Cryptocurrency Token Sales, Fund Diversion, and Venture Capital Backing

Edmond Baranes* Ulrich Hege† Jin-Hyuk Kim‡

Abstract

We analyze a model of cryptocurrency token sales in which tokens provide consumption utility at a diminishing rate and are traded on a secondary market. To explain the high failure rate and widespread fraud allegations during the initial token financing boom around 2017, we assume that, in the absence of third-party monitors such as venture capital (VC) firms, token issuers may divert a portion of the funds raised for private benefit. We show that some fund diversion can arise in equilibrium even when investors hold rational beliefs regarding post-ICO investment, although it is more prevalent when they hold naive beliefs. We then derive contrasting predictions on the relationship between issuer token retention and project success depending on whether a project has VC backing, and show that data from the first wave of the token financing boom lend support to the model's predictions.

Keywords: cryptocurrency; initial coin offering; naive beliefs; rational expectations; venture capital

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*University of Montpellier. Avenue Raymond Dugrand, 34960 Montpellier Cedex 2, France. Email: edmond.baranes@umontpellier.fr.

†Toulouse School of Economics. 1, Esplanade de l'Université, 31080 Toulouse Cedex 6, France. Email: ulrich.hege@tse-fr.eu.

‡University of Colorado at Boulder. Department of Economics, Boulder, Colorado 80309, USA. Email: jinhyuk.kim@colorado.edu.

1 Introduction

Cryptocurrency token crowdsales, also known as Initial Coin Offerings (ICOs), are a new method of financing blockchain-based projects.[1] The first wave of ICOs emerged unexpectedly and grew rapidly, raising about $4.9 billion in 2017 (Crunchbase, 2018). In many of these ICOs, issuers claimed to offer utility tokens that could be used to purchase digital goods and services once the proposed projects were successfully developed. Many enthusiasts invested in ICOs based solely on so-called white papers containing project descriptions but not a working product or prototype.

However, as early as 2018, journalists reported that few people knew where the money raised through ICOs had gone (Forbes, 2018). Industry reports also suggested that many of these ICOs failed without producing a prototype (or alpha release) often because issuers had taken the money and disappeared or gradually faded into obscurity (e.g., Sedgwick, 2018). It has been found that, by late 2018, about 30% of projects were presumed to have failed because they either no longer maintained an active website or were not found on CoinMarketCap, a platform that tracks cryptocurrency trading (Howell et al., 2020).

We show that, after about a decade from the ICO boom, more than 80% of ICOs appear to have failed, having generated post-ICO token returns of -90% or lower, implying widespread investor losses. Perhaps unsurprisingly, one reason is that ICOs had weak governance mechanisms. For instance, only about 30% of ICOs during this period had an escrow arrangement, whereby the raised funds could be released gradually or only after specified milestones had been completed. Moreover, even governance mechanisms were of less concern to ICO investors than, say, perceived team quality (Deng et al., 2019).

Hence, the main inefficiency in ICOs lies in issuers' incentives to misappropriate raised funds without developing the proposed projects. We propose a model of ICOs that can explain this feature regardless of whether investors are rational or hold naive beliefs. That

[1] A coin (e.g., Bitcoin and Ether) usually refers to a digital asset native to its own blockchain, whereas a token is created on an existing blockchain. ICOs can create either tokens or coins; however, we focus on ICO tokens in this paper.

is, in our model, the consumption value of tokens is determined by a concave utility function and a simple market-clearing condition. Investors may be fully rational or naively believe that the token issuer will invest the entire ICO proceeds in project development. In the absence of third-party monitoring (such as by venture capital firms), the issuer may optimally choose to divert a portion of the raised funds for private benefit.[2]

The primary prediction of the model is that the relationship between the share of tokens sold in an ICO and project investment (hence, the likelihood of success) is initially positive but becomes negative beyond a certain threshold, because issuers begin diverting funds for private benefit. However, if an ICO project has venture capital (VC) backing, this relationship remains positive at all levels of tokens sales, given VC's monitoring of the funds raised via the ICO. We then show that these predicted associations are supported by data from the early ICO boom collected by Fahlenbrach and Frattaroli (2021).[3]

We predict that, as the ICO market matures, an increasing share of investors become fully rational in the sense that they understand issuer's incentives to divert funds post ICO. In turn, this makes their ICO participation more difficult, worsening financing terms for issuers. Thus, more token issuers may seek VC involvement to signal strong off-chain governance and commitment to spend the raised funds as intended, increasing investors' willingness to participate in ICOs. We therefore argue that, in the long run, VCs can improve the efficiency of the ICO market, and the contrasting patterns in the relationship between the share of tokens sold in an ICO and project success will persist.

We thus contribute to both the literature on the effects of VC monitoring and the literature on ICOs by linking these two streams more closely. The former literature is traditional and well established. For instance, Campbell and Frye (2009) show that VC-backed firms employ governance structures with higher levels of monitoring than non VC-backed firms,

[2]Real-world evidence is suggestive of wider problems. For instance, the US Federal Trade Commission found that $575 million in crypto losses in 2021 involved bogus investment opportunities, with ICO proceeds going directly into issuers' pockets (Fletcher, 2022).

