TOKENISATION:
IMPLICATIONS FOR THE VENTURE CAPITAL INDUSTRY

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EXECUTIVE SUMMARY

Just nine months ago Fabian Vogelsteller and the Ethereum foundation produced a technical framework that could be used to finally manage a large number of investors and supporters in a transparent, automated and simple way. The initial coin offering (ICO) market has since grown at a dizzying pace - with over $3bn raised through issuances of token-based digital currencies since the start of the year. Companies such as Protocol Labs Inc. and Tezos Foundation, which have barely begun to execute their vision, have raised hundreds of millions of dollars with the participation of esteemed technology investors. But many more companies have raised millions of dollars with no more than a questionable business plan. The growth of ICOs poses some fascinating questions – is this a bubble linked to hype around cryptocurrencies or does it represent a fundamental change in the way startups raise money? And if it is truly disruptive, how will it impact the venture capital industry?

This report by Mangrove Capital Partners will examine the potential of tokenisation and explain why ICOs could radically change how private companies raise capital. It will also provide an analysis of how this funding mechanism is being used, explore how ICOs could impact the venture capital operating model and examine the likely shape of a supporting regulatory framework.

WHAT IS A TOKEN?

A token is a digital asset based on blockchain technology that can be transferred between two parties without the need for a central intermediary. While an early and best-known example of a token is bitcoin, other tokens have since emerged – some using modified bitcoin code and others using an entirely new code-base, such as the Ethereum blockchain.

Tokens created using the Ethereum blockchain can have a variety of attributes attached and, with "smart contracts" added, they articulate, verify and enforce agreements between parties. The ERC-20 token standard defines a common list of rules for all Ethereum tokens to follow and has made launching tokens on top of the Ethereum blockchain very straightforward.

WHAT IS AN INITIAL COIN OFFERING?

The use of ERC-20 tokens has led to a new method of raising capital known as an Initial Coin Offering (ICO) in which projects issue tokens to investors in exchange for digital currency such as bitcoin or ether. The tokens allow investors to use the digital services that the startup plans to produce or even sell them if they appreciate in value.

San Francisco's Protocol Labs Inc., for example, raised $253 million in an ICO to build a network with blockchain technology on which digital storage can be bought and sold using the Filecoin tokens it sold in the offering. If the company is successful in building a popular marketplace for digital storage then the value of Filecoin tokens is likely to rise.

ICOs have of course attracted considerable controversy and for good reason. ICOs currently lack a robust regulatory framework and do not confer any of the ownerships rights and legal protections that regulated shares do. As a result, ICOs have attracted numerous opportunists offering dubious investment opportunities – known as "washers" by those in the industry. These take advantage of retail investors that are ill equipped to do their own due diligence, many of which have been eager to diversify their vastly inflated cryptocurrency holdings. The growth of ICOs and the speed with which capital can be raised - web browser Brave's ICO generated $35 million in under 30 seconds – have led to comparisons to Tulipmania, widely regarded as the first speculative bubble.

Amid growing concern over consumer protection, regulators are now taking action. In September China banned ICO funding, stating that it had "seriously disrupted the economic and financial order". South Korea has since followed suit. In the US, the SEC has filed fraud charges against two alleged ICO scams. Meanwhile UK regulators have warned consumers they are "very high-risk, speculative investments" and that investors "should be prepared to lose their entire stake".

However it is important to recognise that ICOs represent a very significant advance on established mechanisms for fundraising. Once regulated, ICOs could fundamentally change how businesses source growth capital and profoundly impact the venture capital and investment banking communities.

ICOs – THE NEXT GENERATION OF CROWDFUNDING

According to the Financial Times, $34bn was raised via crowdfunding platforms in 2015. It has proved popular with entrepreneurs for two reasons. Firstly, it can dramatically reduce the time and effort involved in fundraising. With startup founders holding 30-40 extended meetings with investors for every round of finance, seeking capital is an enormous task and considerable distraction - one that they have to repeat each year. Secondly, it helps founders build an incentivised pool of investors (in the case of equity-crowdfunding) or customers (in the case of non-equity crowd-funding) that actively promote their business both offline and online via blogs and social networks. The only drawback being that companies must either give away equity or ship products (often at a discount).

