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The ICO Gold Rush: It's a scam, it's a bubble, it's a super challenge for regulators

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REGULATORS**

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The ICO Gold Rush: It's a scam, it's a bubble, it's a super challenge for regulators

Nov. 16, 2017

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Initial coin offerings typically use blockchain technology to offer tokens that confer some rights in return, most often, for cryptocurrency. They can be seen as effectively a conjunction of crowdfunding and blockchain. We provide a taxonomy of ICOs to facilitate thinking clearly about them, analyse the various regulatory challenges they pose, and suggest the first steps regulators should consider in responding to them. At the moment, many ICOs are offered on the basis of utterly inadequate disclosure of information, and the decision to invest in them often cannot be the outcome of a rational calculus. Many of the hallmarks of a classic speculative bubble are present in many, but certainly not all, ICOs. At the same time, ICOs provide a new and innovative structure for raising funds to support new and innovative ideas and ventures, with the potential for aspects of the underlying structures to have an important impact on fundraising systems and structures in future.

Keywords: Initial Coin Offerings, ICO, ETHER, BITCOIN, Blockchain, Securities Regulation, Investment Law, Financial Law, Securities and Exchange Commission, Financial Conduct Authority, ESMA, BaFin, CSSF, ASIC.

JEL Codes: G23, G24, G28.

Note: The data presented in this paper will be updated in line with the progress on our database.

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I. Introduction

In the past 18 months more than 1,000 Initial Coin Offerings (ICOs¹) have raised more than USD 3 billion.² While these numbers do not indicate a global phenomenon, the growth rate is accelerating, with more raised in the latest six months than in the previous 3 years (at the time of writing). Whereas total ICO volume was 26 million USD in 2014 and 14 million in 2015, it rose to 222 million USD in 2016 and reached 1,266 million USD in the first six months of 2017.³

ICOs initially began as a mechanism among the blockchain community to attract financial support for new ideas and initially involved small amounts of money and small numbers of investors. However, as amounts raised have increased, so has interest in using ICO structures to raise money for ever broader purposes and among ever broader groups of investors, with issuance in 2017 forming one of the largest portions of early stage fundraising globally. Recent high profile examples have included celebrity promoters such as Paris Hilton, Wu Tang Clan and Floyd Meriweather. In addition, while early structures sought largely to avoid legal and regulatory considerations, in recent months, there has been an increasing involvement of major legal and advisory firms in the area.

¹ On the legal perspective of ICOs, see Iris M. Barsan, Legal Challenges of Initial Coin Offerings (ICO), RDTF 3:2017, 54-65; Jonathan Rohr & Aaron Wright, Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets (October 4, 2017). Cardozo Legal Studies Research Paper No. 527. Available at SSRN: <https://ssrn.com/abstract=3048104>.

² Cf. Olga Kharif, Only One in 10 Tokens Is In Use Following Initial Coin Offerings, 23 Oct. 2017, available at <https://www.bloomberg.com/news/articles/2017-10-23/only-one-in-10-tokens-is-in-use-following-initial-coin-offerings> (last accessed Nov. 13, 2017).

³ Cf. autonomous.next, #TOKEN MANIA, online <https://next.autonomous.com/download-token-mania/> (last accessed 31 October 2017).

Prominent examples demonstrate that ICOs are not without flaws: some ICOs have been unmasked as scams and Ponzi schemes,⁴ while others, including the largest,⁵ have seen governance concerns come to the fore and financial regulators making enquiries. There has been

⁴ Cf. Securities and Exchange Commission, *SEC Exposes Two Initial Coin Offerings Purportedly Backed by Real Estate and Diamonds*, Press Release (Sept 29, 2017), available at <https://www.sec.gov/news/press-release/2017-185-0> (last accessed Nov. 13, 2017) (stating that the SEC “today charged a businessman and two companies with defrauding investors in a pair of so-called initial coin offerings (ICOs) purportedly backed by investments in real estate and diamonds. The SEC alleges that [an individual] and his companies have been selling unregistered securities, and the digital tokens or coins being peddled don't really exist. According to the SEC's complaint, investors in REcoin Group Foundation and DRC World (also known as Diamond Reserve Club) have been told they can expect sizeable returns from the companies' operations when neither has any real operations. [The individual allegedly touted REcoin as "The First Ever Cryptocurrency Backed by Real Estate." Alleged misstatements to REcoin investors included that the company had a "team of lawyers, professionals, brokers, and accountants" that would invest REcoin's ICO proceeds into real estate when in fact none had been hired or even consulted. Zaslavskiy and REcoin allegedly misrepresented they had raised between \$2 million and \$4 million from investors when the actual amount is approximately \$300,000.” Cf. Swiss regulator FINMA, *FINMA closes down coin providers and issues warning about fake cryptocurrencies*, Press Release 19 September 2018, available at <https://www.finma.ch/en/news/2017/09/20170919-mm-coin-anbieter/> (last accessed Nov. 13, 2017) (stating that “FINMA has closed down the unauthorised providers of the fake cryptocurrency "E-Coin". For over a year since 2016, the QUID PRO QUO Association had been issuing so-called “E-Coins”, a fake cryptocurrency developed by the association itself. Working together with DIGITAL TRADING AG and Marcelco Group AG, the association gave interested parties access to an online platform on which E-Coins could be traded and transferred. Via this platform, these three legal entities accepted funds amounting to at least four million Swiss francs from several hundred users and operated virtual accounts for them in both legal tender and E-Coins. This activity is similar to the deposit-taking business of a bank and is illegal unless the company in question holds the relevant financial market licence. ... Unlike real cryptocurrencies, which are stored on distributed networks and use blockchain technology, E-Coins were completely under the providers' control and stored locally on its servers. The providers had suggested that E-Coins would be 80% backed by tangible assets, but the actual percentage was significantly lower. Moreover, substantial tranches of E-Coins were issued without sufficient asset backing, leading to a progressive dilution of the E-Coin system to the detriment of investors.”. The website *Top 5 Cryptocurrency Scams*, available at <http://bitcoinchaser.com/top-5-cryptocurrency-scams> (last accessed Nov. 13, 2017) lists 5 scams with a total damage well north of 50 million USD.

⁵ Regarding the record high Tezos ICO (where 232 million USD were collected while the founders had initially envisioned a gross income of only 10 million USD), the Swiss news website *finews* reports that the founders of Tezos (a U.S.-based couple and U.S. enterprise Dynamic Ledger Solutions) employed a Swiss foundation for launching its ICO in order to establish new cryptocurrency “tezzie”. According to that report, the U.S. couple claims 20 million USD in commissions from the Swiss foundations. Further, key people of the foundation are said to demand bonuses and commissions out of the Tezos ICO. At the same time the news website reports that it is unclear a) whether Tezos investors will receive a return for their consideration, and b) where the funds collected in the ICO and denominated in BTC and ETH are safekept. See *Tezos-ICO: Streit um Millionen im «Cryptovalley»* (19 Oct. 2017), available at <https://www.finews.ch/news/finanzplatz/29281-tezos-ico-streit-um-millionen>. On the same ICO, another website reports violation of FINRA regulations regarding disclosure rules on compensation of key staff as well as on business development, and that the Tezos project has difficulties to find skilled staff, see “*Blockchain-Projekt Tezos: Größter ICO droht zu scheitern*”, 21 Oct. 2017, available at <https://deutsche-wirtschafts-nachrichten.de/2017/10/20/blockchain-projekt-tezos-bricht-ueberraschend-zusammen/>. Parts of the news were also reported in websites *fortune.com* and *coindesk*. As of Nov. 15, 2017, two class actions were filed against the Tezos founders, the Tezos Foundation and Dynamic Ledger Solutions – the Delaware-based company that holds Tezos's intellectual property – alleging that the founders deceptively sold unregistered securities in violation of both federal and state law when they [raised \\$232 million](#) in an initial coin offering (ICO) in July. See Aaron Stanley, *‘Tezos Founders Hit With Second Class Action Suit’* (Nov. 15, 2017), available at <https://www.coindesk.com/tezos-founders-hit-second-class-action-suit/> (all websites last accessed Nov. 16, 2017).

a wide range of initial regulatory responses: from an outright ban of ICOs in the case of China⁶ and South Korea, to warning notices by European, US and other regulators⁷ reinforced by statements that securities laws could well apply and registration be necessary,⁸ to more lenient approaches in other jurisdictions, with Singapore and Switzerland as leading examples.⁹

⁶ Cf. Lulu Yilun Chen & Justina Lee, *Bitcoin Tumbles as PBOC Declares Initial Coin Offerings Illegal*, 4 Sept. 2017), available at <https://www.bloomberg.com/news/articles/2017-09-04/china-central-bank-says-initial-coin-offerings-are-illegal> (last accessed Nov. 13, 2017). For further details, see *infra* (IV.1.).

⁷ Cf. ESMA, *ESMA highlights ICO risks for investors and firms*, *Press Release* (13 November 2017), available at: <https://www.esma.europa.eu/press-news/esma-news/esma-highlights-ico-risks-investors-and-firms> (last accessed Nov. 13, 2017) (stating that “ESMA is concerned that firms involved in ICOs may conduct their activities without complying with relevant applicable EU legislation.”). The national regulators coordinated by ESMA issued similar warning notices, see e.g. BaFin, *Consumer warning: the risks of initial coin offerings* (9 November 2017), available at: https://www.bafin.de/SharedDocs/Veroeffentlichungen/EN/Meldung/2017/meldung_171109_ICOs_en.html;jsessionid=DD4E85311A67636E46E56D0C5E78E3D3.2_cid381 (last accessed Nov. 13, 2017); Financial Conduct Authority (FCA), *Consumer warning about the risks of Initial Coin Offerings (‘ICOs’)* (12 Sept. 2017), available at: <https://www.fca.org.uk/news/statements/initial-coin-offerings> (last accessed Nov. 13, 2017); AFM (NL), *AFM waarschuwt voor grote risico’s bij Initial Coin Offerings* (13 Nov. 2017), available at: <https://www.afm.nl/nl-nl/nieuws/2017/nov/risico-ico> (last accessed Nov. 13, 2017). Swiss regulator FINMA has assembled a **warning list** with entities involved in suspicious activity in the ICO field. See *FINMA closes down coin providers and issues warning about fake cryptocurrencies*, *Press Release* 19 September 2018, available at <https://www.finma.ch/en/news/2017/09/20170919-mm-coin-anbieter/> (last accessed Nov. 13, 2017). Securities and Exchange Commission, *Statement on Potentially Unlawful Promotion of Initial Coin Offerings and Other Investments by Celebrities and Others* (Nov. 1, 2017), available at <https://www.sec.gov/news/public-statement/statement-potentially-unlawful-promotion-icos> (demanding compliance with US disclosure rules).