[3]We would like to thank Fahlenbrach and Frattaroli (2021) for making their dataset publicly available. Their sample size is smaller (306) than those used in other studies, but the characteristics of their sample are similar to those of the broader sample used in, e.g., Lyandres et al. (2022).

and that firms backed by high-quality VCs exhibit greater overall monitoring levels than those backed by low-quality VCs. Similarly, Chemmanur et al. (2011) find that the efficiency of VC-backed firms is higher than that of non VC-backed firms, and that the increase in efficiency is greater for firms backed by high-reputation VCs, suggesting that such VCs have stronger monitoring capabilities.

Our findings extend this literature to the ICO context by showing that the effects of VC monitoring remain significant in this innovative sector. In particular, we find that the effect of VC backing on the survival of ICO projects is significant for VCs specializing in blockchain technologies, but not for generalist VCs. This complements the findings by Camelo and Duarte (2025), who show that VC-backed firms achieve greater ICO fundraising success and this effect is more pronounced for VCs specializing in blockchain technologies. Our findings are also broadly consistent with Alvarez-Garrido (2023), who finds that specialist VCs add more value than generalist VCs and may pursue a strategy of building rather than selecting winners in less developed, innovation environments.

This paper is also related to the literature on the broader cryptocurrency market. One strand of this literature focuses on the role of crypto tokens as a device to solve platform's coordination problems (e.g., Bakos and Halaburda, 2018; Li and Mann, 2018; Cong et al., 2021; Sockin and Xiong, 2023; Prat et al., 2026).[4] These papers typically assume platforms are already operational. Instead, we focus on the fundraising and development stages of ICO projects, where project success is uncertain and the issuer decides how much to invest in the project. Additionally, the effects of VC involvement in ICOs have received relatively little attention in this literature, and we show that VCs may play an important role in improving efficiency by reducing fund diversion for private benefit.

The paper most closely related to ours in spirit is Canidio (2026), in which an entrepreneur creates a platform via a token sale under the assumption that investors have perfectly rational

[4]Another strand compares ICOs with equity financing and finds that ICOs lead to increased entrepreneurial effort (Chod and Lyandres, 2021; Chod et al., 2022), diluted equity ownership (Gryglewicz et al., 2021), and overproduction (Malinova and Park, 2023).

expectations regarding future investment. The issuer benefits only by investing over time to increase the future token price, before ultimately halting development and liquidating his token holdings. The main difference is that, in our model, the issuer can also benefit from diverting raised funds when third-party monitors such as VCs are absent. The issuer focuses solely on increasing the future token price through investment only when it can credibly commit not to divert ICO funds, for example, via VC involvement.

Finally, this paper also contributes to the empirical literature on ICOs. A number of authors have investigated the determinants of ICO funding success (e.g., Roosenboom et al., 2020; Fahlenbrach and Frattaroli, 2021) as well as post-ICO token returns (e.g., Hu et al., 2019; Enoksen et al., 2020; Lyandres et al., 2022). With respect to the share of tokens sold in ICOs, Amsden and Schweizer (2018), Deng et al. (2019), and Davydiuk et al. (2023) find that a larger fraction of tokens sold in an ICO is negatively associated with post-ICO development activity. In contrast, Blaseg (2018) finds that the fraction of ICO tokens sold is uncorrelated with post-ICO outcomes such as exchange listings; Howell et al. (2020) show that it is also uncorrelated with employment size.

Our paper helps reconcile these findings in the literature. For instance, the negative association between the fraction of tokens sold in ICOs and post-ICO development activity is consistent with our model in the absence of VC monitoring. However, our empirical results are more nuanced in that this relationship becomes positive when ICOs are backed by VCs specializing in blockchain technologies. This implies that token financing may become more closely integrated with VC financing as investors become more fully rational, potentially making ICOs a more efficient funding method, with issuers self-regulating under the oversight of financial regulators.

The remainder of the paper is organized as follows. Section 2 presents the model. Section 3 analyzes the model under perfect and imperfect observability, as well as with VC monitoring. Section 4 describes the dataset, and Section 5 presents the empirical evidence. Section 7 concludes.

2 Model

Consider a risk-neutral entrepreneur with no initial wealth who seeks to finance a (blockchain-based) project requiring at least an exogenous funding amount $\bar{f} > 0$. This minimum funding requirement is determined outside the model and may reflect technological requirements, organizational scale, regulatory compliance costs, or other development expenditures necessary for project implementation.

The entrepreneur issues a supply of continuously divisible and fungible tokens, with the aggregate token supply normalized to one. Utility tokens are created on an existing blockchain (e.g., through an ERC-20 smart contract on Ethereum). We thus abstract from blockchain-level validation and mining activities and assume that the entire token supply is initially allocated to the entrepreneur.

