

REPUTATION AS CAPITAL

—

How Decentralized Autonomous Organizations Address Shortcomings in the Venture Capital Market

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Abstract-

Venture capital (VC) models can be optimized with emerging decentralized technology. After discussing the shortcomings of the existing VC market and the rise of alternative early round funding mechanisms, the paper highlights the evolution of VC businesses that are operated by a Decentralized Autonomous Organization (DAO).

Key Words: Venture Capital, Decentralized Autonomous Organization, Reputation, Decentralized Governance, Capital, Venture Funding, Finance, Token Models, Cryptocurrencies, Feedback Effects, Emerging Technology, Tokens, Blockchain, Distributed Ledger Technology

JEL Categories: K20, K23, K32, L43, L5, O31, O3

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I. Introduction

Financing options available to technology entrepreneurs are increasing. The hitherto almost exclusive focus on the access to venture capital (VC) investing firms is slowly eroded through a broadening spectrum of funding opportunities for technology startups. The spectrum of funding opportunities has expanded with the proliferation of independent business angels (BAs), business angel networks (BANs), crowdfunding platforms, initial coin offerings (ICOs), and initial decentralized exchange offerings (IDO), among others. These emerging and expanding decentralized funding opportunities are increasingly utilized, especially in the Silicon Valley tech startup industry.

Digital assets startups that grow rapidly into billion-dollar businesses with little or no VC funding have demonstrated that the traditional venture capital model alone was not enough to meet the funding needs of technology startups. As one case on point, in the late 2010s, Silicon Valley VC firm Andreessen Horowitz recently renounced its SEC VC classification and exemptions in favor of registering as an investment advisor company.² This move was motivated largely by a desire to give Andreessen Horowitz enhanced flexibility in investing in blockchain oriented financing strategies among other newer, riskier, and more unconventional capital investment methods with higher payout opportunities. Other VC firms have joined Andreessen Horowitz in moving away from conventional VC endeavors towards a more modern startup investment approach tailored to the emerging blockchain and crowdfunding technologies of the 21st century.

² Alex Konrad, *Andreessen Horowitz is Blowing Up the Venture Capital Model (Again)*, FORBES MAG., (Apr. 30, 2019), <https://www.forbes.com/sites/alexkonrad/2019/04/02/andreessen-horowitz-is-blowing-up-the-venture-capital-model-again/#34e901a57d9f>.

The current state of the VC market is trending towards a combination in the types of fundraising, starting with ICO and crowdfunding platforms to raise an initial round of capital, generate interest and publicity for the startup, and act as a litmus test for pitching the startup to BAs and VCs once there has been some success with the early rounds. Nevertheless, despite all the success stories, there is a low rate of investor success with all four varieties of capital investment.³

This article shows that decentralized reputation governance models in venture capital have the potential to upgrade the venture capital market. After discussing the shortcomings of the legacy VC market and emerging models for early round funding of digital assets startups, the paper evaluates reputation as capital as another alternative of the early round funding methods. The paper highlights the model evolution of reputation as capital models.

II. Shortcomings of the Existing VC Model

The existing VC model is subject to significant ongoing downsides that inhibits its ability to provide long-term value to the tech startup community. The existing market for fiat VC investments is subject to several significant downsides, especially in comparison with the market for early round digital asset investments.

1. Fiat VC Market

³ See *id.* See also Armin Schwienbacher, *Equity Crowdfunding: Anything to Celebrate?*, 21 VENTURE CAP.: INT'L J. ENTREPRENEURIAL FIN. (20TH ANNIVERSARY ISSUE) 1, at 65 (2019); STEFANO BONINI, VINCENZO CAPIZZI & PAOLA ZOCCHI, *The Role of Angel Syndicates on the Demand and Supply of Informal Venture Capital*, in NEW FRONTIERS IN ENTREPRENEURIAL FINANCE RESEARCH 13-49 (Anita Quas et al. ed., 2019) [hereinafter Bonini, *The Role of Angel Syndicates*].

a) Liquidity - Capital Calls and Raising Capital

One of the biggest problems in the traditional VC ecosystem is lack of liquidity.⁴ The traditional VC model disincentivizes generating early profits.⁵ Capital is “locked in” or “locked up” for an extended period of time. Once an investment is made, its success is highly dependent on a small group of managers and/or entrepreneurs.⁶ Investing in innovative technology requires substantial time to generate returns - at least seven years - and requires even longer to generate a profitable exit (usually via an IPO or M&A transaction).⁷ VC firms collect capital from Limited Partner investors for a period of 8-12 years.⁸ Venture capitalists invest with a view towards capital gain on exit and overall liquidity.⁹ In order to maximize liquidity, the most preferred routes are the most profitable exit routes.¹⁰ Moreover, VC investing is high-risk and VC are subject to regulation that negatively impacts liquidity.¹¹ Because of these liquidity downsides, companies are increasingly moving toward a “staying private” strategy by decreasing venture-backed exits.¹²

⁴ Brian Patrick Eha, *Why This Venture Capitalist Wants to Make Traditional VC Obsolete*, AM. BANKER (Apr. 3, 2017), <https://www.americanbanker.com/news/why-this-venture-capitalist-wants-to-make-traditional-vc-obsolete>.

⁵ Infor. Memorandum (VNX Exch.), Jul. 2019, at 5 [hereinafter VNX Exch.].