ICOs take the crowdfunding model a step further. By embedding value in the protocol layer through the issuance of digital tokens that can increase in value as the network becomes more valuable, the community of developers, early adopters and investors are all incentivised to build, grow and support the project. For example, a music streaming service could sell subscription tokens in bulk ahead of launch and amass a customer base motivated to promote the service as soon as the product is functional, not least because the value of their tokens will rise.

Founders can also use ICOs to raise significant capital (perhaps even all the capital they could ever need) in one early round of fundraising without giving away any equity in the business and without having to deliver anything more than tokens for a (highly scalable) software-based service. This is hugely significant for entrepreneurs as five rounds of venture capital finance can dramatically impact their shareholding. For example Aaron Levie, founder of Box, owned about 4% of Box when the company made its public offering in 2015.

LIQUIDITY, ACCOUNTABILITY AND TRANSPARENCY FOR INVESTORS

It seems to good to be true. And there are benefits for investors too. One of the (significant) downsides of investing in private companies as opposed to public companies is that it is extremely difficult to sell a holding ahead of any major liquidity event. Crowdfunding platforms are attempting to address this by allowing investors to sell their shares on a secondary market – but it has proved challenging. Seedrs, for example, only allows trades between existing investors in a specific company and bizarrely only on Tuesdays. This model is immediately transformed by ICOs: investors can sell their tokens to anyone at anytime, can trade them for tokens in other projects and, for the more popular projects, see them listed on exchanges that permit trade with transparency of pricing and quantities - much like a public stock exchange. The 'Smart Contract' embeds the rules of the ICO in the token, assuring that rules are adhered to. For example, many ICOs often have an initial lock up period of a few months.

Furthermore, ICOs provide accountability and transparency for investors. As smart contracts the conditions of sale are written into the code, providing complete clarity and making the company's obligations irrefutable. The nature of an 'open market' for traceable tokens also means that a culture of disclosure and openness has to disseminate from the company towards the token holders. This begins with the 'smart contract' that will be examined and audited by pundits, and will continue as the company announces various progress reports. With a broad range of investors, the company will be unable to exaggerate financial or product claims without risking allegations of fraud. The transparency of the smart contract also allows the creation of escrow accounts, such that funds are released only when certain milestones are achieved - such as reaching a publicly declared level of turnover in annual accounts.

Examples of services that show how 'transparency' is beginning to appear, a feature that is far from available in legal documents

Does smart contract handle other currencies in a trustless way? Does some smart contract store balance of those currencies? USD were collected off-chain and for those contributions 'inject' function is used to allow such investor to claim tokens. Actual number of Ether is calculated via fixed USD to Ether rate for the duration of ICO ('USDWEI'). No token represents value contributed this way	**No**
Was smart contract code easy to read and properly commented?	**Yes**
Are token holder rights protected in trustless way? There are several problem with the contract: 1. admin may call 'halt' function after auction ends preventing investors to claim tokens, it is hard to explain why 'finalise' may be halted. 2. project may take funds from the multisig wallet before tokens may be claimed, there should be ESCROW or no halt function 3. in case of halt, there is no refund procedure 4. please note that tokens received in this ICO are non transferable and transfer may be enabled _per address_ by token admin. That's in itself an issue with trustless trust	**No**