At the ICO stage, the entrepreneur (or issuer) retains a fraction $y \in [0, 1]$ of the token supply and offers the remaining fraction $1 - y$ for sale to outside investors. The entrepreneur sets a token price $\varphi \in [0, \bar{\varphi}]$, $\bar{\varphi} < \infty$. Because aggregate supply is normalized, φ is also the implied market capitalization. If total proceeds from the ICO are less than the required funding $\bar{f}$, the ICO fails, all investor contributions are refunded, and the game ends.

Conditional on a successful ICO, the entrepreneur can allocate any amount $g \in [0, f]$ toward project development, where f is the total proceeds from the ICO. Any residual funds, $f - g$, are privately appropriated by the entrepreneur and generate private benefits. This captures the weak governance structures commonly observed in early ICOs, in which issuers retained substantial discretion over the allocation of raised capital despite the existence of nominal governance mechanisms.[5]

Project success is stochastic and depends on development expenditure g through a success probability function $\theta : \mathbb{R}_+ \to [0, 1]$ where $\theta(0) = 0$, $\theta'(g) > 0$, and $\theta''(g) < 0$, implying diminishing marginal returns. We also impose a boundary condition $\lim_{g \to 0} \theta'(g) = \infty$,

[5]For instance, despite the existence of an on-chain governance system for LUNA tokens, the founder of Terraform Labs, Do Kwon, was reported to have misappropriated and laundered substantial ICO proceeds.

which guarantees strictly positive equilibrium investment g whenever an interior solution exists.

If the project succeeds, it produces an infinite supply of digital good at zero marginal cost. Tokens are the unique medium of exchange within the project's ecosystem but do not yield utility on their own. The numeraire is normalized such that one unit of token represents a claim on one unit of the consumption good. If the project fails, tokens become worthless.

There is a continuum of homogeneous, risk-neutral individuals who act as both investors in the ICO and consumers of the good. Each individual can consume at most one unit of the good. Let $x \in [0, 1]$ denote individual consumption. Preferences are represented by a utility function $u : [0, 1] \to \mathbb{R}_+$, where $u(0) = 0$, $u'(x) > 0$, $u''(x) < 0$, and $\lim_{x\to 0} u'(x) = \infty$.

Individuals arrive sequentially in two waves. First-wave individuals participate in the ICO and purchase tokens directly from the entrepreneur. After the ICO, the token becomes tradable on a secondary market, at which point a second wave of individuals arrives. In the secondary market, tokens may be traded among first-wave, second-wave individuals, and the entrepreneur. For simplicity, the measure of individuals in each wave is normalized to one.

Importantly, secondary-market trading occurs prior to the realization of project success/failure. We first assume that development expenditure g is publicly observable prior to secondary-market trading. We then examine the case in which g is not publicly observable by market participants. Since investors observe the realized project outcome only after secondary-market trade has taken place, secondary-market token price is formed based on investors' beliefs regarding the entrepreneur's unobservable development expenditure.

The entrepreneur's payoff consists of privately diverted ICO proceeds, $f - g$, and the revenues obtained from selling his retained tokens in the secondary market. Individuals maximize quasi-linear utility over consumption net of token acquisition expenditures, inclusive of any proceeds obtained from secondary-market token sales.

The sequence of events is as follows. In Stage 1, the entrepreneur chooses the ICO valuation φ and selects the retained token share y. In Stage 2, first-wave individuals arrive and

decide whether to purchase tokens at the offered price. In Stage 3, conditional on a successful ICO, the entrepreneur chooses development expenditure g and diverts any remaining proceeds for private benefit. In Stage 4, second-wave individuals arrive, and tokens are traded competitively in the secondary market. In Stage 5, project outcome is realized, and token holders redeem tokens for consumption goods if the project succeeds.

3 Analysis

3.1 Perfect Information

We first characterize the equilibrium under perfect information and subsequently consider the case in which investors hold either rational or naive expectations regarding the entrepreneur's development expenditure. Our solution concept is Subgame Perfect Nash Equilibrium, with the additional requirement that the secondary market for tokens clears. We focus on symmetric equilibria in pure strategies, in which individuals in the same wave use identical strategies. As usual, we can solve for the equilibrium using backward induction.

Consider Stage 5 of the game. After secondary-market trading has taken place, uncertainty regarding project success is resolved by Nature. If the project succeeds with probability $\theta(g)$, each individual from the first wave holding x_1 units of tokens redeems the tokens for consumption goods and derives utility $u(x_1)$; and similarly for each individual from the second wave holding x_2 units of tokens. If the project fails with probability $1-\theta(g)$, tokens are worthless and token holders receive zero consumption utility.

Consider Stage 4. Conditional on a successful ICO, first-wave individuals collectively hold the fraction $1-y$ of the token supply acquired from the ICO. Let $x_1 \in [0,1]$ denote the quantity of tokens demanded by a first-wave individual for eventual consumption. If $x_1 < 1-y$, the individual sells the excess amount $1-y-x_1$ in the secondary market. If $x_1 > 1-y$, the individual purchases an additional amount $x_1-(1-y)$. Let p denote the secondary-market token price, which is taken as given by all individuals.

