.e., raising capital) that offer decentralized applications. As such, fundamental ICOs are securities, as defined by the CSA.

However, due to a fundamental ICO’s special nature, the platforms are often intrinsically linked to marketplaces where the coins that are issued are traded among the platform users, making them currency-like as well. Depending on the application, the issuers might even be deemed securities dealers or advice providers on how the coins can be used. This dual role of coins then implies that fundamental ICOs will require more detailed, yet targeted, regulatory relief than a mere prospectus

exemption or specific limitations on investor amounts and profiles.

We do not have the legal expertise to describe a new ICO regulatory framework. We can, however, point to some important cornerstones that such regulation will need to address. First, the time frame for any exemptions to be granted will need to be longer than a few months or even a year. Many new ICOs are presented as an idea, where financing is given first for a proof-of-concept, with the pilot project and the actual commercialization happening much later. This process will often take several years to lead to a fully operational platform.

Second, alternative disclosure requirements will be necessary for ICOs seeking regulatory relief. Initially, these requirements might be rather detailed white papers and business plans, especially on the services to be built and how the entrepreneurs will be compensated. However, such lighter, initial disclosure requirements need to be supplemented with periodic reviews of the relief granted and disclosures on the state of the ICO-funded project, especially if the ICO has several stages of coin issuance.

Third, it is necessary to restrict investments to smaller amounts and/or access to accredited investors on a case-by-case basis, since ICOs are generally high-risk projects. These amounts should be adjusted, possibly requiring more stringent disclosure requirements as the ICO project matures. This is important, as many ICOs aim at issuing coins throughout the phases of taking a project to full commercialization.

Fourth, entrepreneurs and experts advising on the coin issuance might require exemptions from dealer registration requirements. After all, the coins do not necessarily function as general securities, and it is often not the financial, but the technical and economic functions of the coin where advice is needed. Also, if the re-trading (i.e., trading after the initial purchase) of coins is prohibited, a timeline

28 CSA Notice 46-308.

for the possibility of re-trading them needs to be established. We will discuss the rationale for this point below.

Such exemptions would give considerable, almost holistic, regulatory relief to fundamental ICOs and are likely to be similar to exemptions already granted under the umbrella of the CSA Sandbox on a case-by-case basis, albeit more transparent and backed by economic reasoning. This raises once again the main concern that firms would seek to access such light regulation by disguising offerings as an ICO.

Hence, the decision to grant access to ICO-specific regulation needs to rest on a solid evaluation of whether an ICO is essential to ensure a project's efficient funding. Such a test can be based on the economic arguments we have made in the previous section and would require that only fundamental ICOs get access to regulatory relief needs. To recall, an ICO will be deemed fundamental only if it satisfies the three criteria described above:

- coins represent membership, providing access to a decentralized platform and its applications or services;
- coins can be used as a medium of exchange on this decentralized platform; and
- a sufficient ratio of coins needs to be retained by the issuer so that incentives exist, in the form of future increases to the coin's value, for the issuer to invest in the proper development of the platform.

If these criteria are not met, it is not clear why an ICO is required, and access to regulatory relief should be denied. This admittedly sets a high bar for ICOs to obtain regulatory relief. It would, however, strike a good balance between investor protection and ease of funding that is precisely based on the

features that give an ICO a particular advantage over other forms of financing. If an application did not pass the test, financing could still be done via an ICO, but with a full prospectus and full compliance with other regulatory requirements, or by an application for an exemption under other rules, for example those governing crowdfunding. This would effectively restrict access to special relief to projects that rely on a fundamental ICO. And it would serve investor protection well by offering a pre-screening device based on sound economic theory.

Interestingly, the Swiss Financial Supervisory Authority (FINMA) seems to be close to such an approach. In its "Guidelines for enquiries regarding the regulatory framework for initial coin offerings,"²⁹ it has published a catalogue of questions that seek answers to why an ICO is conducted and why it is necessary to do so that are close to the test we are proposing here. In particular, the Swiss regulator "will focus on the economic function and purpose of the tokens"³⁰ when evaluating ICOs. Their classification of "utility tokens" seems to be closely related to our notion of a fundamental ICO.

The test is straightforward to implement. The CSA together with the provinces could publish a standardized catalogue for minimum information requirements when ICOs apply to gain access to relief. Besides general information on the issuer, the information provided should be at a minimum:

- a detailed description of the type of project to be funded;
- why a blockchain-based platform adds value;
- why coins are necessary to allow for decentralized interaction among users;
- how the issue of coins is structured, including coins retained by the issuer;

29 FINMA (2018): <https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung>.

30 FINMA (2018): <https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung>/FINMA (2018): <https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung>.