⁸ Cf. US Securities and Exchange Commission https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_coinofferings (25 July 2017). The same message was conveyed by Canadian securities regulators on 24 August 2017, see CSA Staff Notice 46-307 - *Cryptocurrency Offerings*; Singapore regulator MAS, *MAS clarifies regulatory position on the offer of digital tokens in Singapore*, 1 August 2017, available at <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2017/MAS-clarifies-regulatory-position-on-the-offer-of-digital-tokens-in-Singapore.aspx> (last accessed Nov. 13, 2017).

⁹ For instance, the **Swiss government** is seeking to foster Fintech innovation in relation to blockchain technology, in particular, while preserving AML and KYC requirements. The Swiss government is exploring the creation of a new regulated entity called a “crypto-bank”. Moreover, digital currencies are not considered securities (and thus subject to Swiss securities regulation) but assets. Nevertheless, FINMA has clarified that AML/CTF, banking and securities trading as well as collective investment rules could apply. Cf. FINMA, *Guidance 04/2017 „Regulatory treatment of initial coin offerings“* (28 Sept. 2017). In a similar vein, **Singapore’s regulator MAS** does not consider digital currencies as regulated funding sources or payment instruments, but as assets; in turn, while the MAS regulates KYC and AML requirements it does not regulate virtual currency intermediaries nor the proper functioning of virtual currency transactions. At the same time, on 1 August 2017, MAS clarified that „if a token is structured in the form of a security, the ICO must comply with existing securities laws aimed at safeguarding investors’ interest. So the requirements of having to register a prospectus, obtain intermediary or exchange operator licences, will apply. These intermediaries must also comply with existing rules on anti-money laundering and countering terrorism financing. ... MAS does not and cannot regulate all products that people put their money in thinking that they will appreciate in value. But recognizing that the risks of investing in virtual currencies are significant, MAS and the Commercial Affairs Department have published an advisory alerting consumers to these risks, and are working together to raise public awareness of potential scams.“ See MAS, *Reply to Parliamentary Question on the prevalence use of cryptocurrency in Singapore and measures to regulate cryptocurrency and Initial Coin Offerings*, Questions No. 1494, Notice Paper 869 of 2017 (for Parliament Sitting on 2 October 2017). **French regulator AMF** announced a two-pronged approach consisting of a new regulatory position on ICOs on which the AMF consulted with market participants from October to December 2017, on the one hand, and a new programme dubbed “UNICORN”, on the other hand, which is „aimed at providing a mechanism for ICO organizers in France to carry

This paper draws on a rapidly growing database of the documentation for more than 100 ICOs. The documents typically are those made available during the launch of the ICO and were gathered from three websites functioning as ICO repositories.¹⁰ As such, while we cite proportions of ICOs in our sample throughout this paper, these proportions should not be taken as being anything more than very broadly indicative, given that the total universe of ICOs numbers above 1000 to date.

From this foundation, we provide a basic taxonomy for ICOs and analyse which legal frameworks might apply to which types of ICOs. In Parts III and IV we highlight some key risks for the financial system and for ICO participants. In Part V we consider possible responses of regulators and supervisors. Part VI concludes.

out their plans under the agency's guidance." Cf. Autorité des Marchés Financiers, Press Release (26 Oct. 2017), *L'AMF lance une consultation sur les Initial Coin Offerings et initie son programme UNICORN*, available at <http://www.amf-france.org/Actualites/Communiqués-de-presse/AMF/annee-2017?docId=workspace%3A%2F%2FSpacesStore%2F5097c770-e3f7-40bb-81ce-db2c95e7bdae> (last accessed Nov. 13, 2017).

¹⁰ Websites from which ICO documentation has been drawn include ICO Alert (<https://www.icoalert.com>), Coinschedule (<https://www.coinschedule.com>) and ICO-List (<https://www.ico-list.com>). Note that our database is far from complete and is unlikely to ever be complete, given the quantity of ICOs currently taking place. The database merely functions as evidence of the variety of ICOs and of the legal concerns we seek to address herein.

II. A Taxonomy of Initial Coin Offerings (ICOs)

1. Common characteristics

ICOs are currently taking so many different forms that the task of definition is no simple matter. However, the structure (following its name) is based on the offer of tokens or coins utilizing blockchain technology.¹¹ As with the tokens that represent the cryptocurrencies¹² Bitcoin¹³ and

¹¹ Cf. on the legal and governance aspects of Blockchain only from the regulators' perspective IOSCO, Research Report on Financial Technologies (Fintech) Ch. 5 (February 2017), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf>; ESMA, Report - The Distributed Ledger Technology Applied to Securities Markets, ESMA50-1121423017-285 (February 7, 2017); ASIC, Op-ed: Blockchain, available at <http://asic.gov.au/about-asic/media-centre/asic-responds/op-ed-blockchain/> (last accessed June 21, 2017). From the academic perspective, see Trautman, Lawrence J., Is Disruptive Blockchain Technology the Future of Financial Services?, 69 THE CONSUMER FIN. L. Q. REP 232 (2016); Carla L. Reyes, Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal, 61 VILL. L. REV. 191 (2016); Wessel Reijers, Fiachra O'Brolcháin, Paul Haynes, Governance in Blockchain Technologies & Social Contract Theories, 1 LEDGER 134 (2016); Trevor I. Kiviat, Beyond Bitcoin: Issues in Regulation Blockchain Transactions, 65 DUKE L.J. 569 (2015-16); Lewis Rinaudo Cohen & David Contreiras Tyler, Blockchain's Three Capital Markets Innovations Explained, INT'L FIN. L. REV. (2016), available at <http://www.iflr.com/Article/3563116/Blockchains-three-capital-markets-innovations-explained.html>; from the French literature: Primavera De Filippi & Michel Reymon, La Blockchain: comment réguler sans autorité, 83 et seq. in (Nitot, T. (dir.) & Cercy N., Numérique: reprendre le contrôle, FRAMABOOK (2016).; Pierre-Marie Lore, blockchain: évolution ou révolution pour les contrats en France ?, MBA THESIS INST. LÉONARD DE VINCI (2016), available at <http://www.ilv.fr/les-blockchains-sont-elles-des-technologies-adaptees-pour-gerer-les-contrats/> (analysing vulnerabilities from a contractual perspective).

¹² See Edward D. Baker, *Trustless Property Systems and Anarchy: How Trustless Transfer Technology Will Shape the Future of Property Exchange*, 45 SW. L. REV. 351 (2015-16); V. Gerard Comizio, *Virtual Currencies: Growing Regulatory Framework and Challenges in the Emerging FinTech Ecosystem*, 21 N.C. BANKING INST. 131 (2017); Matthew P. Ponsford, *A Comparative Analysis of Bitcoin and Other Decentralised Virtual Currencies: Legal Regulation in the People's Republic of China, Canada, and the United States*, 9 HONG KONG J. L. STUD. 29 (2015); from Spain M^a Nieves Pacheco Jiménez, *Criptodivisas: Del Bitcoin Al Mufg. El Potencial De La Tecnología Blockchain.*, REVISTA CESCO DE DERECHO DE CONSUMO 19, 6 – 15 (2016).

¹³ Cf. See Catherine Martin Christopher, *The Bridging Model: Exploring the Roles of Trust and Enforcement in Banking, Bitcoin, and the Blockchain*, 17 NEV. L.J. 139, 140-155 (2016); Primavera De Filippi, *Bitcoin: A Regulatory Nightmare to a Libertarian Dream*, 3 INTERNET POL'Y REV. 1, 10 (2014); Joshua J. Doguet, *The Nature of the Form: Legal and Regulatory Issues Surrounding the Bitcoin Digital Currency System*, 73 LA. L. REV. 1119 (2012–2013); Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & L. J. 159, 171 (2012); Nikolei M. Kaplanov, *NerdyMoney: Bitcoin, the Private Digital Currency, and the Case Against Its Regulation*, 25 LOY. CONSUMER L. REV. 111 (2012–2013); John O. McGinnis & Kyle W. Roche, *Bitcoin: Order without Law in the Digital Age*, 17-06 NORTHWESTERN PUB. L. RES. PAPER (March 7, 2017), available at <https://ssrn.com/abstract=2929133>; Edward V. Murphy, M. Maureen Murphy, Michael V. Seitzinger, *Bitcoin: Questions, Answers, and Analysis of Legal Issues*, CONG. RES. SERV. 7-5700, Oct 13, 2015, available at <https://fas.org/sgp/crs/misc/R43339.pdf> (last accessed June 16, 2017); Nicholas A. Plassaras, *Regulating Digital Currencies: Bringing Bitcoin within the Reach of the IMF*, 14 CHI. J. INT'L. L. 377 (2013); Misha Tsukerman, *The Block is Hot: A Survey of the State of Bitcoin Regulation and Suggestions for the Future*, 30 BERKELEY TECH L.J. 1127 (2015); Peter Twomey, *Halting a Shift in the Paradigm: The Need for Bitcoin Regulation*, 16 TRINITY C. L. REV. 67 (2013); from Germany Nico Kuhlmann, *Bitcoins – Funktionsweise und rechtliche Einordnung der digitalen Währung*, COMPUTER & RECHT 691 (2014); Benjamin Beck & Dominik König, *Bitcoins als Gegenstand von sekundären Leistungspflichten*, 215 ARCHIV FÜR DIE CIVILITISCHE PRAXIS 655 (2015); Kerscher, *Bitcoin – Funktionsweise, Chancen und Risiken der digitalen Währung*, 2013, S. 120; Gerald Spindler and Martin Bille, *Rechtsprobleme von Bitcoins als virtuelle Währung*, 1357 Wertpapiermitteilungen (2014); Franziska Boehm and Paulina Pesch., *Bitcoins: Rechtliche Herausforderungen einer virtuellen Währung – Eine erste juristische Einordnung*, MMR 75 (2014).

Ether¹⁴, in an ICO the initiators establish a blockchain and grant tokens to participants in it.¹⁵ To date, most ICOs have been internet-based and open to the public, though with varying level of direction in terms of potential participants, ranging from small to large invested amounts.

In most cases the ICO occurs early in the business or project.¹⁶ While the ‘initial’ in ICO indicates a first offer of tokens (a.k.a. ‘coins’), in many cases the offer is in fact the second or third offer of the token, but merely the first one to the public. In some 60% of our cases, the documents reveal that tokens had been previously offered in a presale to a private investor group prior to the ICO. The actual number of pre-offerings is likely to be even higher given the poor quality and content of documentation and the current absence of standards.¹⁷ The large number of presales (without adequate disclosure or safeguards such as lock-up periods) gives rise to concern in itself since it facilitates ‘pump-and-dump schemes’ in offerings.