Given development expenditure g, assumed for the moment to be observable, a representative first-wave individual maximizes $\theta(g)u(x_1) + p(1 - y - x_1)$ with respect to x_1. The first term represents expected consumption utility conditional on project success, while the second term captures net proceeds from secondary-market trading.

In contrast, second-wave individuals are not initially endowed with tokens and therefore must acquire tokens in the secondary market to consume the good. Let $x_2 \in [0, 1]$ denote the quantity of tokens demanded by a second-wave individual for consumption. Then a representative second-wave individual maximizes $\theta(g)u(x_2) - px_2$ with respect to x_2. The optimization problems admit unique interior solutions, where the first-order conditions are $\theta(g)u'(x_1^*) = p$ and $\theta(g)u'(x_2^*) = p$, respectively.

Additionally, the entrepreneur liquidates all retained token holdings, y, in the secondary market. Doing so is optimal because the entrepreneur derives payoffs only from privately diverted ICO proceeds and revenues generated from secondary-market token sales, rather than direct consumption of the good. (If the entrepreneur were assumed to derive consumption utility from the good, he could be considered as an atomless first-wave individual participating simultaneously as both an investor and a consumer.)

Thus, the secondary market clears when aggregate token demand equals aggregate token supply. Aggregate net demand from first-wave individuals is $x_1^* - (1 - y)$, while aggregate demand from second-wave individuals is x_2^*. Since the entrepreneur supplies y units of tokens to the market, the market-clearing condition is $x_1^* - (1 - y) + x_2^* = y$. Because individuals in both waves share identical preferences, this implies $x_1^* = x_2^* = 1/2$. Substituting them into either first-order condition yields the secondary-market-clearing token price $p^* = \theta(g)u'(1/2)$.

Turning to Stage 3 of the game, the entrepreneur chooses development expenditure g, anticipating that the secondary-market equilibrium token price is p^*. Conditional on a successful ICO, total funds raised is given and denoted by f. If the entrepreneur invests g, the remaining amount $f - g$ is privately appropriated. Further, the entrepreneur holds y units of tokens to liquidate in the secondary market. Hence, the entrepreneur maximizes

$f - g + p^* y$ with respect to g, subject to the resource constraint $g \leq f$.

The optimal solution to the entrepreneur's investment problem, g^*, is characterized by the first-order condition, $\theta'(g^*)u'(1/2)y = 1$, if the constraint $g \leq f$ is non-binding. If it binds, investment is pinned down by feasibility rather than incentives, so $g^* = f$. This occurs when $\theta'(g^*)u'(1/2)y > 1$, implying that the marginal increase in the value of the entrepreneur's token holdings at the unconstrained optimum exceeds the marginal cost of additional development expenditure.

Comparative statics with respect to y follow directly. Holding constant an ICO valuation φ, if the resource constraint is non-binding, implicit differentiation of the first-order condition yields $\partial g^*/\partial y = -\theta'/(\theta'' y) > 0$; if the constraint binds, $\partial g^*/\partial y = -\varphi < 0$, since ICO proceeds are $g^* = f = \varphi(1 - y)$. On the other hand, holding constant a retention fraction y, the solution g^* is not determined by the ICO valuation φ, if the constraint is non-binding, while $g^* = f = \varphi(1 - y)$ increases with φ if the constraint is binding.

This is illustrated in Figure 1, where the ICO proceeds f are decreasing linearly in the entrepreneur's retention y for a given φ, while the unconstrained optimal investment is implicitly defined by the first-order condition. Thus, the optimal investment g^* initially increases as y increases from the origin to point A, at which the constraint ($g \leq f$) just binds. Once the constraint binds, further increases in y reduce feasible investment, causing g^* to decline toward zero as y increases to 1.

Proceeding to Stage 2, the unit mass of first-wave individuals collectively purchases the $1-y$ units of ICO tokens offered for sale at a price of φ per unit, if the expected utility exceeds the cost. The individual's expected utility is $\theta(g^*)u(x_1^*) + p^*(1 - y - x_1^*) = \theta(g^*)u(1/2) + \theta(g^*)u'(1/2)(1/2 - y)$ since $x_1^* = 1/2$ and $p^* = \theta(g^*)u'(1/2)$ in equilibrium, while the cost of participating in the ICO (i.e., purchasing ICO tokens) is $\varphi(1 - y)$.