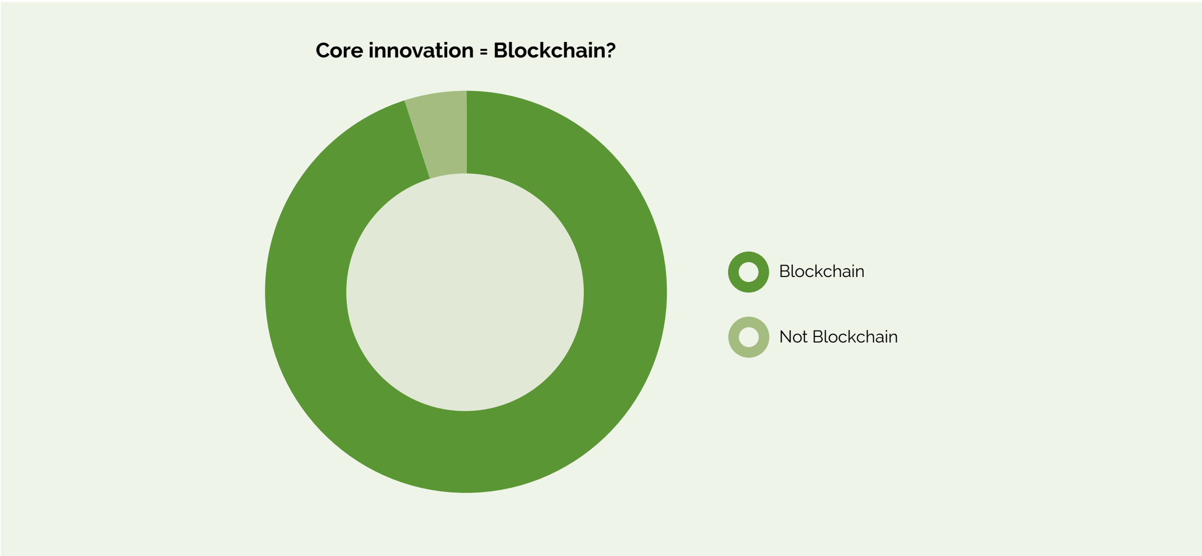
Source: ICO Transparency Monitor

Of course there is still significant risk, but this should be addressed through the provision of an appropriate regulatory framework.

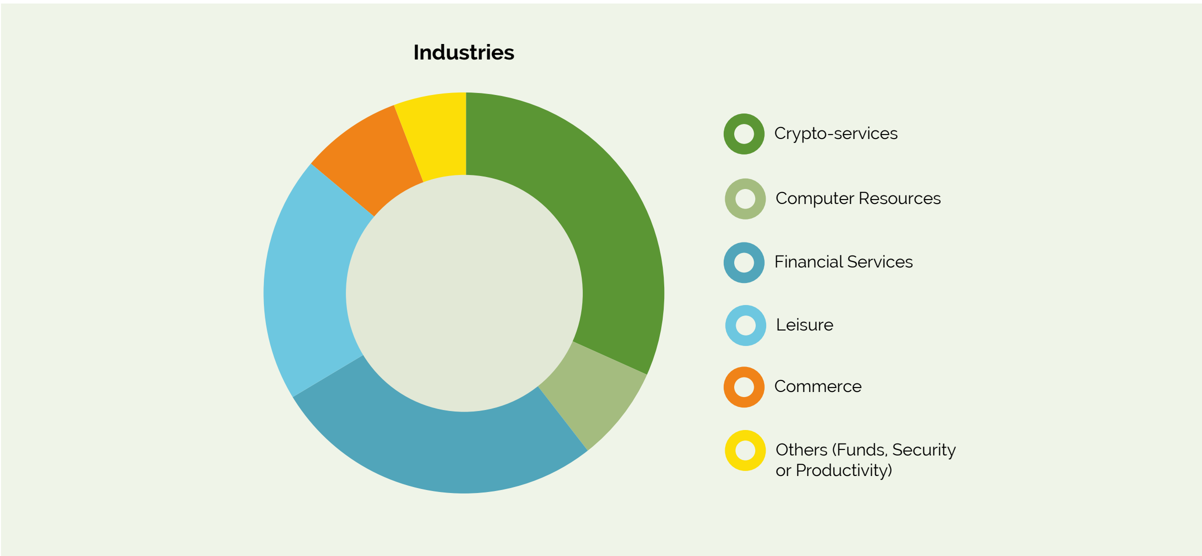
ANALYSIS OF ICOs TO DATE

Mangrove Capital Partners analysed the data available in order to better understand how ICOs are being used and evaluate the performance of ICO tokens as an asset class.