2. Token or coin characteristics

The tokens, often called Coins, that are offered typically exhibit the characteristics of a digital voucher and grant the participants a right of some kind. The particular right represented by the token varies. A token may represent a license to use a software programme (usage token), a membership in a community (community token) or a financial asset. Among financial tokens some represent a cryptocurrency (hereafter referred to as a ‘currency token’)¹⁸ while others promise participation in a cash flow generated by some underlying asset – hereafter referred to as an ‘equity token’. Among the equity tokens, some ICOs promise participation of token holders in some asset pool in a non-segregated manner, while in other cases the token allows participation in one single asset, separable from the other assets. Figure 1 shows our suggested taxonomy based on what the token represents.

¹⁴ Ether has become infamous as currency used for funding the Decentralized Autonomous Organization (DAO), see Shier, Charlie et al., *Understanding a Revolutionary and Flawed Grand Experiment in Blockchain: The DAO Attack* (August 7, 2017). Available at SSRN: <https://ssrn.com/abstract=3014782>; Mark Fenwick, , Wulf A. Kaal, and Erik P.M. Vermeulen, *Legal Education in the Blockchain Revolution* (March 22, 2017). U of St. Thomas (Minnesota) Legal Studies Research Paper No. 17-05, at 31 et seq. Available at SSRN: <https://ssrn.com/abstract=2939127>.

¹⁵ We are not using formal financial terms such as promoters, investors and the like, as the legal status of ICOs remains problematic and undecided.

¹⁶ Stellar.org & LHoFT, *Understanding Initial Coin Offerings: Technology, Benefits, Risks, and Regulations – white paper* (Sept. 2017), at p. 23, available at <https://www.stellar.org/blog/understanding-initial-coin-offerings/> (last accessed Nov. 13, 2017).

¹⁷ Lex Sokolin, global director of fintech strategy at Autonomous NEXT, estimates that 80% of ICOs are doing presales. Cf. Olga Kharif, *Hedge Funds Flip ICOs, Leaving Other Investors Holding the Bag*, Oct. 3, 2017, available at: <https://www.bloomberg.com/news/articles/2017-10-03/hedge-funds-flip-icos-leaving-other-investors-holding-the-bag> (last accessed Nov. 13, 2017).

¹⁸ For example, one token represents one newly offered cryptocurrency *SANDCOIN*.

Figure 1: ICO Taxonomy by Token Reference

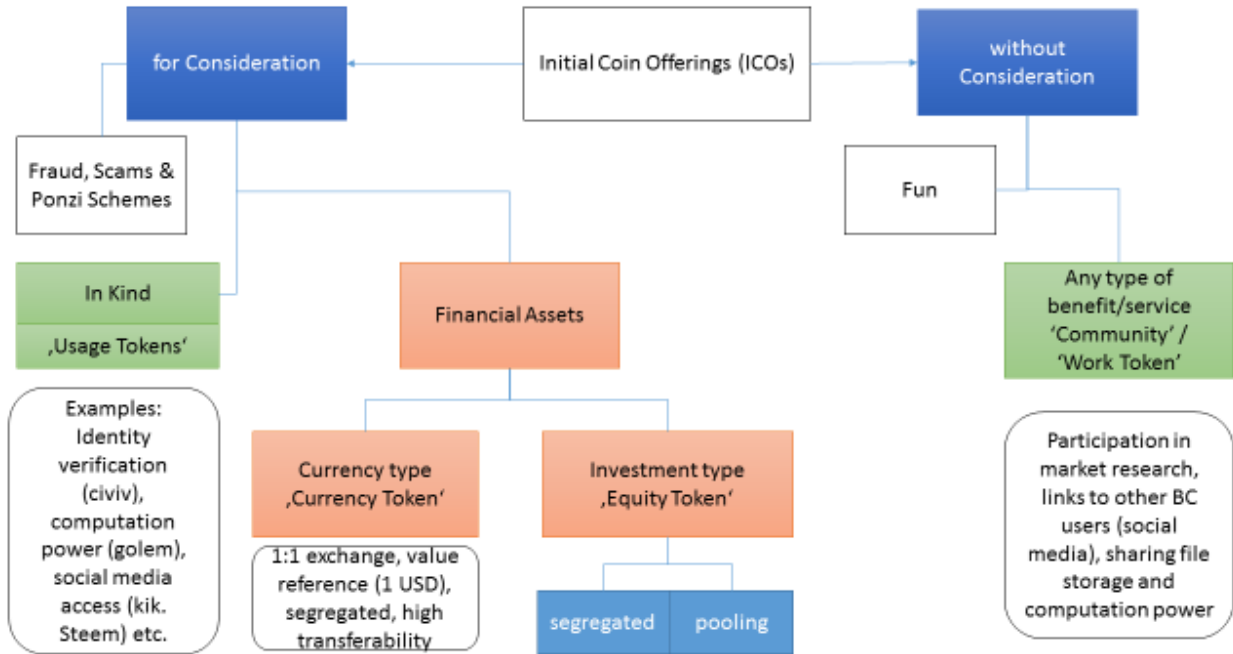
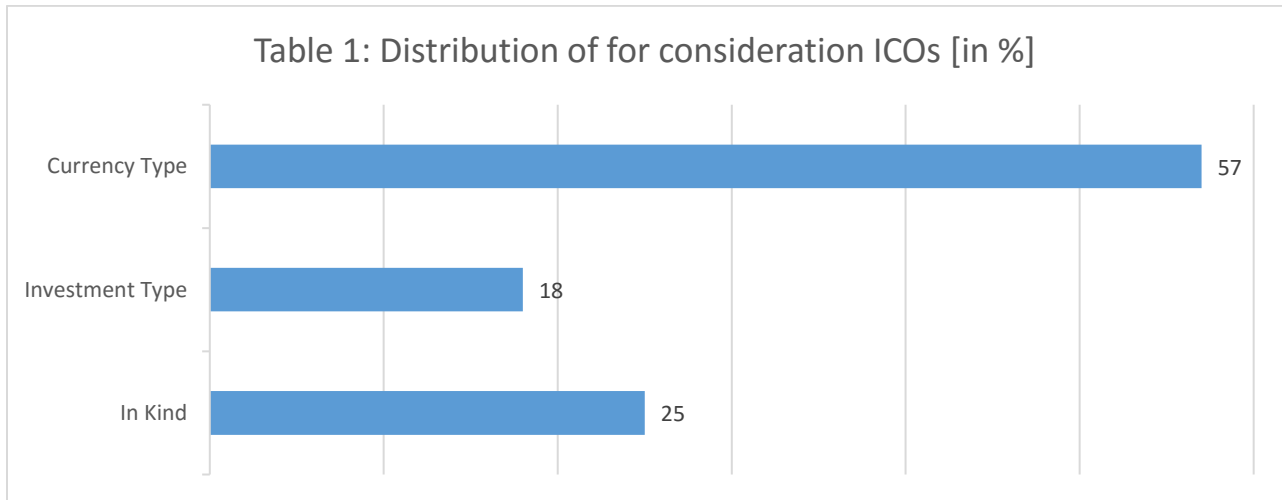


Table 1 further shows the distribution of ICOs *for consideration* based on our random sample of hand-collected ICOs.

Table 1: ICOs for Consideration by Reference Value



Effectively, ICOs to date have paralleled the universe of crowdfunding techniques, from donation or charity-based structures to rewards to equity and debt,¹⁹ but with the token providing the evidence or right imparted via the process.

¹⁹ See on crowdfunding methodology IOSCO, Research Report on Financial Technologies (Fintech) (February 2017), at 10 et seq., available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf> (last accessed Nov.

3. Consideration

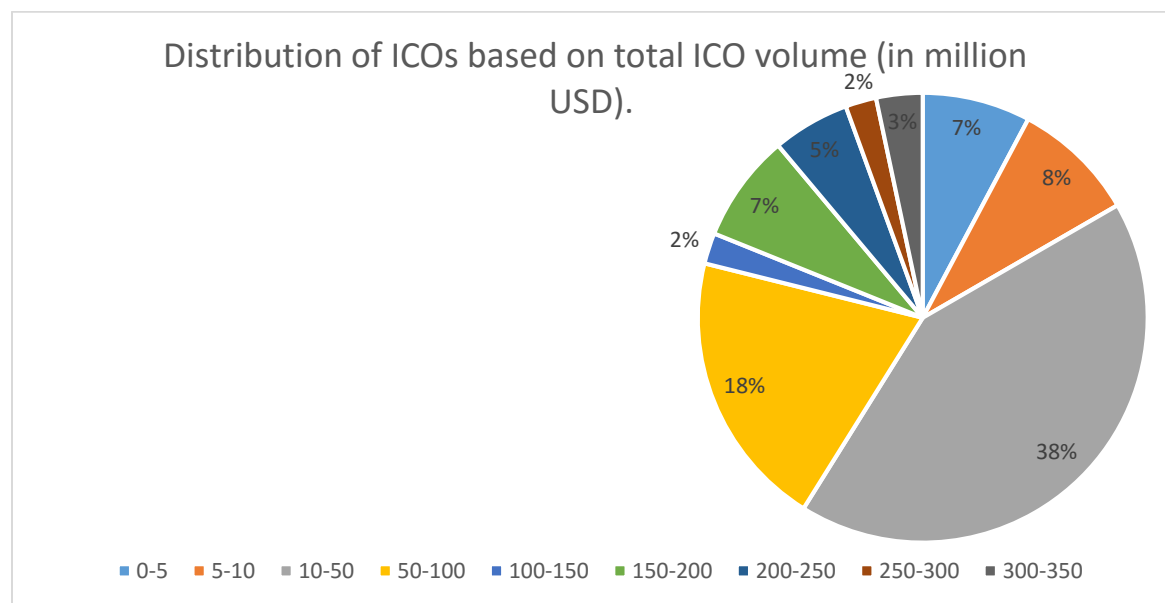
While the ICOs in our database have only been issued in return for consideration, consideration is not a prerequisite for ICOs. It is possible to grant tokens for the sole purpose of gathering a group of participants interested in blockchain technology for later use, for instance for social media or marketing purposes. Given we are particularly interested in the financial law dimensions of ICOs, however, we focus in this paper on ICOs for consideration.

The consideration can be **any type of valuable asset**. In many cases, ICOs are issued for cryptocurrency, for instance, consideration paid in ether. While this suggests tech savviness and seems to appeal to the expected participant constituency the value of consideration in this case depends on the market value of the cryptocurrencies which currently fluctuate significantly. We have also seen a number of ICOs where the consideration is to be paid in cash (typically USD).

The **total amount** collected has varied from the equivalent of a few thousand USD²⁰ to 400 million USD (in currency value as of 11 November 2017)²¹.

Table 2 shows the distribution of ICO volumes in our database (in millions USD, currency value as of 11 November 2017):

Table 2: Distribution of ICOs based on total ICO volume (in million USD).