- threshold rules for starting the project;
- how excess funds and retained coins are to be disbursed; and
- details on how coins are to be used, where they are stored and how they can be exchanged.

This information would then be used to decide whether the fundamental test of an ICO is met. We stress here that this is not an exercise of ticking boxes by an applicant. Very much in the spirit of activity-based regulation, answers to the test need to be evaluated on a case-by-case basis using economic, legal and regulatory judgment.

As the CSA's business plan will be reviewed in 2019, there could be an alternative, possibly faster way forward to recognize ICOs' special role. Rather than writing special regulations or being hung up on declaring whether an ICO is a security or not, our test could be formalized fairly quickly and be used to decide whether an ICO obtains access to the CSA Sandbox. Any regulatory relief would then be negotiated directly within the Sandbox on a case-by-case basis. To our knowledge, such an explicit test is currently not being used within the CSA Sandbox – or, at least, not officially communicated – even though the OSC Launchpad requires applicants to fill in a questionnaire that has some overlap with our information requirements. At a minimum, our proposed test would move the regulatory treatment of ICOs in the right direction and install a fairly transparent process for granting regulatory relief when it matters most.

Re-trading of Coins and Cryptocurrency

Suppose an ICO passes our test and obtains regulatory relief. Once the project gets under way and the platform is built, users would like to access the services being offered. At this point, coins that have been issued serve as a medium of exchange, meaning ownership is key to obtaining access to the decentralized exchange on the platform. Given current technology, coins can easily be listed on a cryptocurrency exchange. Indeed, a key advantage for an ICO is to have its coins publicly listed and re-traded on such exchanges. For example, crowdfunding either lacks secondary marketplaces or faces restrictions on re-trading of stakes, making such investments often highly illiquid (Williams 2017).

This places ICOs into the crossfire of regulation once again. To our knowledge, the CSA has neither licensed any cryptocurrency exchanges, nor in principle agreed to coins being publicly re-traded.³¹ Indeed, some early ICO admissions into the CSA Sandbox prohibited coin trading on exchanges.³² At first sight, this can be seen as a wise step. Cryptocurrencies and coins do not have a fundamental value attached to them beyond the expectation of being used later as a medium of exchange. This gives rise to fraud, especially once coins can be re-traded quickly.

Similarly, even ICOs that generate value can be hampered by speculation that increases volatility in the coin's price. Investors may be hurt by volatile prices and, when facing losses, may even lay off such

31 Romano and Soliman (2017) note: "Despite money-laundering and anti-terrorism concerns, there is still very little regulation of the world's cryptocurrency exchanges, which offer investors the opportunity to buy or sell cryptocurrencies online. To date, no exchanges of this type have been recognized by Canadian regulators and none have been exempted from recognition. CSA Staff point out that the compliance concerns that arise from this are not limited to the exchanges: coins or tokens to be traded on a cryptocurrency exchange may be subject to resale restrictions under securities laws."

32 See for example the OSC's decision to restrict trading of Token Funder Inc.'s FNDR coins.

investments despite a platform's potential value. Hence, speculation can make ICOs a fairly risky and unattractive investment for retail investors. The CSA's position on prohibiting re-trading thus neatly fits its mandate to protect investors.³³

However, this misses a key point. An ICO issues coins as a means of payment that is being used later to access and trade on the platform. Hence, users need to gain access to such coins after the initial funding stage, need to be able to re-trade them and cash them in against legal tender such as the Canadian dollar. Restricting access to exchange trading for ICOs can make the project less attractive or even not viable in the long run.

Once new regulation or an enhanced test for admitting fundamental ICOs into the CSA Sandbox is in place, investor protection in the form of re-trading restrictions should be much less of a concern. A possible approach for the CSA could be to allow coin trading after an initial non-trade period that is specified once an ICO gets approved for regulatory relief.³⁴ This would help entrepreneurs and investors by establishing a timeline for when the coins can be re-traded, creating an increased market for outsiders to gain access to the project.

As cryptocurrency exchanges mature over the near future, one can see that some marketplaces will seek to be licensed under Canadian securities law. This means that exchanges will "apply for recognition by the securities regulatory authority of any Canadian jurisdiction in which it operates, or obtain exemption from the recognition requirement" (McKee et al. 2017). Over time, however, one can imagine that traditional exchanges

such as the TSX or TSX Venture move into this area, especially once ICOs are recognized as a new financing form with their own regulatory framework.

This still leaves us with another, related issue – whether ICOs can be seen as cryptocurrency. Once a platform has been financed and built, the coins function as a means of payment on the platform. People need to hold them to access the platform, but ownership no longer has anything to do with financing the initial investment.