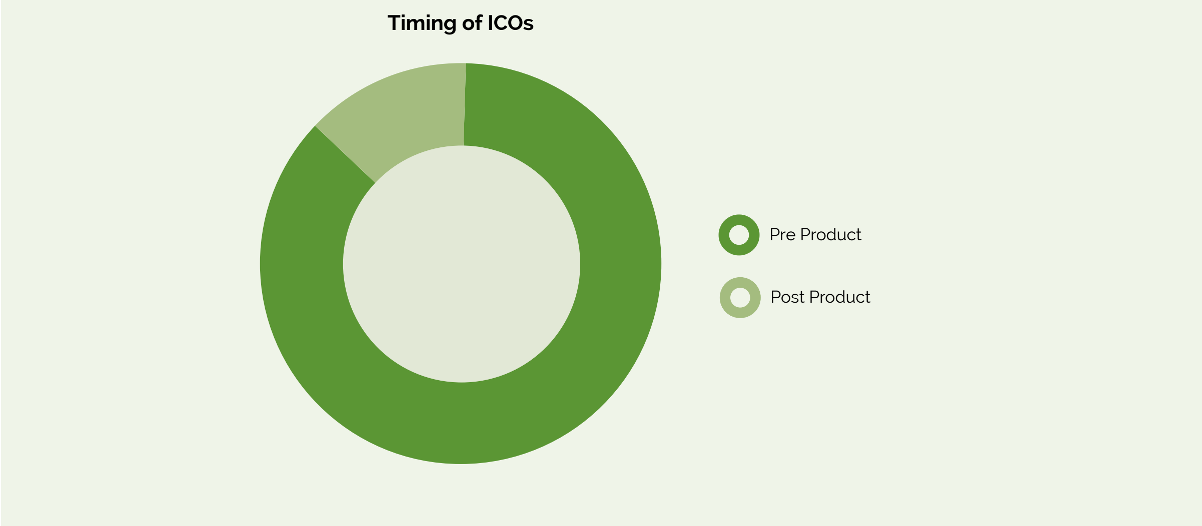
1. ICOs have so far been dominated by projects whose product innovation is reliant on blockchain technology. As a funding mechanism it is still largely confined to the blockchain community and has yet to go mainstream.



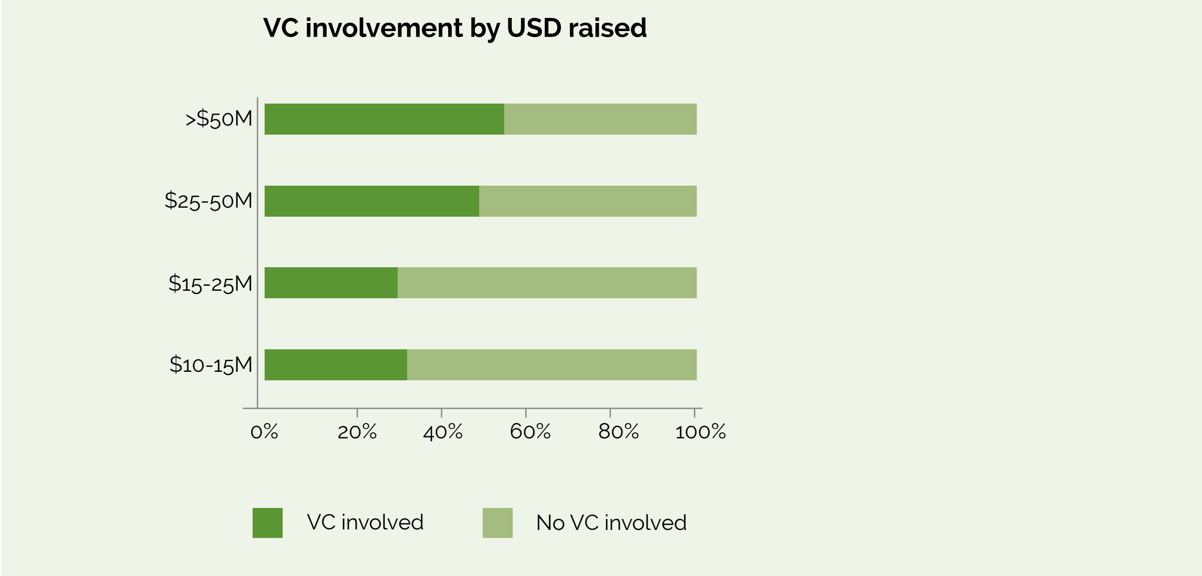
2. Large-scale ICOs (i.e. those over $10m) have been dominated by projects delivering services for either the blockchain economy or financial services.