13, 2017); ESMA, Opinion: Investment Based Crowdfunding, ESMA/2014/1378 (Dec.18, 2014), at 6, available at https://www.esma.europa.eu/sites/default/files/library/2015/11/2014-1378_opinion_on_investment-based_crowdfunding.pdf (last accessed Nov. 11, 2017); European Commission,

Crowdfunding in the EU Capital Markets Union, at 8, SWD 154 final (2016), available at http://ec.europa.eu/finance/general-policy/docs/crowdfunding/160428-crowdfunding-study_en.pdf (last accessed Nov. 13, 2017).

²⁰ Cf. the *Synereo* ICO from 2015, collecting 100,000 USD, for the creation not just of a social network but a social layer that any protocol can use and upon which many distributed applications can be built; the *Orocrypt* ICO from 2017, collecting 100,000 USD, where tokens represent precious metals valued in ETH.

²¹ Cf. the *Tezos* ICO from 2017.

4. Issuing entities and backers

In addition to a website and often a YouTube video, ICOs typically involve documentation called a ‘white paper’. A ‘white paper’ is defined in Wikipedia²² as:

an authoritative report or guide that informs readers concisely about a complex issue and presents the issuing body’s philosophy on the matter. It is meant to help readers understand an issue, solve a problem, or make a decision.

The UK and Australian governments often issue white papers on issues, and the Wikipedia definition captures the purpose of such documents very well. The white papers that typically accompany an ICO are different beasts altogether, and bear no relation at all to the sort of prospectuses that typically accompany an offering of securities. Rather, ICO white papers tend to be a simple description of the project and the structure in which tokens will be used to support it.

White papers for ICOs typically reveal very little about the issuing entities and their backers. These white papers often fail to give a physical, postal or other contact address. In 18% of the cases in our sample, the ICO documentation failed to convey any information at all about the issuing entity. Where the issuing entity was mentioned, 70% mentioned the country of origin and provided a postal address. That means, in total, of all ICOs in our sample so far more than 40% of the issuers did not disclose valid postal contact details.

5. Legal information and applicable law

Given that ICOs are not subject to specific regulatory requirements and that they are frequently structured to avoid existing legal and regulatory requirements, not surprisingly, the content of white papers is utterly inconsistent. The only consistent factor tends to be a technical description of the underlying technology for which funding is sought, as well as some description of the potential use and benefits of said technology.

Only 30% of the ICOs in our sample mention the law applicable to the ICOs. In 43% of the cases the white paper excluded investors from certain countries from participation. In 74% of the cases there is no information at all as to the regulatory status of the ICO. Almost all ICOs rely on legislative loopholes or, more accurately, what the issuing entity hopes (or prays) is a loophole or grey area. In 4% of the cases there is not even any information as to what the token represents.

This cavalier disregard of the need to inform a participant as to who their funds are going to, and what rights are being given in return for these funds, only makes sense when one appreciates the particular mindset of many issuers of ICOs, a mindset facilitated by (optimistically) the innocence of the stereotypical crypto-geek about legal or other requirements or (less optimistically) the greed of participants who are literally prepared to give money to entities on the basis of such extraordinarily scant information purely for the hope of short-term speculative gains. This mindset is perhaps best described as anarcho-capitalism. It is the idea that the world would work really well without government or regulation. As financial contributions to an ICO can be made in cryptocurrency, and benefits returned to participants in the same way, or in other digital ways, many issuers of ICOs seem to believe that these instruments exist beyond the

²² https://en.wikipedia.org/wiki/White_paper (last accessed 10 Nov. 2017).

jurisdiction of national laws and courts. We do not accept this belief – courts are loath to cede jurisdiction – and we have analysed and dismissed it in the context of blockchain and other distributed ledger systems in previous work.²³ Yet whether this belief is genuinely held or merely opportunistic, what matters is that issuers are acting upon it, and participants are going along for the ride, at least until major losses are incurred.

III. ICO Risks and Policy Considerations

1. Information asymmetry

The informational situation with most ICOs is uncertain at best. In 18% of our sample the white papers provide merely technical information about the product or process to be developed. In 32% of the cases the white papers do not provide any information at all about the initiators or backers. In 23% of the cases the white papers do not offer any description of the project's financial circumstances, i.e. nothing about how the capital collected is to be used and in what stages, etc. In 82% of the cases the white paper is silent on whether the funding to be provided by several participants will be pooled or remain segregated. (We speculate that pooling is widespread, given the lack of sophisticated governance structures necessary for asset segregation). Information on how the initiators plan to further develop the technology that is to be funded is also usually lacking.

In most ICOs in our sample, potential participants are given so little financial information that their decision to fund the ICO cannot be based on a rational calculus. This is not always the case. Some ICOs are professionally documented by lawyers clearly schooled in the customs of the securities markets. However, mostly, the information provided is utterly inadequate, and consists, typically, of a description of technology that the initiator wishes to develop and often little else; and even this is not verified in any way. In no cases in our sample did an external auditor certify the 'facts' presented in the white paper.

This is all remarkably different from initial public offerings of securities (IPOs). In our view, the only similarity between IPOs and ICOs is the similarities between the acronyms for each, which could in fact help to mislead investors.

2. Capital misallocation

At the time of writing in late 2017, it seems that ICO initiators are relying on the sort of classic market frenzy that typifies a bubble. While far from all ICOs meet their funding target – in our sample 13% did not meet the target subscription goal – apparently, oversubscription is particularly common among the larger, more prominent ICOs.²⁴ Another indicator for investor

²³ D Zetzsche, RP Buckley & DW Arner, "The Distributed Liability of Distributed Ledgers: Legal Risks of Blockchain", forthcoming *University of Illinois Law Review*, *in press*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3018214

²⁴ Cf. Eric Risley, Steve Payne, John Ascher-Roberts, "Most ICOs Fail: A Tale of Two Worlds", available at: http://architectpartners.com/ecosystem_thoughts/most-icos-fail-a-tale-of-two-worlds/ (last accessed Nov. 15, 2017) (arguing that of a database comprising over 100 ICOs at least 46 ICOs met their funding objective and raised 1.6 billion USD, or 36 million USD each since June 2017, while 51 ICOs did not reach their funding goals). For instance, the world largest-to-date ICO Tezos collected 20 times the 10 million USD the founders had initially envisioned 9 months prior to the ICO, see Marc Hochstein, "Tezos Founders on ICO Controversy: 'This Will Blow

sentiment is the fact that less than 10% of the tokens acquired by investors can be put to use; the rest are merely up for trading, indicating purely speculative instruments.²⁵

This observable overexcitement is a well-known indicator of the sort of irrational market behavior that has been seen many times before.²⁶ These bubble characteristics will not only harm individuals who lose money, but also lead to a misallocation of capital and in fact potentially jeopardize the benefits of using blockchain based crowdfunding mechanisms more generally. Rather than channeling money to the most productive use, as markets should do, there are many signs that many ICOs are channeling money to recipients for their own personal use, in a range of frauds and scams.²⁷

3. Weak legal protections

In only 30% of our cases do the white papers contain any information on the applicable law. In 19% of cases the white papers do not provide the name of the initiator nor any background information on them (such as the address). In 21% of cases the name given as the author of the white paper is different from the entity specified as the ICO's issuer / initiator. Without the basic information as to who stands behind the ICO, the impact of private law liability as a correcting factor is severely limited. This is regardless of the law which applies – any legal action must rest on knowledge of who has collected the consideration. If the parties to a transaction cannot be established with certainty, the law's arms are tied.

4. Systemic risk

With an estimated volume of 3 billion USD to date the ICO market seems to be too small to justify regulatory action based on systemic risk concerns. However, this number is probably far too small as many ICOs rely on cryptocurrency. The overall market volume of cryptocurrencies

Over” (Oct. 25, 2017), available at: <https://www.coindesk.com/tezos-founders-ico-controversy-will-blow/> (last accessed Nov. 13, 2017). S

²⁵ Cf. Olga Kharif, Only One in 10 Tokens Is In Use Following Initial Coin Offerings, 23 Oct. 2017, available at <https://www.bloomberg.com/news/articles/2017-10-23/only-one-in-10-tokens-is-in-use-following-initial-coin-offerings> (citing data gathered by Token Report analyzing the use of 226 coin sales).

²⁶ For the classic treatments, see C. Kindleburger, *Manias, Panics and Crashes: A History of Financial Crises* (Macmillan 1996); H. Minsky, “The Financial Stability Hypothesis”, Levy Economics Institute Working Paper No. 74 (1992).

²⁷ Cf. Securities and Exchange Commission, SEC Exposes Two Initial Coin Offerings Purportedly Backed by Real Estate and Diamonds, Press Release (Sept 29, 2017), available at <https://www.sec.gov/news/press-release/2017-185-0> (stating that the SEC “today charged a businessman and two companies with defrauding investors in a pair of so-called initial coin offerings (ICOs) purportedly backed by investments in real estate and diamonds. The SEC alleges that [an individual] and his companies have been selling unregistered securities, and the digital tokens or coins being peddled don't really exist. According to the SEC's complaint, investors in REcoin Group Foundation and DRC World (also known as Diamond Reserve Club) have been told they can expect sizeable returns from the companies' operations when neither has any real operations. [The individual allegedly touted REcoin as "The First Ever Cryptocurrency Backed by Real Estate." Alleged misstatements to REcoin investors included that the company had a "team of lawyers, professionals, brokers, and accountants" that would invest REcoin's ICO proceeds into real estate when in fact none had been hired or even consulted. Zaslavskiy and REcoin allegedly misrepresented they had raised between \$2 million and \$4 million from investors when the actual amount is approximately \$300,000.”

is estimated to be in the billion 200 USD range.²⁸ Further, in our small random sample, with some 90 ICOs in which we have been able to calculate the consideration, the overall value is some 6.6 billion USD, and the average is some 74 million USD per ICO. If, as reported, there are some 1,600 ICOs worldwide, and our sample includes some of the larger ones and is skewed in that way, we would ‘estimate’ (or, more accurately, guess) an overall ICO volume that is much higher and exceeds 10 billion USD at the time of writing in late 2017.