⁶ Vance H. Fried & Robert D. Hisrich, *Toward a Model of Venture Capital Investment Decision Making*, 23 FIN. MGMT. 3, 28-37 (1994).

⁷ VNX Exch., *supra* note 5, at 4.

⁸ VNX Exch., *supra* note 5, at 4.

⁹ Douglas Cumming & Sofia Johan, *Is Venture Capital in Crisis?*, WORLD ECONOMIC REV. (Jul. 16, 2012), <https://worldfinancialreview.com/venture-capital-crisis>.

¹⁰ *Id.* at 3.

¹¹ Bob Remeika, Arisa Amano & David Sacks, *The Regulated Token (R-Token) Standard*, HARBOR PLATFORM, INC. (Feb. 6, 2018) at 1. For discussion of regulatory initiatives aimed to facilitate VC fundraising, see Mark Fenwick & Erik P.M. Vermeulen, *How to “Fix” the Venture Capital Model? Regulation versus Disruption* (Lex Research Topics in Corporate Law & Economics Working Paper, Paper no. 2019-5 Aug. 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3449075.

¹² VNX Exch., *supra* note 5, at 5.

Early-stage funding fell from thirty-five to twenty seven percent of total VC funding as VCs increasingly focus on funding later-stage companies.¹³

The existing market for fiat VC requires the fiat VC funds to support capital calls with liquidity. In other words, VCs cannot deploy all the capital they raised in order to attain higher returns as they may be subject to capital calls that need to be funded. Because of their ability to maintain liquidity to support capital calls from their investors, traditional fiat VC funds are limited in their ability to deploy capital. Similar to insurance companies that are required to maintain certain cash reserves to fund possible policy payouts, traditional fiat VC funds need to maintain assets to fund future liabilities which affects their return on investment and overall fund performance.

Traditional fiat VCs are also required to spend significant amount of their time raising capital from limited partners. This time commitment to raising capital often distracts VCs from their main investing responsibilities as they are forced to spend more time with potential limited partners and their needs rather than dealing with due diligence on potential new and / or existing portfolio companies. In other words, time spent on limited partners and their needs is time taken away from portfolio company due diligence and efforts to make such portfolio companies successful. Because of this dynamic, the current VC model tends to reflect the networking and public relations ability of the VC's general partner instead of their capital allocation ability.

b) Downsides of Syndication

The VC industry started small¹⁴ so in order to diversify risk while maximizing return, firms syndicated their investments with other

¹³ VNX Exch., *supra* note 5, at 6.

¹⁴ Garry D. Bruton, Vance H. Fried, & Sophie Manigart, *Institutional Influences on the Worldwide Expansion of Venture Capital*, 29 ENTREPRENEURSHIP THEORY AND PRAC. 6, 737 (2005).

firms.¹⁵ Even as firm size grew and the need to syndicate in order to diversify risk declined, firms continued to syndicate in order to share resources including knowledge, legitimacy, and deal flow.¹⁶ Trust is central to the success of syndication.¹⁷

Syndication in traditional VC investment can be efficient and create economies of scale because VCs serve as an information-producing agent and decision-making agent for the investor.¹⁸ VCs actively search for prospects via their informal network, conference attendance, and executive search agencies in an identified market.¹⁹ Even in 1994, a VC had lower information-gathering costs through economies of scale, scope, and a learning curve.²⁰ The role of an intermediary is valuable, but in 1994, VC funds traditionally paid a management fee of 2.5% of assets per year, as well as 20% of any profits.²¹ A field study found firms from three US regions shared the same “dominant logic” or sets of beliefs about how VC firms and their portfolio companies should behave.²² This is unsurprising because professional standards with a strong normative set of beliefs for industry practice are set by a centralized entity - The

¹⁵ Bruton, *supra* note 14, at 739 (citing M.L. Reiner, The transformation of venture capital: a history of venture capital organizations in the United States, (1989) (Ph.D. dissertation, University of California, Berkeley) (ProQuest)).

¹⁶ Bruton, *supra* note 14, at 739 (citing Olav Sorenson & Toby Stuart, *Syndication Networks and the Spatial Distribution of Venture Capital investments*, 106 AM. J. SOCIO. 6, at 1546 (2001)).

¹⁷ Bruton, *supra* note 14, at 739 (citing Sorenson, *supra* note 16).

¹⁸ Fried, *supra* note 6, at 36. For discussion on agency theory and VC, see Paul A. Gompers, *Optimal Investment, Monitoring, and the Staging of Venture Capital*, 50 J. FIN. 5, 1461, 1463-67 (1995).

¹⁹ Tyzoon T. Tyebjee & Albert V. Bruno, *A Model of Venture Capitalist Investment Activity*, 30 MGMT. SCI. 9, 1051, 1055-1056 (Sep. 1984).

²⁰ Fried, *supra* note 6, at 35-36

²¹ Fried, *supra* note 6, at 36.

²² Bruton, *supra* note 14, at 739 (citing Fried and Hisrich, *The Venture Capitalist: a Relationship Investor*, 37 CAL. MGMT. REV. 2, 101 (1995)).

National Venture Capital Association. Its membership is strictly voluntary with expensive membership fees.