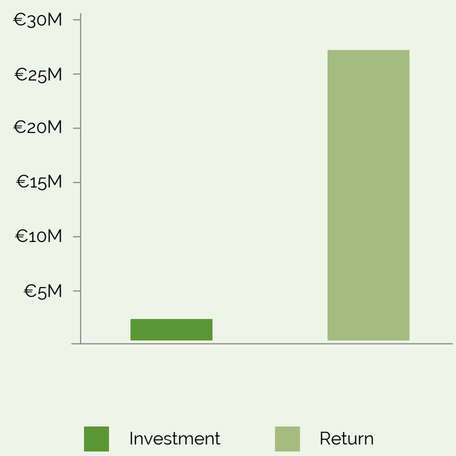
3. ICOs are typically being used to raise money ahead of product launch. Of the companies that had a product prior to their ICO, most already received venture funding (typically seed rounds).



4. The majority of the most successful ICOs were by projects that had previously raised traditional venture capital finance from respected investors (although numerous successful projects had not). This illustrates how companies can benefit from the involvement of top tier venture firms.



5. The average performance of ICOs to date has been nothing short of outstanding. If one had blindly invested €10000 in every visible ICO, including the significant number of ICOs that failed, this would have delivered a **+13.2x return.**



THE DISRUPTION OF TRADITIONAL VENTURE CAPITAL

With the ability to raise one enormous round of finance ahead of product launch without giving away the lion share of the business, it is difficult to argue that the venture capital industry will not be very significantly impacted by the rise of a regulated ecosystem for ICOs.

Many investors have been quick to point to the value that they provide over and above capital. It is true that a number of venture firms now have experience building very successful global businesses. They offer advice and assistance, as well as personal relationships. With the backing of a respected technology investor, an ICO is also likely to be more successful – just as it is on traditional equity crowdfunding platforms. But do entrepreneurs need the expertise of the ten or fifteen firms typically involved in a startup's growth journey when they can access these services from a single investor?

It is reasonable to assume that a growing market for ICOs will lead to a decreasing requirement for venture capital. The balance of power would likely tip from the investors to the entrepreneurs, driving a flight to quality firms with a track record of billion dollar exits and expertise in ICO financing. With less of a need for growth capital, a mature market for ICOs may be most detrimental to the firms that are focused on mid to late stage financing (as well as the technology investment banks that facilitate these rounds).

HOW DO ICOs CHANGE THE VENTURE CAPITAL INDUSTRY'S OPERATING MODEL?

Naturally, this does not put VCs out of the game. They are free to take capital and invest in startups of any kind, and, subject to authorisation from their own investors, could just as easily invest through Crypto into ICO as with FIAT into equity or convertible debt. There remains however one key difference - the rights of VCs. This is where the leopard may need to change its spots.

A VC investor demands substantial rights when investing in a company. These encompass everything from board and governance issues, through to economic rights in certain situations. Plus, by having a relatively large stake in the Company, a VC has voting and passive power. Many of the conflicts between VC and founders arise because of the power struggle that these rights sometimes create. In a world when the only option for a VC to invest becomes through an ICO, he will not be seeing these rights. He will need to be passive. His 'value add' will be limited. The largest internet companies seem to be successful despite low influence from VC, but what of the mid-tier? And from the company side, it will not benefit from the 'adult supervision' of the young founders by an experienced VC. If indeed that is a benefit. One thing for sure: the VC will have to get used to sitting back and watching.

The VC role of portfolio manager will also change. As discussed, VC investments are highly illiquid. All VCs have companies holding portfolio value that have been around for a long time, but have yet to offer opportunities for sale. Token-based investments are by the nature of the ERC20 tradeable. A VC can easily exit, but they can just as easily acquire interest in companies at any point in the company life, not needing to wait for a funding round.

Will we see a more active trading strategy from VCs, and in this case what will differentiate them from more normal actively managed investment funds? Perhaps nothing, perhaps it doesn't matter - but the rhythm of a weekly partners meeting and a monthly investment committee won't work in an active environment responding to real world events.