Further, even if the estimate of 3 billion USD is correct (which we doubt), the growth is remarkable. For instance, in September 2017 alone 37 ICOs have collected at least USD 850 million, leading to a third quarter volume of 1.32 billion USD.²⁹ And a specialized website reported for a single week of October 2017 the opening of 24 ICOs.³⁰

Other FinTech examples demonstrate how fast a business can move from being too-small-to-care, to too-big-to-ignore, to too-big-to-fail.³¹ Money market funds offer a prime example. Three of the largest players in this sector (Vanguard, Fidelity and Schwab) were established in 1975, 1946 and 1971 respectively. Yet, in 2014, Alibaba started to offer a new, fully online fund to its existing customer base. Within nine months, Yu’e Bao was the world’s fourth largest MMF in the world (US\$90 billion), on par with old players such as Vanguard and Fidelity,³² and today it is the world’s largest money market fund at roughly US\$ 225 billion.³³

While the traditional banking sector has been reluctant to invest in ICOs, we see some alternative investment funds focusing on ICOs to provide to a wider range of investors exposure to the current, bubble-induced profits. Further, venture capitalists are seemingly becoming more and

²⁸ Jenima Kelly, Cryptocurrencies' market cap hits record \$200 billion as bitcoin soars, Nov. 3, 2017, available at: <http://www.reuters.com/article/us-global-markets-cryptocurrencies/cryptocurrencies-market-cap-hits-record-200-billion-as-bitcoin-soars-idUSKBN1D31I6> (last accessed Nov. 13, 2017).

²⁹ Olga Kharif, Only One in 10 Tokens Is In Use Following Initial Coin Offerings, 23 Oct. 2017, available at <https://www.bloomberg.com/news/articles/2017-10-23/only-one-in-10-tokens-is-in-use-following-initial-coin-offerings> (last accessed Nov. 13, 2017).

³⁰ Seline Jung, Token Report: 2 Fintech ICOs & 2 Hard Forks, 10 Oct 2017, available at <https://medium.com/tokenreport/token-report-2-fintech-icos-2-hard-forks-9cba9827565d> (last accessed Nov. 13, 2017).

³¹ The concept of a progression from “too-small-to-care” to “too-big-to-fail” was initially developed by Douglas W. Arner & Janos Barberis, *Regulating FinTech Innovation: A Balancing Act*, ASIAN INSTITUTE OF INTERNATIONAL FINANCIAL LAW (Apr. 1, 2015), <http://www.law.hku.hk/aiifl/regulating-fintech-innovation-a-balancing-act-1-april-1230130-pm/>; and was developed further in DW Arner, J Barberis and RP Buckley, “The Evolution of FinTech: A New Post-Crisis Paradigm?”, (2016) 47 (4) *Georgetown Journal of International Law*, 1271.

³² Bill Powell, Alibaba: The \$200 Billion ‘Open Sesame’, NEWS WEEK (Sep. 8, 2014); <http://www.newsweek.com/2014/09/19/alibaba-200-billion-open-sesame-268937.htm>

³³ Cf. Tjun Tang, Yue Zhang & David He, *The Rise of Digital Finance in China – New Drivers, New Game, New Strategy*, THE BOSTON CONSULTING GROUP 4 (2014), http://www.bcg.com.cn/en/files/publications/reports_pdf/BCG_The_Rise_of_Digital_Finance_in_China_Oct_2014.pdf (last visited April 6, 2017); Shaohui Tian, *Alibaba’s Yu’e Bao Becomes Largest Money Market Fund Globally*, XINHUA NET (April 28, 2017), http://news.xinhuanet.com/english/2017-04/28/c_136243985.htm (last visited June 16, 2017).

more active in the pre-ICO stage. In particular, it has been reported that 110 crypto hedge funds³⁴ were active in the ICO / cryptocurrency markets since 2011, with 84 of them established in 2017, managing assets of 2.2 billion USD; and the first crypto fund-of-fund was established in October 2017.³⁵ While the involvement of professional investors could promote market maturity, it also strengthens the link to the established banking sector and thus enhances systemic risk.

IV. Legal Assessment

Given the variety of ICOs, a one-size-fits-all legal analysis of ICOs is simply impossible. Any legal assessment must consider the particularities of the individual offerings.

1. Legally relevant conduct

While some ICOs take the form of donations (and thus look similar to donation-based crowdfunding), by far most ICOs (in our sample some 95% of the ICOs) promise some direct benefit in return for the consideration. However, often the benefit is not of a financial nature. In some cases the token can be used similarly to a license or a gift card (and thus look similar to rewards-based crowdfunding), and it can grant any set of rights the initiator chooses to offer.

Depending upon how the promise is expressed, and upon the structure of the ICO and governing jurisdiction, a contract or partnership (or possibly even a trust) relationship may possibly arise.³⁶ The important point is that issuing the commitment to the public and accepting the consideration on this basis is legally relevant conduct. The people who make those promises are bound by their commitments; and breach will result in liability. This may seem like stating the obvious, but we do so because a significant part of the tech community appears to believe that blockchain-based conduct falls outside the scope of the law – a proposition we have disproved elsewhere.³⁷

2. General consumer protection legislation

Once qualified as legally relevant action, in most countries contracts with the public comes along with specific legislation to ensure protection of consumers. For instance, if no more specific legislation applies, German legislation would confer private law prospectus liability as special case of *culpa in contrahendo*,³⁸ while French law subjects any intermediary in goods to rules of promotional communication which come close to prospectus regulation and include a statement “by an independent expert with sound repute and experience that certifies the existence of the

³⁴ See on crypto hedge funds Edmund Mokhtarian & Alexander Lindgren, *Rise of the Crypto Hedge Fund: Operational Issues and Best Practices for Institutional Cryptocurrency Trading* (October 19, 2017). Stanford Journal of Law, Business, and Finance, Forthcoming. Available at SSRN: <https://ssrn.com/abstract=3055979>.

³⁵ Cf. Jemima Kelly, Maiy Keidan, Bitcoin ‘boom’ failing to attract big name investors, 23 Oct. 2017, available at <http://www.independent.co.uk/news/business/news/bitcoin-investers-crypto-currencies-hedge-funds-a8014666.html> (last accessed 23 November 2017) (citing data from technology research house autonomous.next).

³⁶ Cf. D Zetsche, RP Buckley & DW Arner, “The Distributed Liability of Distributed Ledgers: Legal Risks of Blockchain”, forthcoming *University of Illinois Law Review*, *in press*.

³⁷ D Zetsche, RP Buckley & DW Arner, “The Distributed Liability of Distributed Ledgers: Legal Risks of Blockchain”, forthcoming *University of Illinois Law Review*, *in press*.

³⁸ See the leading case German Supreme Court (BGH), 24 April 1978 - II ZR 172/76, BGHZ 71, 284; for details, see Emmerich, in *Münchener Kommentar zum BGB*, 7th ed. 2016, at ¶135 et seq.

goods on which rights are proposed and advises on the liquidity of the rights acquired.”³⁹ further, statutory liability and intermediary regulation applies in this case.⁴⁰ In Australia, the Australian Securities and Investments Commission has announced that when the *Corporations Act (Cth)* does not apply to an ICO, the offering will still be subject to Australian consumer laws,⁴¹ which include prohibitions against unconscionable, misleading and deceptive conduct towards investors.⁴² Australian ICOs are likewise governed by general laws against fraud.⁴³ Similar consumer safeguards exist all over the EU and EEA due to European harmonized consumer protection legislation.⁴⁴ For instance, in the UK the *Consumer Rights Act 2015*, the *Consumer Protection Act 1987*, and the *Misrepresentation Act 1967* are all likely to apply.⁴⁵ The same is true for the equivalent consumer protection laws in the rest of Europe.

Further, if ICO participants are consumers, private international law will limit the discretion with which ICO backers can determine the applicable law. Under most private international law regimes, contracts between commercial entities and consumers are subject to the consumer protection laws in force in the consumer’s country of residence, or at least the rights granted in that jurisdiction are upheld.⁴⁶

Some may argue in some civil law jurisdictions that the acceptance of money in return for a promise is not a commercial activity; relying, again, on the fact that the ICO is being issued by a

³⁹ Cf. Barsan, Legal Challenges (n. 1), at 61.

⁴⁰ Cf. Barsan, Legal Challenges (n. 1), at 61.

⁴¹ Australian Securities and Investments Commission, “Initial Coin Offerings,” Sep 28 2017, <http://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings/>.

⁴² *Competition and Consumer Act 2010 (Cth)*, ss 18, 20, 21, 22.

⁴³ Denham Sadler, “ASIC set to move on ICOs,” InnovationAus.com, Sep 8 2017, <http://www.innovationaus.com/2017/09/ASIC-set-to-move-on-ICOs>.

⁴⁴ The European consumer protection framework rests on the European Directive on Consumer Rights (2011/83/EU) and is supplemented by specific conduct- or product-related legislation. The European consumer protection framework assumes the perspective that the asymmetry of information, where the commercial actor knows more about the product or service than the consumer, is open to abuse, and seeks to add a notion of fairness and good faith into the contracting between commercial actors and consumers. This is particularly true for technical products and services. Under that framework, depending on the details, ICOs could qualify as contracts for services or goods. If the contract is qualified as financial services specific financial service legislation applies (infra, n. 47).

⁴⁵ *Consumer Rights Act 2015*, the *Consumer Protection Act 1987*, and the *Misrepresentation Act 1967*.

⁴⁶ In Australia, see *ACCC v Valve Corporation* [2016] FCA 196; and http://consumerlaw.gov.au/files/2016/05/ACL_Comparative-analysis-overseas-consumer-policy-frameworks_Part4-1.pdf. For the EU the ‘Rome I Regulation’ (Regulation (EC) No 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations) harmonizes private international law all over the EU. On consumer rights, see Art. 6(1), (2) and Recital 25 of Rome I (“Consumers should be protected by such rules of the country of their habitual residence that cannot be derogated from by agreement, provided that the consumer contract has been concluded as a result of the professional pursuing his commercial or professional activities in that particular country. The same protection should be guaranteed if the professional, while not pursuing his commercial or professional activities in the country where the consumer has his habitual residence, directs his activities by any means to that country or to several countries, including that country, and the contract is concluded as a result of such activities.”); for instance, in the UK, pursuant to ss 31 and 47 of the *Consumer Rights Act 2015*, the act applies to all contracts for the supply of goods or services (including digital content) to a UK consumer and these provisions cannot be contracted out of. For an analysis of the private international law dimension of ICOs see Barsan (n. 1).

non-commercial entity (such as an association / a club, a foundation or a trust). However, the fact a trust, foundation or association is acting is no bar to it acting in trade or commerce. Any ongoing project with a profit expectation – either direct or indirect – suffices to establish a commercial activity.

Thus, as a common denominator, since ICOs are offers to the public (i.e. consumers) by some commercial enterprise, where a consideration is required in order to participate, the general consumer protection legislation of the relevant country will apply.

In some cases, however, some specific legislation could apply and displace the general consumer legislation. While this is not the case in all countries to the same extent, two fields of law are particular noteworthy in displacing consumer legislation. For one, if ICO participation results in a membership in a company or partnership, company or partnership law could apply, in some cases, in lieu of consumer protection law.⁴⁷ Whether this is the case depends on the private law qualification of the blockchain participation which we explored elsewhere.⁴⁸

The second important instance of specialized legislation being applicable is financial law, and so we take a brief look at the scope of some important types of financial regulation below.