Yet, syndication and deal organization is time consuming and expensive for traditional VCs. Deal organization refers to the processes by which deals enter into consideration as investment prospects.²³ Intermediaries play an important role in finding VC prospects²⁴ because the typical investment prospect is too small a company to be readily identifiable as a potential candidate.²⁵ Intermediation drives up cost. Referrals are made through syndication, prior investees and personal acquaintances, banks, and investment brokers. These referrals are more likely to pass through the first screen because the capitalist has confidence in the referrer's judgment and the referrer is more likely to understand what type of investments may appeal to the capitalist.²⁶ Syndication is a referral within the VC community where the referrer is the lead investor seeking participation of other VC funds.²⁷

c) Cost of Deal Screening and Structuring

Deal screening is a significant cost factor for traditional VC firms. Firms with small staffs screen a relatively large number of potential available deals.²⁸ Investments are typically limited to areas with which the VC is familiar, particularly in terms of the technology, product and market scope of the venture.²⁹ Initial screening is based on criteria of 1) investment size and policy of the fund; 2) venture

²³ Tyebjee, *supra* note 19.

²⁴ Tyebjee, *supra* note 19, at 1052.

²⁵ Tyebjee, *supra* note 19, at 1052.

²⁶ Fried, *supra* note 6, at 32.

²⁷ Tyebjee, *supra* note 19, at 1056. For in-depth discussion on syndication, see Joshua Lerner, *The Syndication of Venture Capital Investments*, 23 FIN. MGMT. 3, 16 (1994).

²⁸ Tyebjee, *supra* note 19, at 1052.

²⁹ Tyebjee, *supra* note 19, at 1052-53.

technology and market sector; 3) venture geographic location; and 4) financing stage.³⁰

Deal evaluation and risk assessment in traditional VC is fraught with inaccuracies and suboptimal incentives. VCs weigh several characteristics to assess the perceived risk and expected return of a prospective venture in deciding whether or not to invest.³¹ VCs subjectively assess the prospect's business plan because the majority of ventures in search of capital have little, if any, operating history.³² The analysis is multi-dimensional³³, in the areas of 1) market attractiveness, 2) product differentiation, 3) managerial capabilities, 4) environmental threat resistance, and 5) cash-out potential.³⁴ A potential drawback of this process is that perceptual, emotional, and cognitive processes impact the decision in addition to financial decisions because the evaluation criteria is made through subjective human decision-making.³⁵ Additionally, none of those criteria reflect how a prospective deal may correlate with one already in the capitalist's investment portfolio.³⁶

Finally, significant information asymmetries can lead managers to engage in opportunistic behavior after an investment is made.³⁷ Venture capitalists are not involved in day-to-day operations of the venture, but they can intervene in the case of financial or managerial crisis, and because capitalists typically want to cash-out their gains five to ten years after initial investments, they play an active role in directing the company towards a merger, acquisition, or public

³⁰ Tyebjee, *supra* note 19, at 1056-57. For discussion of financing stage, see Paul A. Gompers, *Optimal Investment, Monitoring, and the Staging of Venture Capital*, 50 J. FIN. 5, 1461, 1475-84 (1995).

³¹ Tyebjee, *supra* note 19, at 1051.

³² Tyebjee, *supra* note 19, at 1053.

³³ Tyebjee, *supra* note 19, at 1053.

³⁴ Tyebjee, *supra* note 19, at 1051, 1053-54.

³⁵ Fried, *supra* note 6, at 29.

³⁶ Tyebjee, *supra* note 19, at 1053.

³⁷ Fried, *supra* note 6, at 28.

offering.³⁸ This can have significant downsides for the portfolio companies and their products.

2. *Digital Asset VC Market*

Traditional VCs experience often significant problems in entering the market for digital assets or maintaining their momentum in the market. Several factors help explain their struggles. Among those are the significant volatility of the digital asset market and lacking expertise of traditional VCs in the digital asset market which is still dominated by several key specialized players. Moreover, traditional VCs often cannot effectively compete with the ever-increasing array of decentralized token offering avenues.

Traditional VCs are often also not able to effectively invest in the digital asset market because they need to defend their investment choices to their own investors. Because of that, traditional VCs are often reluctant to invest in digital asset startups with little history or sales records. Digital asset startups often increase the level of due diligence for VCs because digital asset startups typically have less trackable information on product and performance.³⁹ At the same time, successful digital asset startups provide a significant upside for VC investors. As a result, some traditional VCs create a digital asset arm or specialize entirely.

³⁸ Tyebee, *supra* note 19, at 1054. For discussion on VC firms taking companies public, see Paul A. Gompers, *Grandstanding in the Venture Capital Industry*, 42 J. FIN. ECONOMICS 133, 133-156 (1996).

³⁹ Stefano Bonini & Vincenzo Capizzi, *The Role of Venture Capital in the Emerging Entrepreneurial Finance Ecosystem: Future Threats and Opportunities*, 21 VENTURE CAP.: INT'L J. ENTREPRENEURIAL FIN. 2-3, 137-175 (2019) [hereinafter Bonini, *The Role of Venture Capital*]; Jonas Löher, *The Interaction of Equity Crowdfunding Platforms and Ventures: An Analysis of the Preselection Process*, 19 VENTURE CAP.: INT'L J. ENTREPRENEURIAL FIN. 1-2; Lars Hornuf, Matthias Schmitt & Eliza Stenzhorn, *Equity Crowdfunding in Germany and the United Kingdom: Follow-up Funding and Firm Failure*, 26 CORP. GOVERNANCE: INT'L REV. (SPECIAL ISSUE) 5, 331-354 (2018), Konrad, *supra* note 2.