It seems inappropriate, however, to label ICOs as mere attempts to issue cryptocurrency. Cryptocurrency, narrowly defined, is a general purpose medium of exchange, to make payments for goods and services. These currencies are not linked to trading on a specific platform and are often used to buy real products and services that are not related to the blockchain that is supporting them. Such coins are often labelled "payment coins" to distinguish them from the "utility coins" offered in a fundamental ICO. The best example is bitcoin, which is a pure "payment coin," even though some applications have emerged over time that also give them a very limited use as a "utility coin."

Coins related to an ICO, but issued by a platform at a later stage, may function only as a platform-specific currency, possibly to maintain record-keeping on the blockchain or to run decentralized applications. The situation is not unlike acquiring foreign currency to access services or purchase goods abroad. Hence, once coins are issued after the initial funding stage, it is hard to see why they should be deemed newly issued securities. Indeed, they are now a currency for regulatory

33 We note also that, as opposed to traditional exchanges, cryptocurrency issuers often lack control over the creation of a market by other parties, including new cryptoasset exchanges.

34 Indeed, a timeline for the re-trading of coins is likely to coincide with the platform becoming operational. The reason is that coins often cannot be re-traded until ownership changes can be recorded on the platform they provide access to.

purposes.³⁵ As such, coin issuance can make a transition from “utility coins” to “payment coins.” This, once again, requires a differentiated view on coin issuance, where issuing new coins after the ICO’s funding stage would need to be regulated differently.³⁶

IMPLICATIONS FOR THE TAXATION OF ICOS

How should the ICO and coin usage be taxed? Unfortunately, the Canada Revenue Agency (CRA) has been neither explicit on how the proceeds from an ICO will be taxed nor on the precise tax treatment of coins being used as a means of payment specific to a platform.³⁷ This is of concern, since uncertainty about taxation or an unreasonable application of tax law may reduce investor demand for such a form of financing.

Interestingly, the test we have outlined above for regulators can also serve as a guideline for how the CRA should approach taxation of fundamental ICOs that rely on a dual use of coins. This feature – being security-like and currency-like at the same time – should be essential for the CRA’s approach. Hence, we can use our insights to provide some guidance for how to tax ICOs.

Suppose an ICO passes our test, meaning coins are necessary and crucial to the platform’s success. Passing our test implies the coin issue has two functions. First, it raises capital for investment into the platform. This means the coins are security-like. Hence, the proceeds from seignorage for the

entrepreneur or from the business setting up the platform should effectively not be taxed as profits, provided they are used to build the platform. This could be achieved by declaring them as income rather than as a profit windfall, allowing the issuer to offset such income against his/her expenditures. This is not different from existing tax law where, for example, crowdfunding is treated as business income.

Second, from the investor perspective, coins provide access to the platform to be used as a medium of exchange and, therefore, should not face any capital gains taxation until they are cashed out again.

The issue here is that the coins also act like currency and, hence, should be taxed as such. This implies that income tax and commodity taxes (i.e., HST) apply to the value of the transactions using the coins, very much like in transactions made with traditional currency.³⁸ However, capital gains taxation does not apply. The rationale is that if coins used in a currency capacity were taxed according to capital gains in transactions, it would make them unattractive in exchange. Alternative means of payments denominated in the unit of account (e.g., Canadian dollars) would become more attractive, negating the advantage of an ICO where coins are used in a dual role.

Still, when investors acquire coins to access the platform, or when they take them from the platform and convert them into another currency, coins should be treated as a security with taxation of the resulting capital gains. Hence, for coins,

35 The situation seems to be different when new currency is issued to maintain and upgrade the platform. Then, one could argue that this is a follow-up coin offering to the initial ICO.

36 A perfect example is the generation of new bitcoins or new ether as a reward for verifying transactions or for the execution of smart contracts.

37 The CRA is not alone in the conspicuous absence of information on ICO tax treatment. The US IRS has issued notices regarding the exchange of virtual currency, but nothing on ICOs. In general, most countries have not developed a tax treatment specifically for ICOs (See <https://www.ey.com/cn/en/industries/financial-services/ey-four-tax-considerations-to-heed-before-launching-an-ico>).

38 In fact, the CRA has declared cryptocurrency transactions against goods and services as barter, which is subject to income tax and GST/HST according to a fair-value assessment of the transaction.

capital gains accumulate until they change hands outside the platform, at which point all capital gains become due. Such tax treatment can easily rely on the exchange rates expressed in the unit of account, which should be readily available on crypto-exchanges, once regulators have authorized trading. Importantly, such taxes would also apply to the gains the entrepreneur realizes when cashing out any retained coins.