At Stage 1, the entrepreneur maximizes his expected payoff by choosing a fraction $1 - y$ of the token supply to offer for sale and an ICO token price (or market capitalization) φ, anticipating the equilibrium behavior in subsequent stages. In doing so, the entrepreneur

faces two constraints. One is the first-wave individual's participation (individual rationality) constraint, which requires that the individual's expected utility be at least as large as the cost of purchasing the ICO tokens. The other is that the entrepreneur must raise at least the required funding amount $\bar{f}$. Formally, the entrepreneur's problem is

$$\begin{aligned} \max_{\varphi,\, y} \quad & \varphi(1-y) - g^* + p^* y \\ \text{s.t.} \quad & \theta(g^*)u(1/2) + p^*(1/2 - y) \geq \varphi(1-y), \\ & \varphi(1-y) \geq \bar{f}. \end{aligned}$$

This is a two-dimensional optimization problem with two inequality constraints, the solution to which cannot be stated in closed form. However, intuitively, the two constraints pull the solution in opposite directions. That is, to induce first-wave individuals to participate in the ICO, the entrepreneur must reduce the cost of participating by either decreasing the ICO price (φ), increasing his token retention (y), or both. If the cost of purchasing ICO tokens is sufficiently low, then the expected utility from purchasing the tokens exceeds the cost because the marginal probability of success $\theta'(g)$ approaches infinity as $g \to 0$.

On the other hand, the entrepreneur must raise at least the minimum required funding $\bar{f}$ by either increasing the ICO price (φ), decreasing his token retention (y), or both. These two constraints are illustrated in Figure 2, with the feasible set shaded in a dark color. If the required funding level $\bar{f}$ is too high, the two constraints do not intersect, so no solution exists (i.e., the ICO is infeasible). However, if $\bar{f}$ is sufficiently low, a point that maximizes the entrepreneur's objective function over a non-empty, compact feasible set exists by the Weierstrass Theorem, because the objective function is continuous everywhere on $\mathbb{R}^2_+$.

Proposition 1 *Suppose the entrepreneur's investment g^* is observable by market participants. Then the following hold:*

(i) An interior solution to the entrepreneur's problem, $(\varphi^*, y^*) \in (0, \infty) \times (0, 1)$, exists if the

minimum required funding $\bar{f}$ is sufficiently low.

(ii) In the ICO, the entrepreneur raises a strictly larger amount than the minimum $\bar{f}$ generically (except on a measure-zero set).

(iii) The ICO token price cannot coincide with the secondary-market-clearing token price; that is, $\varphi^* \neq p^*$.

Proof. See the Appendix. ■

Part (i) of Proposition 1 implies that an ICO is a feasible method of raising the minimum capital needed to implement a project only if the minimum is sufficiently small. However, part (ii) says that, generically, the entrepreneur raises more than the required minimum by either selling the same amount of tokens at a higher ICO price, selling a larger fraction of the token supply at the same price, or both. The reason is that, when the entrepreneur retains a relatively small fraction of the token supply, he has an incentive to increase the token offer price to raise more capital and then divert some of the raised funds post-ICO for private benefit. The first-wave individual's participation constraint permits such diversion to a certain extent, provided that the marginal utility of consumption is sufficiently large initially.

Part (iii) shows that the ICO token price cannot equal the equilibrium token price in the secondary market. This is because the first-wave individual's participation constraint is slack if the ICO price equals the secondary-market-clearing price. The intuition is that first-wave individuals have the opportunity to purchase ICO tokens before second-wave individuals arrive. Since first-wave individuals can sell part of their token holdings in the secondary market and potentially generate revenues, this relaxes the first-wave individual's participation constraint. Thus, in general, the secondary-market-clearing price is different from the ICO price. If the entrepreneur's token retention is small, the ICO price would be higher than the secondary-market price, but in general, the ordering cannot be unambiguously determined.

3.2 Imperfect Information

Thus far, we have solved our model under the assumption of perfect observability. We now analyze a few variants of the model in which, when the secondary market opens in Stage 4, individuals do not observe the development expenditure g chosen by the entrepreneur in Stage 3, while everything else in the model remains unchanged. Thus, the game becomes one of imperfect information, and all individuals in Stage 4 must form beliefs $\mu \in \Delta([0, f])$, where $\Delta([0, f])$ denotes the set of probability measures on $[0, f]$. We assume that all individuals share identical beliefs both on and off the equilibrium path.

First, suppose that individuals hold rational expectations in that they assign probability 1 to the entrepreneur choosing the optimal investment level g^* and 0 to all other levels. Hence, beliefs are consistent with the entrepreneur's equilibrium choice and are degenerate on the equilibrium path. The secondary-market-clearing price is thus $p^* = \theta(g^*)u'(1/2)$. Given these beliefs and the equilibrium price p^*, the entrepreneur optimally chooses g^* in Stage 3.

Note that multiple off-equilibrium-path belief systems can support g^* in equilibrium. For instance, following any deviation $g \neq g^*$, individuals may assign probability 1 to the realized investment level g. Under such beliefs, g^* is incentive compatible by construction. Consequently, the equilibrium allocation coincides with that obtained under perfect observability, despite the different information structure.

One interpretation of this result is that, as the ICO market matures and participants accumulate experience, they learn to form beliefs that are consistent with equilibrium behavior. In the limit, market outcomes therefore approximate those obtained under perfect observability. Importantly, even under rational expectations or perfect observability, the entrepreneur may optimally divert a portion of the ICO proceeds in equilibrium. This occurs whenever the token retention y^*, at the optimal solution (φ^*, y^*), lies in the region where the equilibrium development expenditure g^* is increasing in y, as illustrated in Figure 1 for a given φ^*. In this case, the entrepreneur finds it optimal to divert a portion of the ICO

proceeds rather than allocate all to project development. Such outcomes are more likely when when the ICO price φ^* is high and the token retention y is low.