III. Alternative Early Round Funding Mechanisms

Alternative early round funding mechanisms fill an important gap in the funding options available to tech entrepreneurs. VC are typically looking for the next Facebook. However, the lack of a company track record makes investing in such companies informed speculation at best.⁴⁰ As a rule of thumb in the early investment rounds, the lower the information asymmetry, the lower the payout. Below a certain threshold of established value, VCs will rarely invest. In order for tech entrepreneurs to reach that threshold, alternative early round funding options BAs, BANs, ICOs, IDOs, and crowdfunding platforms are becoming increasingly important.⁴¹ These alternative funding methods are important to get entrepreneurs over the VC investment threshold, or to help entrepreneurs completely bypass of the VC model.⁴²

At its peak in the 2019 cycle, the volume of ICOs has surpassed VCs and BAs as a fundraising method for startups.⁴³ BAs are particularly attractive to tech startups in comparison with the VC market⁴⁴ and VCs are increasingly taking a backseat to newer forms of early round startup funding.

Tech entrepreneurs are increasingly drawn towards the less formal relationships that are typically cultivated between alternative early round funding methods and tech entrepreneurs. Whereas strict contractually-focused relationships with VCs are focused primarily on a data driven approach that emphasizes financial returns, putting less emphasis on helping with the growth of the startup, alternative early round funding mechanism often develop a more personal

⁴⁰ Konrad, *supra* note 2.

⁴¹ Lin Lin & Dominika Nestarcova, *Venture Capital in the Rise of Crypto Economy: Problems and Prospects*, 16 BERKELEY BUS. L. J. 2, 533 (2019).

⁴² Bonini, *The Role of Venture Capital*, *supra* note 3.

⁴³ Lin, *supra* note 41.

⁴⁴ Bonini, *The Role of Angel Syndicates*, *supra* note 3; Löher, *supra* note 39.

mentor-mentee relationship with the entrepreneur. Such alternative early round funding mechanism often provide effective advice and assistance in formulating a business plan and marketing the startup company.⁴⁵ This soft monitoring approach is increasingly favored over the hard monitoring conducted by VCs.⁴⁶ Key for the success of the relationship-based approach of alternative funding mechanisms is often the establishment of an effective developer team that can help the technology come to fruition.

Key distinguishing features often favor alternative early round funding mechanisms over traditional VC investments. Information asymmetries increase in traditional VC investment rounds as startups are incentivized to self-censor when engaging with VCs, as they have little data to work with, and are reluctant to overexpose themselves to prospective investors.⁴⁷ By contrast, the soft monitoring approach of alternative early round funding mechanisms tends towards a nurturing, mentoring role which not only encourages forthrightness, but actually coaches these startups on how to present themselves to other investors in further fundraising rounds, and how to market the company to the public. Traditional VC fee-based compensation mechanism are often less competitive than the compensation structures used by alternative early round funding mechanisms. The typical VC fee-based compensation structure can lead to serious shortcomings, including excessive fundraising, suboptimal investments, misevaluation, and overfunding of the portfolio companies during a fund's holding period. Technologically sophisticated tech entrepreneurs often prefer alternative early round funding mechanisms in the first financing round, whereas VCs are more capable of longer-term value enhancement.⁴⁸ Because of this dynamic, tech entrepreneurs are required to engage in a daunting balancing act alternative early

⁴⁵ Bonini, *The Role of Venture Capital*, *supra* note 39.

⁴⁶ Bonini, *The Role of Venture Capital*, *supra* note 39.

⁴⁷ Bonini, *The Role of Venture Capital*, *supra* note 39.

⁴⁸ Löher, *supra* note 39.

round funding mechanisms and VCs, and in deliberating between the soft monitoring benefits provided by alternative early round funding mechanisms and the value-add benefits of VCs.

Alternative early round funding mechanisms are not necessarily more successful than VCs in early round tech investing. Whereas alternative early round funding mechanisms often tend to act out of intuition and personal experience, VC typically use a primarily data driven approach to investment decisions and portfolio company evaluation and supervision. Tech entrepreneurs who work with alternative early round funding mechanisms are subject to external factors affecting such early round investors individually, including liquidity problems, eccentricity, personality issues, and differing visions for management of the company's present and future. These shortcomings can contribute to the success but also to the downfall of alternative early round funding mechanisms.⁴⁹

The evidence on the success and failure rate of alternative early round funding mechanisms is mixed. These trends are continuously evolving. Especially the analysis of crowdfunding and ICOs, among other alternative early round funding mechanisms, is ambiguous at best as little is known about the investors themselves in these contexts.⁵⁰ The evidence suggests that startups are generally not relying on VCs for capital until later rounds of fundraising, and use alternative early round funding mechanisms for the earlier rounds.⁵¹ Overall, the volume tech startup relationships with alternative early round funding mechanisms has grown to match that of VC-startup relationships.⁵² While alternative early round funding mechanisms

⁴⁹ See Bonini, *The Role of Venture Capital*, *supra* note 39 (analyzing data on Italian, German, UK and US VC markets); Bonini, *The Role of Angel Syndicates*, *supra* note 3; Löher, *supra* note 39; Konrad, *supra* note 2; Lin, *supra* note 41.