3. Financial law

Financial law could assist consumers in getting protection *if it applies*. Based on our taxonomy, we argue that financial law could apply to currency and equity tokens under certain circumstances. While far from aiming at completeness,⁴⁹ this section simply demonstrates that depending on the structuring of the ICO financial law *can* apply.

Currency Tokens are characterized by the fact that one token reflects a right in another currency, either crypto or otherwise. For instance, 1 Token could reflect the value of 1 USD, 1 EUR or 1 ETH. The ICO merely translates a currency into bits and bytes. Although the white papers in our sample are vague, some 57% of ICOs appear to meet our Currency Token test. Around the globe, regulators have implemented rules for payment services. Some regulators have held that those rules could apply to cryptocurrencies.⁵⁰

An **Equity Token** represents the right to share in a cash-flow other than a currency. Although most white papers again are vague, 18% of ICOs in our sample provide sufficient information to

⁴⁷ See Art. 3(3) lit. d and Recital 9 of European Directive on Consumer Rights (2011/83/EU) (“The regulatory aspects to be harmonised should only concern contracts concluded between traders and consumers. Therefore, this Directive should not affect national law in the area of contracts relating to employment, contracts relating to succession rights, contracts relating to family law and contracts relating to the incorporation and organisation of companies or partnership agreements.”).

⁴⁸ Cf. D Zetzsche, RP Buckley & DW Arner, “The Distributed Liability of Distributed Ledgers: Legal Risks of Blockchain”, forthcoming *University of Illinois Law Review*, *in press*

⁴⁹ In addition to the laws discussed herein in most countries anti-money laundering / CTF rules are likely to apply. Further e-money and money transmitter regulation could apply, for a detailed analysis see the articles cited in n. 1.

⁵⁰ Japan has recognized Bitcoin as official means of payment. In turn, legislation on payment providers applies. In its position of 14 February 2014, Luxembourg’s CSSF has announced that it deems the issue of virtual currencies (i.e. tokens with currency characteristic) out of scope of financial regulation; however, as soon as business exchanges virtual currencies (i.e. tokens with currency characteristic) against fiat currency the exchange is subject to regulation as payment service provider under the EU Payments Services Directive or the Electronic Money Institution Directive.

indicate an Equity Token has been issued.⁵¹ Regulators around the world have started to qualify those tokens as ‘securities’ – the SEC position on the DAO⁵² has been shared by other regulators,⁵³ and gathers ground in Europe as well.⁵⁴ Usually, a registration and prospectus requirement applies to the issuer and ICO once the token is qualified as securities, ensuring a minimum of investor protection.

But further rules could apply to the intermediaries involved in issuing, promoting or trading the tokens. For that purpose besides the definition of ‘security’, it matters whether the investors’ consideration is put in one bucket from which the right or entitlement granted to the token holder is purchased or whether the consideration remains separate from the rights of other token holders. However, virtually all white papers in our sample failed to address this issue, and we suspect segregation is highly unusual given the sophistication and costs with which segregation of client money comes along.

If investor consideration is segregated, the legislation on **individual portfolio management** needs to be considered. Here, in addition to portfolio management obligations, additional criteria are often applied to limit the scope of financial supervision regarding discretionary portfolio management. For instance, under the US IAA investment adviser is any person that: (1) for compensation (2) is engaged in the business of (3) providing advice, making recommendations, issuing reports, or furnishing analyses on securities, either directly or through publications.⁵⁵ The lack of disclosures we often experience regarding the involvement, commissions and fees of other entities in the ICO make it difficult to assess who (besides the issuer as registrant for the purposes of securities regulation) is covered by US investment law. The European MiFID framework regulates portfolio management only if it pertains to financial instruments. For

⁵¹ Notable examples include **Taas** (Token-as-a-service) selling membership tokens in a closed-end crypto-asset fund where the token will entitle holders to 50 percent of the funds profits and payouts rely on a profit-sharing Ethereum smart contract. Another example includes Overstock/tZeR0, where the ICO “will raise the money through a private placement for accredited investors, and the token will trade on the company’s own platform. Most notably, it will pay holders a percentage of tZERO’s eventual profits, distributed quarterly. In other words, a regular old stock dividend.” See Matt Levine, *This ICO Looks an Awful Lot Like a Share Offering* (27 Oct. 2017), available at <https://www.bloomberg.com/view/articles/2017-10-27/this-ico-looks-an-awful-lot-like-a-share-offering> (last accessed Nov. 13, 2017).

⁵² See *supra*, n. 8.

⁵³ For instance, while not specifying details, the Singapore MAS has clarified in its 1 August 2017 statement that securities regulation could apply to ICOs. See MAS, *MAS clarifies regulatory position on the offer of digital tokens in Singapore*, 1 August 2017, available at <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2017/MAS-clarifies-regulatory-position-on-the-offer-of-digital-tokens-in-Singapore.aspx> (last accessed Nov. 13, 2017). The same holds true for the British FCA, see Financial Conduct Authority, ‘Consumer Warning about the Risks of Initial Coin Offerings’ (Statement, 12 September 2017), available at <https://www.fca.org.uk/news/statements/initial-coin-offerings> (last accessed 15 November 2017).

⁵⁴ See from the French perspective, Barsan, *Legal Challenges* (n. 1), at 63 (arguing that equity tokens are ‘other securities equivalent to shares in companies, partnerships or other entities’ under the MiFID framework). This view is shared by the authors. On other regulators, see the following text.

⁵⁵ Cf. definition of “investment adviser” under Section 202(a)(11) of the Advisers Act.

instance the German BaFin⁵⁶ and the Finanzmarktaufsicht Liechtenstein⁵⁷ hold that (equity) tokens can be financial instruments. Nevertheless, under the view of some regulators, doubts exist as to whether equity tokens are financial instruments.

In some jurisdictions, the situation is different once assets are pooled. In this case, rules on **collective investment** could apply. However, the definition and scope of collective investment rules vary across jurisdictions. For instance, under the European Alternative Investment Management Framework – which to our knowledge applies the broadest scope of collective investment legislation – the central concept that determines the AIFMD’s scope is the alternative investment fund (AIF). The AIFMD uses the term ‘alternative’ in a somewhat misleading way to include all collective investment undertakings that are not governed by the UCITS framework and “raise capital from a number of investors, with a view to investing it in accordance with a defined investment policy for the benefit of those investors.”⁵⁸ While equity token ICOs are likely to meet those criteria, the determination of whether there is a discretionary third party fund management and a defined investment policy must be assessed on a case-by-case basis for which detailed knowledge on the handling of the ICO consideration and the structure of the issuer, sponsor and other related parties is a prerequisite. Unfortunately, very few white papers deliver those details. In light of this uncertainty it is encouraging that Australian regulator ASIC has announced that such equity token arrangements with a discretionary management structure typically are classified as Managed Investment Schemes and regulated under the Corporations Act.⁵⁹

Furthermore, if the value of the coin that is offered depends upon the value of something else, the coin may fall within the definition of a **derivative** in some jurisdictions. In Australia, the definition of a derivative in Section 761D of the Corporations Act is particularly complex, and its nuances are beyond the scope of this paper, but in broad terms if the coin derives its value from an 'underlying instrument' or 'reference asset' which could, among other things, be a share, a share price index, a pair of currencies, a cryptocurrency, or a commodity, the coin could well be a derivative and any business offering it would need to hold an Australian financial services licence.⁶⁰

⁵⁶ See https://www.bafin.de/DE/Aufsicht/FinTech/VirtualCurrency/virtual_currency_node.html, at „Erlaubnispflichten“ (last accessed Nov. 13, 2017) (subjecting all virtual currency trades to legislation applicable to financial instruments; the same principles applies to tokens in general).

⁵⁷ Cf. <https://www.fma-li.li/files/fma/fma-faktenblatt-ico.pdf> (last accessed Nov. 13, 2017).

⁵⁸ Art. 4(1)(a) AIFMD.; for details, see D. Zetsche & C. Preiner, Scope of the AIFMD, pp. 49 et seq., Ch. 3 (D. Zetsche, AIFMD, 2nd ed., WoltersKluwer 2015). For a criticism on the broad scope see P. Athanassiou & T. Bullman, *The EU’s AIFM Directive and its impact- an overview* in Research Handbook on Hedge Funds, Private Equity and Alternative Investments, ed. P. Athanassiou (Cheltenham: Edward Elgar, 2012), 445 and D. Busch & L. van Setten, *The Alternative Investment Fund Managers Directive in Alternative Investment Funds in Europe*, L. van Setten & D. Busch eds. (Oxford: Oxford University Press 2014) 8 et seq.

⁵⁹ In Australia, see the ASIC guidance on Initial Coin Offerings at <http://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings/> and its guidance on Managed Investment Schemes at <http://asic.gov.au/for-finance-professionals/managed-investment-scheme-operators/starting-a-managed-investments-scheme/what-is-a-managed-investment-scheme/>

⁶⁰ In Australia, again, see ASIC’s guidance on Initial Coin Offerings at <http://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings/>

All in all, we conclude that financial law could apply and does apply to *some* of the ICOs in our sample. But in most cases we lack the information necessary to establish whether the criteria for the application of specific financial law are met; and in skilled hands, it is often easy to structure an ICO in such a way that it lacks one characteristic necessary for financial law to apply. For instance, if the reference value of the instrument is not financial in nature, Europe's MiFID will not apply.

4. Crowdfunding legislation

The crowdfunding rules that have been established in some jurisdictions could apply under certain circumstances if the ICO initiators ask for consideration; the application of such rules tends to reduce the regulatory burden. Since crowdfunding legislation is not uniform across markets, we can merely summarize the most common aspects.

There are two primary forms of crowdfunding legislation. The first type modifies existing financial laws for small issuers and brokers of those issuers with a view to lighten the regulatory burden. Under the second type, regulators provide thresholds for exemptions from prospectus and other financial law requirements.⁶¹ For instance, the laws of the US,⁶² Canada,⁶³ Austria,⁶⁴ and Germany⁶⁵ limit exemptions from prospectus requirements for crowdfunded projects based on the size of the offering - ranging from 250,000 to 5 million USD/CAD/EUR - as well as the amount of money invested per retail investor – with limits ranging from 1,000 to 10,000 in the respective currency, depending on the country and the investors' wealth. It is clear from our data presented in Table 2 (supra, at I.3.) that many ICOs exceed the first threshold. We lack the data to make a qualified statement on the second threshold. But we doubt that ICOs in the absence of institutional investments would reach the total volumes in the million range as reported with capital injections capped at the 1,000/10,000 limit.