Internal governance will change too. As an active manager, VC will be able to freely trade. Today, a VC has virtually no trading capability or process. Companies create liquidity events when sold or listed, and the funds flow to the custodian of the VC in the fullness of time. The VC has no access to the funds and the sale event is usually substantially out of the control of the individual VC. And, in a crypto world, treasury management will be significantly different. The wild rides of Crypto and tokens will continue. Market making skills become interesting, as do fundamental understandings of how flash crashes and hostile events affect holdings. Today all international VC run currency treasury, but there's a substantial difference between USD/EUR/JPY and BTC/BTCC/BTCH/ETH.

Can existing VCs adapt? Perhaps filling a truck with diesel is the same as filling a horse with hay. But somehow the horse business seems to have fizzled out. As the ICO market matures over the coming years, it will be fascinating to see how this plays out.

WHAT WILL IT TAKE FOR ICOs TO BECOME LEGAL?

While a number of the entrepreneurs behind ICO projects have suggested that regulation can be circumvented, this shows a complete misunderstanding of the way regulatory supervision works. Laws exist to protect people and society against bad events. Projects that take advantage of loopholes can be closed overnight. In this way no VC or institutional investor would consider investment in such a project – no matter how attractive it may seem at the outset.

Interestingly, many projects today fit into existing regulatory frameworks and, with small changes to implementation rules, could easily be accommodated without anything other than a better understanding. Indeed, most of the rules are in place to protect small investors from being cheated through false investment schemes with no backing and no oversight. We should therefore expect that the existing, well-formulated rules would provide the basis of coming interpretations. Projects that more closely fit into existing structures are less likely to be problematic for regulators.

There are various approaches underway and we are seeking that regulators attempt to harmonise these in a way that permits:

1. Properly constituted companies to expand their equity ownership through a 'semi-public' offering
2. Companies to issue collateral in other forms than equity to investors, and that the appropriate controls and investor protections can be secured for such issuance
3. The establishment of regulated exchanges serving a similar function to existing public stock exchanges, but with a set of obligations tailored to this market segment
4. A definition of a new class of investors (enhancing the two existing categories of "accredited or public") such that investors who have a good understanding of a business and associated risks/opportunities can invest.

While the principle of an ICO is straightforward, the technical, execution and regulatory skills will not be obvious to the majority of companies. It's clear there is an emerging industry of advisors and platforms looking to capitalise on this new fundraising mechanism. In the mid term, it would be logical that a parallel structure to existing stock exchanges will be created - likely geographically and then vertically.

CONCLUSION

It is clear that ICOs present very real benefits for both companies and investors. While the funding mechanism has so far been broadly limited to the crypto community, this is likely to change as the market matures and as regulated platforms emerge. With significant implications on venture capital deal flow as well as the industry's operating model, it would be foolish to dismiss ICOs as scams or a fad that is unlikely to materialise. As the ICO market continues to grow, it is more likely that both entrepreneurs and institutional investors will actively seek out those firms that can still add value in the new token economy.

ABOUT THE AUTHOR

Michael Jackson is a partner at Mangrove Capital Partners and was previously COO at Skype, where he was responsible for rapidly growing an idea into a well-managed, high margin, multi-hundred million dollar business. Before joining Skype, Michael launched 9 mobile operations and 2 ISPs across Europe with Tele2. Michael is also on the board of Blockchain and is contributor to the Blockchain Policy Initiative. He graduated with honours from University College London with a degree in Communications Engineering and is a guest lecturer in their MBA program: The Business of Telecoms.

ABOUT MANGROVE CAPITAL PARTNERS

Mangrove Capital Partners (www.mangrove.vc) is Europe's leading early stage venture capital firm. Its team chases bold, transformational ideas around the world, with a combined focus on Europe and Israel. Mangrove works with top entrepreneurial talent at the earliest stages of innovation, with the aim of being the first institutional investor: the firm has co-created projects and regularly injects funds prior to product launch, often in unproven, unusual or unfavoured technologies. Mangrove manages more than $1 billion in assets and is headquartered in Luxembourg with offices in Berlin and Tel Aviv.

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