⁵⁰ Löher, *supra* note 39; Schwienbacher, *supra* note 3.

⁵¹ Bonini, *The Role of Venture Capital*, *supra* note 39; Konrad, *supra* note 2; Lin, *supra* note 41.

⁵² Bonini, *The Role of Venture Capital*, *supra* note 39.

are increasingly used by tech startups in early rounds,⁵³ these methods frequently fail to provide adequate funding to fully launch a new company. A significant number of tech startups that rely exclusively on these methods fail.⁵⁴

IV. Reputation as Capital

The concept of “Reputation as Capital” introduces another early round funding alternative. The concept introduces several optimization metrics compared with other early round funding alternatives.

The novelty of “Reputation as Capital” lies in the decentralized and democratized capital allocation functionality enabled by the DAO design. The DAO proposed herein consists of a group of VCs, who roughly correspond to the general partners or shareholders of a venture firm. These VCs each hold a predefined number of reputation tokens in the DAO which allows them to stake their reputation on certain deal/investments that are listed on the non-custodial deal platform of the DAO. The VC’s proportional holdings of these reputation tokens is likely to increase over time if the VC follows sound and successful practices by way of staking the VC’s reputation tokens on investment proposals and succeeding in the selection of portfolio companies together with other VCs who also stake their reputation tokens for or against a given investment proposal.

Reputation tokens serve multiple purposes in the VC investment process. It is important to note that the reputation tokens are separate and distinct from the fiat currency or other fungible tokens that may be used to pay for investments in portfolio companies.

⁵³ Lin, *supra* note 41; Bonini, *The Role of Venture Capital*, *supra* note 39; Hornuf, *supra* note 39; Schwienbacher, *supra* note 3.

⁵⁴ Schwienbacher, *supra* note 3; Konrad, *supra* note 2.

First and foremost, only reputation token holders are allowed to participate in the portfolio selection process which materializes by way of reputation staking on investment proposals.

Second, reputation tokens serve as claims on the future cash flows generated by the DAO. The cashflows in the form of fungible cryptocurrencies are paid in proportion to each DAO members' non-fungible reputation token holding. More specifically, the returns on investments (ROI) collected by the DAO are distributed among the reputation token holders in proportion to their reputation token holdings. The ROI functions as a reputation salary that gets paid in proportion to each VC's reputation token holdings. It is important to note that ROI is only partially considered the revenue of the individual VCs who committed capital. Rather, the ROI is treated as DAO revenue that gets partially shared pro-rata based on investment amounts committed by each VC and partially shared as a reputation salary which is shared among the DAO's VC participants. Accordingly, the value of the reputation tokens is a function of the ROI of the DAO.

Furthermore, VCs who support investment proposals by staking their reputation tokens are rewarded with a certain number of newly minted reputation tokens as salaries, based on a predetermined formula. Accordingly, the total number of tokens grows over time.

The "Reputation as Capital" model emphasize the GP's reputation in capital allocation which would over time free the GP's from having to commit actual capital if they stake their reputation. If VC reputation is truly meaningful, whales can commit/stake reputation to fund a project that is then not actually funded with capital by the whale but rather by the market / LPs. If whales stake but the market commits for their stake with capital, whales should still have the right to receive (part of) the ROI because it is their reputation that is at stake. Whales are not required to commit capital and don't have to support capital calls with liquidity. Networking and PR would take place at the beginning of the Fund through the Founders - e.g. "ride with the whales" but as whale reputation solidifies, they no longer have to commit capital to deals they staked reputation for. The system with the best incentive alignment and therefore with the most long-term likelihood of success emphasizes the reputation of

its members as a means of capital allocation in a fair and equitable way.

V. Model Evolution

Calcaterra, Kaal, and Rao modelled the replacement of capital in the context of underwriting.⁵⁵ Reputation as Venture Capital is different and has to be distinguished from the reputation as capital replacement that is enabled in the Calcaterra et al. model. Unlike decentralized underwriting where capital is only needed when a file is claimed, and premia from the underwriting contracts can continue to fund those who stake reputation on an underwriting engagement in lieu of capital, reputation in venture capital needs to fill the role of capital for each funded venture deal.

In the decentralized underwriting model premia are paid by customers on the underwritten insurance policies fund the reputation staked on to underwrite policies. The market only replaces reputation as capital if and when a reputation underwriter decides not to stake or to otherwise sell the reputation to the open market. In that case, the market will jump at the opportunity to replace a reputation holder in the underwriting DAO because market participants are looking to participate in the flow of premia that are used as reputation salaries. By contrast, in the reputation as venture capital model, the reputation is funded over time by the market for each venture deal for which venture capital funds are staking reputation tokens in addition to capital to fund the respective deal.

1. Basic Model

⁵⁵ Craig Calcaterra, Wulf A. Kaal, & Vadhindran K. Rao, *Decentralized Underwriting* (May 30, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3396542.