In addition to these, many jurisdictions also provide longstanding exemptions from or relaxations of securities and companies law requirements relating to prospectuses and other aspects of offerings to small numbers of investors (typically in the form of non-public offerings or private

⁶¹ For an overview of the available types of regulation see Dirk Zetzsche & Christina Preiner, Cross-Border Crowdfunding – Towards a Single Crowdfunding Market for Europe (June 26, 2017). European Business Organization Law Review – *in press*, Available at SSRN: <https://ssrn.com/abstract=2991610>.

⁶² See Securities and Exchange Commission, Regulation Crowdfunding: A Small Entity Compliance Guide for Issuers, May 13, 2016, available at https://www.sec.gov/info/smallbus/secg/rccomplianceguide-051316.htm#_ftn2 (“Title III of the Jumpstart Our Business Startups (JOBS) Act of 2012 added Securities Act Section 4(a)(6) that provides an exemption from registration for certain crowdfunding transactions. In 2015, the Commission adopted [Regulation Crowdfunding](#) [17 CFR Parts 200, 227, 232, 239, 240, 249, 269, and 274] to implement the requirements of Title III.2). See on regulation CF Sharon Yamen & Yoel Goldfeder, *Equity Crowdfunding – A Wolf in Sheep's Clothing: The Implication of Crowdfunding Legislation under the JOBS Act*, 11 INT'L L. & MGMT. REV. 41, 57 (2015)

⁶³ Multilateral CSA Notice 45-316 – *Start-up Crowdfunding Registration and Prospectus Exemptions*.

⁶⁴ See § 3 Bundesgesetz über alternative Finanzierungsformen (Alternativfinanzierungsgesetz – AltFG), see Roman Rericha & Raphael Toman, *Neuer Rechtsrahmen für Crowdfunding – Ausbruch aus dem RegelungsDickicht des Kapitalmarkts?*, ZFR 218, 403 (2015)..

⁶⁵ See § 2a Gesetz über Vermögensanlagen (Vermögensanlagengesetz - VermAnlG), see Lars Klöhn, Lars

Hornuf & Tobias Schilling, *The Regulation of Crowdfunding in the German Small Investor Protection Act: Content, Consequences, Critique, Suggestions*, 13:2 EUR. COMP. L. 57 (2016).

companies) and/or to professional investors only. These are often used in the crowdfunding context and specific crowdfunding legislation often also extends or clarifies aspects of these sorts of offerings, with the result that many offerings (including of ICOs) are structured in order to fall within these sorts of structures, particularly in the context of offerings open to US investors.

Australia has taken a different approach to crowdfunding and ICOs. The *Corporations Amendment (Crowd-sourced Funding) Act 2017* (Cth) came into effect 29 September 2017 and stipulates a new regime that requires companies engaging in crowdfunding to hold an Australian financial services licence with an authorisation to facilitate crowd-sourced funding activities.⁶⁶ However, the Australian Securities and Investments Commission has reiterated that ICOs are different to crowd-sourced funding.⁶⁷ In its information sheet, ASIC clarifies that “crowdfunding using an ICO is not the same as the ‘crowd-sourced’ funding that will be regulated by the *Corporations Act* from 29 September 2017.”⁶⁸ ICOs are not covered by the new regime. As a result, traditional exemptions from offering for private and/or professional offers may still apply.

V. Policy Considerations

Regulatory responses require careful consideration and a thorough consideration of policy options and impact. We analyse the most common responses below.

1. Outright ban

One option is an outright ban of ICOs such as the one imposed by the Chinese and South Korean regulators.

Following hard on the heels of the US Securities and Exchange Commission’s warning against ‘pump and dump’ ICO schemes,⁶⁹ in September 2017, China and Korea announced their outright bans on ICOs.⁷⁰ Seven Chinese government regulators, led by the People’s Bank of China, issued a joint statement confirming ICOs as “unauthorised illegal fundraising activities”,⁷¹ and explicitly treating them as financial fraud and pyramid schemes.⁷² The document defines ICOs as any fundraising processes where digital tokens, in the form of cryptocurrencies, are distributed to

⁶⁶ Australian Securities and Investments Commission, “Crowd-sourced funding,” last updated Sep 21 2017, <http://asic.gov.au/regulatory-resources/financial-services/crowd-sourced-funding/>.

⁶⁷ Australian Securities and Investments Commission, “Initial coin offerings (ICOs),” MoneySmart.gov.au, last updated Nov 10 2017, <https://www.moneysmart.gov.au/investing/investment-warnings/initial-coin-offerings-icos>.

⁶⁸ Australian Securities and Investments Commission, “Initial Coin Offerings,” Sep 28 2017, <http://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings/>.

⁶⁹ Jeff John Roberts, “SEC Warns Scammers Are Using ICOs to Pump and Dump,” *Fortune*, Aug 29 2017, <http://fortune.com/2017/08/29/sec-blockchain-ico-scam/>.

⁷⁰ David Meyer, “South Korea Follows China By Banning ICOs,” *Fortune*, Sep 29 2017, <http://fortune.com/2017/09/29/south-korea-china-bitcoin-ethereum-icos-ban/>.

⁷¹ Saheli Roy Choudhury, “China Bans Companies From Raising Money Through ICOs, Asks Local Regulators to Inspect 60 Major Platforms,” *CNBC*, Sep 4 2017, <https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html>.

⁷² David Meyer, “China’s Central Bank Is Banning Initial Coin Offerings,” *Fortune*, Sep 4 2017, <http://fortune.com/2017/09/04/ico-china-central-bank-ban/>.

investors making financial contributions.⁷³ Claiming ICOs to have caused severe economic and financial disruption,⁷⁴ China called for an immediate stop to current ICO activities and for all completed efforts to arrange refunds.⁷⁵ It likewise banned all ICO platforms from facilitating new issuances and all financial and payment institutions from dealing in ICOs.⁷⁶ Sixty major local ICO platforms are currently under regulatory review.⁷⁷ ICOs that continue to function will be “severely punished”, and contravening exchanges will risk having their business registration revoked and their website shut down.⁷⁸ In short, when China decides to prohibit an activity, it certainly does so clearly and comprehensively (although it is reported that private trading activity in cryptocurrencies defies the ban⁷⁹).

In September 2017, South Korea’s Financial Services Commission likewise announced its imminent crackdown, explaining that ICOs appear to have directed market funds into a “non-productive speculative direction”.⁸⁰ Without defining ICOs, South Korea advised that the ban will encompass all forms of cryptocurrency fundraising, irrespective of their terminology and their underlying technology,⁸¹ and will also extend to the margin trading of cryptocurrencies.⁸² “Stern penalties” will be issued against any business or person that breaches this prohibition.⁸³

The Chinese and South Korean solutions have an initial appeal as they appear to provide legal certainty at low regulatory cost. Upon reflection, however, an outright ban may be an overly strict response. It overemphasizes the control of risk and underemphasizes the importance of innovation, and the great difficulty, in many jurisdictions, that innovative FinTech start-ups experience in securing funding. Moreover, the legal certainty may, in practice, prove to be

⁷³ Wolfie Zhao, “China’s ICO Ban: A Full Translation of Regulator Remarks,” *CoinDesk*, Sep 5 2017, <https://www.coindesk.com/chinas-ico-ban-a-full-translation-of-regulator-remarks/>.

⁷⁴ *Ibid*.

⁷⁵ Lulu Yilun Chen and Justina Lee, “Bitcoin Tumbles as PBOC Declares Initial Coin Offerings Illegal,” *Bloomberg*, Sep 4 2017, <https://www.bloomberg.com/news/articles/2017-09-04/china-central-bank-says-initial-coin-offerings-are-illegal>.

⁷⁶ Zhao, “China’s ICO Ban: A Full Translation,” *supra* note 5.

⁷⁷ Choudhury, “China Bans Companies From Raising Money Through ICOs,” *supra* note 3.

⁷⁸ Zhao, “China’s ICO Ban: A Full Translation,” *supra* note 5.

⁷⁹ Gabriel wildau, china clampdown on bitcoin fails, *Financial Times*, 8 November 2017, p. 11 (stating that „more of the buying and selling of cryptocurrencies has gravitated towards the private over-the-counter market.).

⁸⁰ Simon Sharwood, “South Korea bans Initial Coin Offerings,” *The Register*, Sep 29 2017, <https://www.theregister.co.uk/2017/09/29/south-korea-bans-initial-coin-offerings/>.

⁸¹ Jonathan Ponciano, “South Korea Issues Ban On ICOs As Trading Volume Climbs At Nation’s Exchanges,” *Forbes*, Sep 29 2017, <https://www.forbes.com/sites/jonathanponciano/2017/09/29/south-korea-issues-ban-on-icos-as-nations-exchanges-grow-trading-volume/#6ccd667b3531>.

⁸² Yuji Nakamura and Sam Kim, “Cryptocurrencies Drop as South Korea Bans ICOs, Margin Trading,” *Bloomberg*, Sep 29 2017, <https://www.bloomberg.com/news/articles/2017-09-29/cryptocurrencies-drop-as-south-korea-bans-icos-margin-trading>.

⁸³ Cynthia Kim, “South Korea Bans Raising Money Through Initial Coin Offerings,” *Reuters*, Sep 29 2017, <https://www.reuters.com/article/us-southkorea-bitcoin/south-korea-bans-raising-money-through-initial-coin-offerings-idUSKCN1C408N>.

somewhat spurious. Given how many different forms ICOs currently take, some may prove permissible unless definitions are drawn exceptionally broadly.

In addition, historical experience with outright prohibitions on financial activities suggests that these are usually ineffective and/or counterproductive. Perhaps the best examples arise in the context of the UK's 1720 Bubble Act (prohibiting the creation of new joint stock companies) or the US prohibition on onion futures.⁸⁴ This debate has appeared more recently in the context of OTC derivatives in the aftermath of the 2008 Global Financial Crisis, with the result that some jurisdictions (namely the EU) have created prohibitions in very limited areas (e.g. naked sovereign CDS).⁸⁵

2. Regulatory warnings

Another far less interventionist option is simply for the relevant regulator – usually the securities or financial conduct regulator – to issue warnings to the market. Many regulators have already done so, some repeatedly, when it comes to ICOs.

On 28 August 2017, the US SEC issued an alert warning to investors about companies touting their investments in ICOs as part of ‘pump-and-dump’ or other market manipulation schemes to improperly influence their stock price.⁸⁶ The SEC warned that trading suspensions had been imposed on the stock of some issuers due to claims they had made about their investments in ICOs, and that investors should exercise caution if current information about a company’s stock is not available, or if it is a non-reporting company.⁸⁷ Investors were warned to be wary of attempts to manipulate the market by spreading false and misleading information and create a buying frenzy, and specifically warned about companies that claim their ICO is ‘SEC-compliant’ without further explanation.⁸⁸

More directedly, on 25 July 2017 the US SEC issued a warning to investors about investing in ICOs.⁸⁹ This was followed by a series of warnings by other regulators, some in much greater specificity, including by the Monetary Authority of Singapore on 10 August 2017,⁹⁰ Hong Kong Securities and Futures Commission on 5 September 2017,⁹¹ UK Financial Conduct Authority on

⁸⁴ D. Arner, “Development of the American Law of Corporations to 1832”, 55 SMU Law Review 23, 23-57 (2002).