Rational expectations may be a strong assumption in an emerging market such as the early ICO market. We thus consider the opposite extreme in which beliefs are exogenously specified and assign probability 1 to the entrepreneur investing the entire amount raised in the ICO ($g^* = f$). That is, individuals in both waves incorrectly believe that the entrepreneur always allocates all ICO proceeds to project development, when secondary-market trading opens. Consequently, the secondary-market token price, $p^* = \theta(f)u'(1/2)$, is higher than the price whenever the rational-expectations investment level satisfies $g^* < f$.

Note that individuals' naive beliefs do not constrain the entrepreneur's choice in Stage 3. Instead, the entrepreneur anticipates these beliefs and exploits them. Additionally, the secondary-market-clearing token price will be $p^* = \theta(f)u'(1/2)$, which is independent of his choice of development expenditure g. Given the ICO parameters (φ, y), the entrepreneur maximizes $f - g + p^*y$ with respect to g, subject to the resource constraint $g \leq f$. Thus, the optimal choice is clearly $g^* = 0$, implying full diversion of ICO proceeds. This implies that the project always fails in the final stage. While first-wave individuals may in some cases realize net gains due to secondary-market trading, second-wave individuals always incur losses.

Naive beliefs also change individuals' incentives to participate in the ICO, provided that their beliefs are consistent across stages. Specifically, when deciding whether to purchase ICO tokens, first-wave individuals naively believe that the entrepreneur will invest the entire ICO proceeds in project development. This relaxes the individual's ICO participation constraint because the expected utility of an ICO participant is $\theta(g)[u(1/2) + u'(1/2)(1/2 - y)]$ in equilibrium and g is maximized at f. Hence, if a vector (φ, y) satisfies the participation constraint under perfect rationality, it also does under naive beliefs. This expands the feasible set in Figure 2, including the possibility that the entrepreneur sells the entire unit token supply ($y = 0$) at a strictly positive ICO price ($\varphi > 0$). We conjecture that, in most

cases, the entrepreneur sells more tokens at a higher price under the new solution vector, although the direction of the change in general depends on the model specifications.

Given these two extreme cases, it is relatively straightforward to characterize outcomes when individuals' beliefs are neither perfectly rational nor perfectly naive. To be precise, suppose individuals in both waves incorrectly believe that the entrepreneur invests a convex combination of the rational investment level and the ICO funds raised, namely, $(1-\beta)g^*+\beta f$, where $\beta \in [0,1]$. Thus, beliefs are perfectly rational when $\beta = 0$ and perfectly naive when $\beta = 1$. Note that beliefs are consistent with equilibrium strategies only in the case of $\beta = 0$; hence, β can be interpreted as a degree of individuals' naive beliefs.

For intermediate values of $\beta \in (0,1)$, the secondary-market-clearing token price is $p^* = \theta((1-\beta)g^* + \beta f)u'(1/2)$, which depends on the entrepreneur's investment choice but with a weight of $(1-\beta)$. Thus, the entrepreneur's optimal choice of g^* decreases in β for all $y > 0$. In terms of Figure 1, the upward sloping curve representing the first-order condition pivots downward about the origin, converging to $g^* = 0$ for all $y > 0$ as $\beta \to 1$. At the ICO stage, the individual's ICO participation constraint becomes less stringent, so the feasible set expands continuously, as β increases from 0 to 1.

To summarize, for any given fraction y of tokens retained by the entrepreneur in the ICO, assuming the resource constraint $g \leq f$ is non-binding, the gap between ICO funds raised (f) and post-ICO investment (0) is largest when individuals have completely naive beliefs $(\beta = 1)$. As individuals come to have more rational beliefs $(\beta \to 0)$, this gap narrows for a given y. However, for sufficiently low values of y, the gap may not close entirely even under rational expectations. Thus, partial diversion of ICO proceeds occurs whenever y falls below a certain threshold, so development expenditure g^* increases in token retention y.

Previously, we have shown that the individual's ICO participation constraint is most relaxed when individuals hold perfectly naive beliefs because $f \geq g^*$, which implies that the entrepreneur's expected payoff is maximized. As beliefs become more rational, the feasible set shrinks (hence, the entrepreneur's payoff decreases) and may even become empty, in

which case ICO financing is infeasible. This creates an incentive for the entrepreneur to seek commitment mechanisms that ensure full investment of ICO proceeds into project development. For instance, the entrepreneur may bring in a third-party monitor as a commitment device to prevent fund diversion.