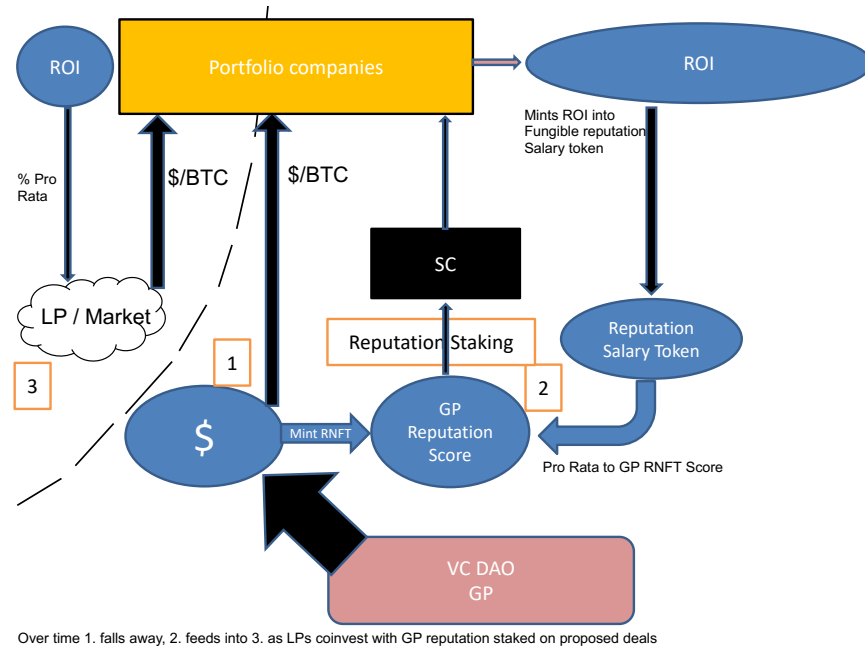


Figure 1. The incentive compatible model.

This model in Figure 1 illustrates the signaling function a well-functioning VC DAO can provide for the digital asset investment market. Here, the VC DAO GP fully transparently allocates pooled assets to digital asset portfolio companies. The only LP participation is taking place by following directly the GP investments. The VC DAO GP does not benefit from those LP investments directly.

Importantly, the model in Figure 1 does not rely on reputation staking exclusively. Rather, the VC DAO GP invests both fungible cryptocurrency from a pool as well as non-fungible and minted reputation on the portfolio companies. This duality does not allow for the full benefits that are generated if non-fungible reputation is staked alone on the deals.

Figure 1, however, illustrates the early phases of a VC DAO GP that uses reputation as capital as in this model the ROI is already paid out in proportion to the reputation scores of each VC DAO GP.

2. Hybrid VC Model with Traditional Legal Structure

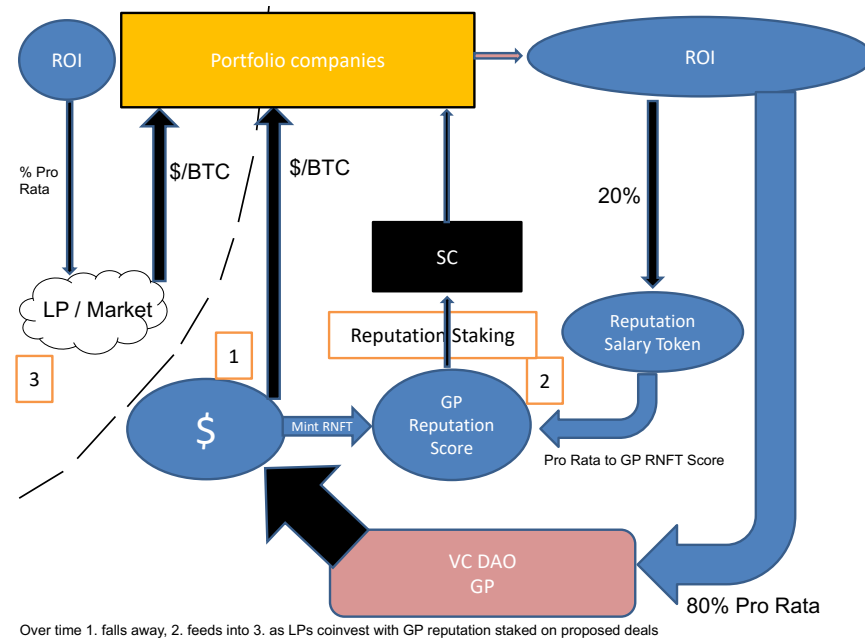


Figure 2. The hybrid model of a VC DAO.

For many economic and business reasons and because of significant path dependencies in the capital formation and capital allocation process with existing venture capital models, the above illustrated ideal-typical reputation-based capital allocation model in Figure 1 is less likely to be created in the short term. Perhaps after a longer experimentation period with some of the hybrid models discussed below, the ideal-typical reputation-based capital allocation model will become more widely considered. Ultimately, all the models discussed in this article contribute to the much-needed experimentation with venture capital reputation models.

The below summary provides an overview of a hybrid model in Figure 2 that enables a traditional ROI for 80% of capital committed on a pro rata basis but also allows the use of reputation staking and staking rewards as salaries which is financed with 20% of the returns on capital committed. 80% of returns are allocated to investors pro rata as ROI. 20% of returns are allocated to the reputation salary pool.

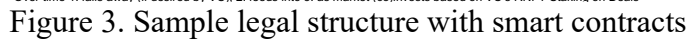
GP Whales get reputation tokens allocated pro rata to their capital commitments. Founders get 2% of AUM annually as service fee via separate contract. Founders also get % of reputation. GP whales initially fund projects and build reputation. Founders marketing revolves around a “ride with whales” mantra. LPs do not get reputation tokens but instead receive fungible investment tokens in the Fund.