⁸⁵ D. Arner, “Adaptation and Resilience in Global Financial Regulation”, 89:5 North Carolina Law Review 1579, 1579-1626 (2011).

⁸⁶ US Securities and Exchange Commission, “Investor Alert: Public Companies Making ICO-Related Claims”, Aug 28, 2017, https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_icorelatedclaims

⁸⁷ US Securities and Exchange Commission, “Investor Alert: Public Companies Making ICO-Related Claims”, Aug 28, 2017, https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_icorelatedclaims

⁸⁸ Ibid.

⁸⁹ https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_coinofferings

⁹⁰ Monetary Authority of Singapore, ‘Consumer Advisory on Investment Schemes Involving Digital Tokens (Including Virtual Currencies)’ (Media Release, 10 August 2017) <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2017/Consumer-Advisory-on-Investment-Schemes-Involving-Digital-Tokens.aspx>.

⁹¹ Securities and Futures Commission, ‘Statement on Initial Coin Offerings’ (Policy Statement, 5 September 2017) <http://www.sfc.hk/web/EN/news-and-announcements/policy-statements-and-announcements/statement-on-initial-coin-offerings.html>.

12 September 2017,⁹² the Australian Securities and Investments Commission (ASIC) on 28 September 2017,⁹³ and the German regulator, BaFin, on 9 November 2017.⁹⁴ The EU's ESMA has also issued two warnings about initial coin offerings, targeted at consumers and firms respectively, each on 13 November 2017.⁹⁵

Other warnings emphasise the danger of 'white papers' provided by issuers being incomplete, misleading, unaudited, or, in the words of BaFin, 'objectively insufficient'. All warnings also indicate the high risk of fraud, particularly where the ICO is not regulated, with BaFin describing this risk as 'systemic'; the UK FCA giving the example of issuers using funds raised in a different way to that which was marketed; and ESMA noting that several ICOs have already been identified as being involved in fraudulent activities. The Hong Kong SFC and ESMA further warn that the risk of fraud is increased by digital tokens being anonymously held. In addition, BaFin warns that verification of the provider's identity and reputation is typically left to the consumer alone, and there is no guarantee that any personal data provided will be protected to German standards.

The central element to these warnings is that ICOs are largely unregulated in all the above jurisdictions, and investors will have no recourse or protection if the ICO they invest in is unregulated. A number of regulators, such as the US SEC, Australia's ASIC and Hong Kong's SFC, note that some ICOs have features that may see them classed as 'securities' and 'regulated activities' under securities law, which would then trigger registration or authorisation requirements.

Both BaFin and ESMA warn that ICOs are generally issued by businesses in their early stages of development, and for this reason there is an inherently high risk of losing all one's invested capital. There may also be a lack of exit options, and no, or highly limited, ability to trade the tokens in exchange for traditional currency. Unlike the other warnings, ESMA specifically warns that distributed ledger technology is untested and may be flawed or subject to hacking.

ESMA's notice directed at firms alerts them of the importance of considering whether their ICO activities constitute 'regulated activities'. Where coins constitute 'financial instruments', it is likely that the firm will be engaged in regulated activities such as the placement of financial instruments. The warning gives a high-level summary of the EU laws which could then potentially be applicable to ICOs, for example the requirement for the publication of a prospectus, as opposed to a white paper, conduct of business rules, transparency and due

⁹² Financial Conduct Authority, 'Consumer Warning about the Risks of Initial Coin Offerings' (Statement, 12 September 2017), available at <https://www.fca.org.uk/news/statements/initial-coin-offerings> (last accessed 15 November 2017).

⁹³ ASIC Information Sheet 225, "Initial Coin Offerings", 28 September 2017, <http://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings/>

⁹⁴ BaFin Federal Financial Supervisory Authority, 'Consumer Warning: The Risks of Initial Coin Offerings' (Consumer Warning, 9 November 2017) https://www.bafin.de/SharedDocs/Veroeffentlichungen/EN/Meldung/2017/meldung_171109_ICOs_en.html.

⁹⁵ European Securities and Markets Authority, 'ESMA Alerts Investors to the High Risks of Initial Coin Offerings' (Statement, 13 November 2017) https://www.esma.europa.eu/sites/default/files/library/esma50-157-829_ico_statement_investors.pdf; European Securities and Markets Authority, 'ESMA Alerts Firms Involved in Initial Coin Offerings to the Need to Meet Relevant Regulatory Requirements' (Statement, 13 November 2017) https://www.esma.europa.eu/sites/default/files/library/esma50-157-828_ico_statement_firms.pdf.

diligence requirements, authorisation rules and prohibitions on anti-money laundering and terrorist financing.

These warnings are not only a standard tool of regulators, but may well have an effect. For instance, it is reported that the rate of ICOs per month that missed their goals went up from only 7% in June 2017 to 66% in September 2017.⁹⁶ This could be attributed to the chain of regulatory warnings.

Similar to earlier warnings on cryptocurrencies which had a limited impact on the Bitcoin hype cycle long-term⁹⁷ we do not believe the ICO-related warning to end the gold rush in which ICO entrepreneurs seek their fortune. This is because regulators stating that ICOs may be unregulated encourage the very constituency benefitting from the rush to promote further ICOs. And those warnings to not address the deficiencies we have identified which is that the promoters, issuers and legal relations of ICOs are largely unknown. From a legal perspective, ICOs operate in the dark. This is even worse than the 17th century tulip bubble and similar events in the analogue centuries of finance – most of the victims then knew who had deprived them of their assets.

3. Widening the scope of financial law?

Another option would be to widen the scope of financial law and expand existing restrictions. For instance, if one regulates Usage Tokens that grant some rights of use in return for consideration, then logically into such a regulatory net would fall all license-based business models such as online music stores, software licenses etc., unless expressly exempted. Such a step would expand financial law beyond its natural limits. While consumer protection is an increasingly accepted objective of financial law, financial regulators may not be the best equipped to combat wide-ranging consumer fraud, even if perpetrated on a blockchain. What justifies the application of financial law when, for instance, a tulip bulb is sold via a blockchain-based token instead of in a gardening store?

4. Reducing information asymmetry

Given that most white papers in our database lack almost all the information required to assess which laws apply, we suggest the first regulatory step must be the enactment of measures to reduce this information asymmetry. In particular, all ICOs, regardless of what the token represents, should be required to provide the following information:

- name, address and Legal Entity Identifier of the issuer as well as names and addresses of key people;
- the target group of the ICO with any regional restrictions;
- details of how the participants' consideration is to be treated;
- details of any intermediary that may store the participants' consideration; and
- details of all fees, costs, etc to be charged against the participants' consideration.

⁹⁶ Eric Risley, Steve Payne, John Ascher-Roberts, "Most ICOs Fail: A Tale of Two Worlds", available at: http://architectpartners.com/ecosystem_thoughts/most-icos-fail-a-tale-of-two-worlds/ (last accessed Nov. 15, 2017).

⁹⁷ On 13 September 2013 the European Banking Authority (EBA) issued a warning to consumers on "Virtual Currencies" (VC) such as Bitcoin. Today BTC prices are higher than ever.

In the absence of specific legislation to this effect, financial regulators could enquire into ICOs based on the assumption that financial legislation applies. In most jurisdictions, financial regulators have the right to start an investigation where there is reasonable grounds to assume that financial law does apply.

In order to enhance efficiency, regulators could ask for evidence supporting the information provided by the ICO initiator (for instance, auditors may be required to certify the information sent to regulators).

If the outcome of such an investigation is that financial law does not apply, the financial regulator could (i) issue a warning notice that a certain ICO is not regulated by any financial regulator, and (ii) forward the information regarding the ICO to the relevant consumer protection agency. And if financial law does apply, financial regulators have all the traditional enforcement methods at their disposal.

5. Enforcing existing laws through concerted action

Once it is known who is behind the ICO and how the proceeds are to be used, it becomes possible to enforce existing laws. Since it is not certain that financial law will apply, concerted action from public enforcement agencies in a range of domains may be required. For instance, in addition to financial regulators, information could be shared with consumer protection agencies as well as the police and criminal investigators in the case of fraud.

Indeed, if we were to make predictions, we would expect to see, in a range of jurisdictions, a series of such enforcement actions initiated by regulators precisely to send a message to the market that simply raising money on a blockchain does not put the activity beyond the purview of relevant laws. In other words, watch this space, especially in the countries that are hosting most ICO activity. The series of warning notices issued by European regulators could well signal the advent of the regulators' less generous attitude.

VI. Conclusion

The paucity of research available on ICOs is only matched by the paucity of information typically available to ICO participants prior to their decision to participate. Furthermore, as most recent legislative initiatives have focused on financial actors, the regulatory situation of many ICOs is unclear, as they vary in form and structure and will often exist in the very grey areas in terms of regulatory treatment. Based on our analysis, we believe ICOs will in many cases raise consumer protection issues, but only in some cases will financial regulators be able to take action.

While some regulators have taken decisive steps, including an outright ban of ICOs, we prefer a more nuanced approach, especially as funding to support innovative, high-tech activities is so difficult to raise in many countries. Our approach is first to seek to reduce the key issue regarding ICOs, which is information asymmetry. Most financial regulators, worldwide, have the right to require information from anyone if there are serious grounds to assume that financial legislation applies. Acquiring this information would enable, as a second step, the enforcement of existing legislation rigorously in a concerted action among consumer protection agencies, financial regulators and criminal investigators.

One of the difficulties with many ICOs is their cross-border dimensions. Where consumers from many countries are involved, it will be difficult to determine a lead regulatory agency (and it may be that no agency is interested in leading given the quantum of the costs relative to the small impact in their jurisdiction). Further, it will be particularly difficult to establish the relevant jurisdiction as long as it remains unclear who is behind the ICOs and where the instigators are domiciled. But this is all the more reason for regulatory cooperation globally to move forward and develop rules designed at the least to remove the information asymmetry we have identified, and the faster this is done the better. As increasing amounts of money flow into ICOs, some with highly uncertain prospects, the greater becomes the risk of a very hard landing that will severely damage risk-tolerant, younger tech aficionados, and thereby severely reduce access to funding for serious tech innovators who seek to take advantage of blockchain technology to raise funds in creative, and responsible, ways.⁹⁸

⁹⁸ The over \$1.2 billion raised through ICOs in the first half of 2017 by far outstripped venture capital investment into Blockchain and Bitcoin firms. See [autonomous.next](#) (n. 3), p. 6.