To fix ideas, let us assume that VC involvement serves as such a commitment device.[6] Notice that, depending on model specifications, some entrepreneurs may not have incentives to involve VCs if the private benefit from diverting ICO funds outweighs the benefit from expanding the feasible set through the commitment device, in which case VC involvement will not be observed. In other cases, the benefit from VC involvement outweighs the forgone diversion rents, so the entrepreneur chooses to commit to $g^* = f$. That is, unlike the case of naive beliefs, the actual level of investment satisfies $g^* = f$. This reduces the entrepreneur's problem to maximizing revenues from liquidating his retained token holdings in the secondary market, $p^* y = \theta(f)u'(1/2)y$, for which an interior solution exists.

Thus, empirically, two types of ICO projects can be observed. In the first type, VCs are involved and monitor the proper use of ICO funds (no diversion). In the second type, no such commitment device is present, and the entrepreneur can divert a portion of ICO funds, which is more likely as individuals' beliefs approach the completely naive one. In the former case, the relationship between development expenditure $g^* = f = \varphi(1 - y)$ and the fraction of tokens sold in an ICO $(1 - y)$ is positive, holding the ICO valuation φ constant. In the latter case, the relationship is initially positive for low values of y and turns negative beyond a threshold, because the entrepreneur has weaker incentives to invest when token retention is low in the absence of VC monitoring.

Further, if individuals' beliefs are relatively close to the perfectly naive one (e.g., during the first ICO boom), the relationship between the fraction of tokens sold in ICOs $(1-y)$ and post-ICO investment g^* would be negative for most values of y except when y is sufficiently

[6]The literature has long recognized monitoring as a central function provided by VCs via their active involvement in portfolio firms (e.g., Gorman and Sahlman, 1989). While other commitment devices may exist, VC involvement seems to be the most natural benchmark.

high, which may be a rare occurrence. Hence, the model yields contrasting predictions depending on the presence or absence of VC involvement. By continuity, this qualitative pattern would remain unchanged even if VC monitoring is imperfect but allows for limited diversion of funds. As more individuals form rational expectations, more entrepreneurs would have incentives to involve VCs to enhance credibility and commit to not diverting ICO funds, although this need not hold in all cases.

Although we do not directly observe the level of post-ICO investment, if the probability of project success (or survival) is positively correlated with the level of investment, the above results imply that the fraction of tokens sold in an ICO would be positively associated with proxy measures of success among ICOs that involve VC backing, while the fraction sold would be negatively associated with success among ICOs that do not involve VC backing. In particular, we hypothesize that VC monitoring is particularly effective when the VC has expertise in blockchain technology, because it is a relatively new technology with decentralized infrastructures for which not all traditional VCs possess sufficient monitoring capability. We now test these hypotheses in the remaining sections.

4 Data

The primary data source for our ICO sample is Fahlenbrach and Frattaroli (2021), which provides a hand-collected sample of 306 ICOs conducted between March 2016 and March 2018, corresponding to the first ICO boom period, and includes only ICOs that raised at least $1 million. Collectively, the 306 ICOs raised more than $6.2 billion during the sample period, including $5 billion in 2017 alone. Thus, although our sample does not capture the lower tail of the ICO fundraising distribution, it includes the vast majority of total ICO funds raised in 2017, which amounted to $5.6 billion (Williams-Grut, 2018).[7]

The main advantage of this data source is its data quality and richness. Specifically,

[7]We acknowledge that it is possible that ICOs raising less than $1 million, hence not included in this study, are governed by a different model than the one we propose here. Given the goals and scope of this paper, we leave this question for future research.

Fahlenbrach and Frattaroli (2021) rely exclusively on primary sources, including ICO whitepapers, archived websites, and message boards, to collect a range of ICO characteristics. They also provide detailed information on the amount of funds raised during both the presale and crowdsale stages and calculate the value of these funds using prices on the final day of the contribution period.

Further, their data collection includes information that is often unavailable from other sources but is important for testing our hypothesis. Specifically, they provide a list of venture capitalist firms that invested in each project prior to the ICO. They also classify them into generalist and specialist VCs, where the latter includes funds focused on blockchain technologies (e.g., Blockchain Capital, Digital Currency Group, Fenbushi Capital, Kenetic Capital, and Nirvana Capital).

We supplement this primary dataset with information from the secondary market. Specifically, we collect data on whether each ICO token in the sample has a non-zero market capitalization as of November 2025, according to CoinMarketCap, a widely used website that aggregates cryptocurrency exchange data. For those that do, we collect both the current token price and the price at the time trading began. In this way, our data capture the medium-term outcomes of the ICOs in our sample several years after launch.

Our dependent variable is an indicator for project success. To construct this variable, we adopt a conservative definition of project failure, defining failure as an ICO token no longer being listed, or having either a zero market capitalization or a return of -90% or lower relative to the closing price on the first post-ICO trading day. We also vary the return threshold to -99%, which constitutes an even more conservative definition of failure. A project is considered successful for our purposes if it does not meet the failure criteria.[8]

Our main independent variable is the fraction of the token supply sold in an ICO. We measure this as the ratio of funds raised in the crowdsale to the token's post-money valuation,

[8]Tokens with returns below -90% or -99% often exhibit thin trading volume. While negative token returns do not directly imply project failure, a market capitalization close to zero does suggest substantial trouble or distress, amounting to failure.

as our model primarily pertains to the crowdsale stage. As a robustness check, we also use the ratio of combined funds raised in both the presale and crowdsale to the post-money valuation, since both presale and crowdsale reduce the entrepreneur's retained token share. The presale occurs prior to the crowdsale and provides early access, often at discounted prices, but typically raises a smaller amount than the crowdsale.