Investment tokens are the fungible instantiation of the reputation gains of the whales. As a track record forms, whales no longer have to stake capital for projects to which they stake reputation. LPs can bid for the right to commit capital for a project the whales upvoted via reputation stakes. Whales still participate in the success of each upvoted project through 20% of Fund’s returns allocation to the reputation salary pool, which gets paid out proportional to each whale’s reputation score.

Whales who proposed projects that were upvoted by the validation pool receive a bump up in their reputation. This process follows a process of decentralized governance.⁵⁶ Through the decentralized governance precedent system, projects that were upvoted by the Whale validation pool and have the highest comparative ROI get more citations in the reputation system and continually enhance the reputation of the whale who sourced and proposed it.

3. *Hybrid VC Model with Smart Contracting*

⁵⁶ Craig Calcaterra, Wulf A. Kaal, & Vadhindran K. Rao, *Blockchain Infrastructure for Measuring Domain Specific Reputation in Autonomous Decentralized and Anonymous Systems*, Univ. St. Thomas (Minn.) Legal Stud. Rsch. Paper Series No. 18-11, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3125822.



In order to interact with the real world, the VC DAO needs a legal wrapper. Otherwise, everyone involved in the DAO may be jointly and severally liable in any jurisdiction. In the case of a VC DAO incorporated as a Swiss Association, the assembly (of members of the Swiss Association) would consist of all the VC Funds that get upvoted as members (by the existing members following decentralized governance) after contributing Capital. RNFT is minted and allocated to VCs in proportion to the DAI contributed by each VC. The Delegate Association Member (DAM) represents the VC DAO members in the Association and to the Association's board. The Association's board acts as the agent of the VC DAO in the real world.

The problem with this model is that VCs are incentivized partially to fund and stake only on the best deals and stake on the less optimal deals that are mostly funded by the market. This undermines their long-term reputation accumulation as some VCs may play favors and sacrifice their reputation to gain more on the investment side. It is possible to mitigate these incentives that undermine the long-term success of the system. For example, it is conceivable that staking on deals by VCs mandates capital commitments to the deals but that VCs can over time lower their capital commitments and increase their staking.

4. Incentive Optimized Reputation Model with Smart Contracts

A better system would avoid this scenario by emphasizing the reputation in the system by prohibiting capital investment into portfolio companies after an initial minting of reputation in proportion to incoming capital. For purposes of this minting ratio, and for the optimal incentivization thereafter, it would be preferable to keep the minting of reputation tokens equally proportional to incoming capital. In other words, in order to start every incoming venture capital fund with the same reputation capital, all incoming capital would preferably be the same pro rata.

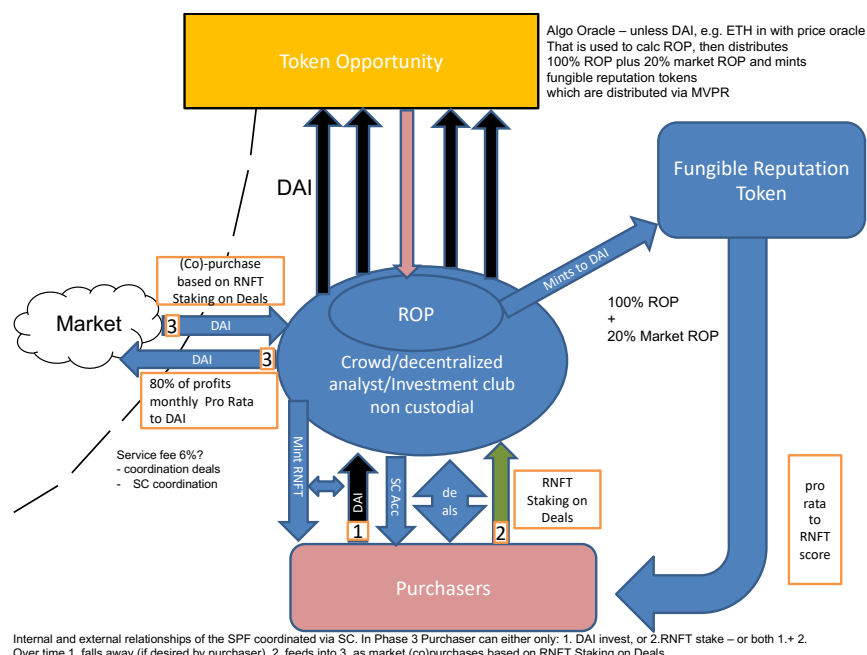


Figure 4. Non-Custodial DAO Investment Club Model with Smart Contracts

Figure 4 illustrates the early stages of a non-custodial DAO Investment Club model (DAOIC) with smart contracts. In this model, all of the ROP is minted into fungible reputation tokens that get paid as reputation salaries following decentralized governance. This model provides the best incentive alignment for DAOIC members with the highest potential return for all involved.

Every original member of the DAOIC starts with the same capital commitment that gets minted into RNFT. Future members may be onboarded with deal proposals by way of the existing DAOIC member vote following decentralized governance. Newly onboarded DAOIC members start with the same capital commitment as the original members and the corresponding RNFT score.