To use an analogy, tax treatment of ICOs that pass our test should be like that for foreign currency. One could acquire US dollars for a cross-border trip, spend them over time in transactions or even acquire US dollars abroad. Capital gains taxes would not apply necessarily. Of course, value-added taxes and income taxes apply on these transactions, as with domestic currency. However, if one changes unused purchased US dollars back into Canadian dollars at a profit, capital gains taxes would be due. Such an approach to taxation would be consistent with allowing ICOs to happen in an appropriate framework that seeks to harness the unique value-generating features of such financing.

We acknowledge that there are concerns with this approach that will require monitoring. The dual function of coins creates the potential for tax arbitrage, which could undermine coins' use as a medium of exchange. Smart and savvy investors might buy up a certain amount of coins and use them on both the platform and in trading in such a way as to create their own tax-savings strategy.

Also problematic is that our suggested tax treatment is not necessarily in accordance with the treatment of capital gains for securities. For example, would the rollover principle, where securities that are sold and then repurchased again within a tax period are subject to capital gains tax, apply to ICOs where users constantly buy, use and cash out coins? Such a situation could require an explicit adjustment in the tax code or a formal justification for why ICOs receive a different tax treatment.

Lastly, the practicality of monitoring and enforcing our proposed plan might prove problematic. Without licensed exchanges for trading these coins, it will be difficult to monitor when an ICO cryptocurrency is converted. We believe this issue will be minimized under our ICO test, with the market developing around more trustworthy ICOs and exchanges that mature and request licensing from provincial regulators.

SO WHAT ABOUT “COFFEEPOTCOIN”?

So what about our fictional CoffeePotCoin? Would it pass our test as a fundamental ICO? We conclude this *Commentary* by contrasting our fictional ICO with real-life Ethereum, which was the first ICO ever conducted and is arguably one of the most important blockchains to date.

In the case of CoffeePotCoin, legal tender could be exchanged for coins, which would then provide membership to the coffee and weed shop. However, using the coins at the store to buy either coffee or weed does not require a decentralized blockchain-based platform. This is a direct purchase from customer to merchant, as opposed to a trustless transaction between two parties where the decentralized platform acts as the intermediary. Furthermore, it is not clear why the CoffeePotCoin issuers need to retain a large amount of coins as incentives for developing the store. Would they use all their coins to buy coffee themselves? Or would they sell the coins later for people to use them exclusively to buy cannabis? For all these transactions, they could simply use cash, debit, credit or even bitcoin for payment, as well as issuing dividends to the investors that bought their coins.

Ethereum, on the other hand, seems to meet most of our test criteria. Exchanging bitcoin for ether provides investors with a set of membership coins, which they can then use to transact in smart contracts over a decentralized blockchain-based

platform. The coins were initially paid for the development and management of the decentralized platform, which also provides incentive for issuers to retain some coins themselves.³⁹ It is not clear, however, how many ether were reserved in the ICO for the Ethereum foundation itself – a non-profit organization – or whether the received bitcoin were used directly as remuneration for the founders of Ethereum.⁴⁰ Interestingly, re-trading of the coins was impossible until the Ethereum platform went live.⁴¹

What this means is that CoffeePotCoin would not gain access to the CSA Sandbox, and regulators ought to consider such an issue a security offering, requiring either full disclosure or, as in crowdfunding's case, some kind of exemption, if appropriate. From a tax perspective, the coins would be considered securities for investors, facing capital gains taxation upon disposal.

To the contrary, if an Ethereum ICO were to happen again, it should gain access to the CSA Sandbox and be granted regulatory relief. Taxation

of the coins would be based on a usage test, where coins used in the purchase of goods and services would be deemed currency-like, while those traded on exchanges or disposed of in another form would be considered securities and face capital gains taxes when sold.

ICOs provide a very special way of financing a startup that can be value adding under certain circumstances, as we have described. Our proposed test can create guidelines for the right approach to activity-based regulation and taxation that is consistent with the value that is added by such financing. There is value in bringing together economic, regulatory and legal aspects to develop a specific framework for the regulation and taxation of ICOs in Canada. This can ensure an environment that reaps the benefits of the ongoing blockchain revolution for the Canadian economy without exposing investors unnecessarily to fraud.

39 For details on the initial ether sale, see <https://blog.ethereum.org/2014/07/22/launching-the-ether-sale/>.

40 Indeed, Ethereum founder Vitalik Buterin owns a (varying) number of ether.

41 The reason is that ownership changes needed to be recorded on the Ethereum blockchain itself. However, this does not mean that there were off-blockchain transactions between coinholders before the blockchain's launch.

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