Because the public co-purchases with the DAOIC members and expects to pay a price for the right to benefit from the collective wisdom of the DAOIC members and the deal pipeline they can together generate, the public should expect to pay the usual 2/20 fees. Accordingly, the DAOIC members get paid 100% of their

respective ROP from their capital commitment plus 20% ROP from the public's capital commitment on the respective deal.

Depending on the deal structure, the 20% ROP may significantly outweigh the 100% ROP each DAOIC member would receive from their own allocation of capital.

Over time, the members of the DAOIC do not need capital any longer. All they need is the ability to stake RNFTs on newly proposed incoming deals. The public market funds the deals and the DAO members get paid via the 20% public ROP minting to fungible reputation token.

If members still wish to commit capital on particular deals they can get into deals on the public market side, based on the same conditions. But, they would in essence be paying themselves with the 20% of ROP.

The removal of capital as a necessity for deal participation creates a very high level of flexibility for DAOIC members. It allows the DAOIC members to invest if they so choose but it does not force them to invest, under any conditions. Capital calls are entirely unnecessary.

DAOIC members can decide which deals are so good that it would be worth paying themselves the 20% of ROP. Presumably most deals would be worth it. However, the nature of the publicly listed fungible reputation token is a much better value proposition for the DAOIC members, especially in the long run. If a DAOIC member suffers a liquidity crisis, such member still participates in the fungible reputation salary payouts.

Not only are members sharing in the ROP of the market with 20%, which may be much more in the aggregate than the individual DAOIC members' ROP, the model also amplifies the DAOIC member returns because only DAOIC members get paid in fungible reputation tokens.

Such tokens are themselves a significant value proposition because the fungible reputation token is based on the deal pipeline upvoted via RNFT. The token represents the collective wisdom of the DAO

investment club members, and in addition, the total ROP (100% Member PLUS 20% Public ROP) on each deal.

The combined effect of these factors will likely cause the public perception and corresponding market valuation of the fungible reputation tokens to be very favorable.

The collective wisdom of DAOIC members helps hedge against purchase risk. Moreover, because the applicable decentralized governance with loosely and tightly coupled votes will very likely make all tightly coupled votes unanimous, no DAOIC member loses RNFTs and continues to receive the stream of fungible reputation tokens. Fungible reputation tokens can be sold to the market as needed by DAOIC members which provides enhanced liquidity for VC participants.

The life cycle of the DAOIC involves different phases. During phase 1, the DAOIC brings in members with their deals and mints RNFT in proportion to incoming capital. In phase 2, DAOIC members stake RNFT on incoming deals. The capital committed by DAOIC members is allocated on the deals and ROP is paid out in fungible reputation tokens in proportion to each DAOIC member's RNFT holdings. During phase 2 the fungible reputation token is listed on digital asset exchanges. This allows the DAOIC members to use the fungible reputation token for their own liquidity needs.

The shift away from capital starts incrementally. DAOIC members may still need to commit capital in phases 1 and 2. However, the move away from capital commitments is already possible. For example, in phases 1 and 2, if the market co-purchases at 50% of capital commitment of a given deal and 20% of the corresponding ROP on such deal is allocated to the fungible reputation token minting pool, which is shared only by the DAOIC members, then the DAOIC members would in the aggregate be better off keeping their own ROP at 100% (which is proportional to their capital commitment) combined with the 20% of ROP from public/market capital commitments in the fungible reputation token, which is paid out proportionally to RNFT score. This is especially true considering that the fungible reputation token is itself an investment proposition that amplifies the DAOIC members' initial capital commitment.

During phase 3, the public co-purchases deals based on the RNFT staking on deals by the DAOIC members. The public receives their ROP pro rata to capital commitment in DAI. Phase 3 enables a consolidation of the shift away from capital. In phase 3, if the market purchases 100% of capital commitment of a given deal, based on DAOIC member staking on the deal, and 20% of the corresponding ROP on such deal is allocated to the fungible reputation token minting pool, which is shared only by the DAO investment club members, then the DAOIC members would in the aggregate be better off keeping their own ROP at 100% (which is proportional to their capital commitment) combined with the 20% of ROP from public/market capital commitments in the fungible reputation token, which is paid out proportionally to RNFT score. DAOIC can still invest on the public side if they so choose.

VI. Conclusion

The existing VC model is subject to significant ongoing downsides that inhibits its ability to provide long-term value to the tech startup community. The existing market for fiat VC investments is subject to several significant downsides, especially in comparison with the market for early round digital asset investments.

The reputation as capital model has the potential to overcome many of the downsides in the existing legacy VC market. Reputation as capital has the potential to lower capital requirements for VC businesses significantly and increase liquidity at unprecedented levels because VCs fungible reputation tokens can be sold to the market as needed by. In turn, the removal of capital as a necessity for deal participation creates a very high level of flexibility for VCs. It allows VC to invest if they so choose but it does not force them to invest, under any conditions. Capital calls become entirely unnecessary. VC that suffer a liquidity crisis, would still participate in the fungible reputation salary payouts.

The industry is still experimenting with different forms of DeFi capital replacement schemes. It will take time to filter out those designs that have unanticipated side effects, unexpected hidden

incentives and associated behavioral patterns and capital flows. Yet, the experimentation has already started in 2020 and new designs and projects materialize quickly with unexpected success stories.