Out of the 306 ICOs in the original primary source, we select only utility tokens (ERC-20 standard) to construct a more homogeneous sample and because our model assumes that ICO projects provide consumption utility. This reduces the sample to 155 ICOs, of which only 118 ICOs have post-money valuation data available for our empirical analysis. While this is a relatively small sample, it is comparable to traditional IPO markets, which recorded 105 and 160 IPOs in 2016 and 2017, respectively (Renaissance Capital, 2018).

The summary statistics for our sample are presented in Table 1. The success rate in the sample is somewhat below (above) 20 percent when applying a post-ICO return threshold of -90% (-99%). The fraction of tokens sold in an ICO (denoted as Float) averages around 40-50 percent, depending on whether the presale is included, with relatively large standard deviations. About 20 percent of ICOs have generalist VC backing, with a similar share having specialist VC backing. Investors have governance rights in about 15 percent of ICOs.

5 Evidence

Our baseline empirical prediction is that the probability of project success is initially positively, and then negatively, correlated with the share of the token supply sold in an ICO, as the entrepreneur may divert a portion of ICO funds. Given that we use a sample from the first ICO boom, when investors' beliefs may not be fully rational, we predict that the relationship would be predominantly negative. However, this relationship could become positive for a subset of ICOs with VC backing, if VCs effectively monitor the projects.

We note that our model predicts a correlation between the level of investment (hence the

probability of success) and the share of the token supply sold in an ICO in a cross-section of ICOs. Thus, our empirical goal is to find observational evidence (or the lack thereof) consistent with the model's predictions, rather than to identify a causal effect of the share of the token supply sold in an ICO on the project's long-run outcomes. This implies that our empirical specification can be represented as a binary outcome model as follows:

$$Success_i = \alpha_0 + \alpha_1 Float_i + \alpha_2 (Float \times VC\,backing_i) + \alpha_3 VC\,backing_i + X_i'\beta + \varepsilon_i,$$

where $Success_i$ is an indicator for whether project i was successful according to the criteria described in the previous section; $Float_i$ is the ratio of the amount raised in the crowdsale (or in both the presale and crowdsale) to the post-money valuation; and $VC\,backing_i$ is an indicator for whether the project received investment from a generalist VC, a blockchain specialist VC, or either type of VC. X_i includes a set of ICO characteristics, and ε_i is an i.i.d. error term. The equation is estimated using logistic regression.

Table 2 presents the first set of estimation results, where project success (the dependent variable) is defined as a token with a positive market capitalization and a return of at least -90% relative to its first trading day. The coefficient of interest is α_2 on the interaction between the ratio of token supply sold in an ICO and the indicator for VC backing. According to our hypotheses, $\alpha_1 + \alpha_2$ is expected to be positive for ICO projects with VC backing, whereas α_1 is expected to be negative for those without VC backing.

Columns (1) and (2) of Table 2 show that the coefficient on the interaction term is indeed positive and statistically significant, while the coefficient on the main effect of the ratio of tokens sold in an ICO is negative but statistically insignificant.[9] Further, the magnitude of the interaction coefficient α_2 is substantially larger than that of α_1. These results provide evidence that the relationship between project success and the token share sold in ICOs is positive for those with VC backing, but negative for those without.

[9]The main effect may have lower statistical power because, as discussed in Section 3.2, most observations are expected to lie on the increasing segment up to A in Figure 1, but some may lie on the decreasing segment beyond A, which reduces precision.

Columns (3) and (4) of Table 2 contain estimation results using the same specifications as above, except that VC backing is restricted to generalist VCs that do not specialize in blockchain projects. While the estimate of α_2 remains positive, it is not statistically significant. Moreover, the difference in magnitude between α_1 and α_2 is smaller than in the previous columns. Thus, these results suggest that VC monitoring may not be as effective when the VC is not a blockchain specialist.

In contrast, Columns (5) and (6) of Table 2 show estimation results using the same specifications as above, except that VC backing is restricted to specialist VCs that invest in blockchain projects. Here, we find that the estimate of α_2 is positive and statistically significant, while the estimate of α_1 is negative but statistically insignificant. Moreover, the magnitude of α_2 is larger than in the first two columns. These results suggest that VC monitoring in ICO projects is effective primarily for specialist VCs.

We have replicated these regression results using alternative specifications of the dependent and main explanatory variables as robustness checks. Specifically, Table 3 uses the same dependent variable, while the ratio of token supply sold in an ICO relative to the post-money valuation now includes amounts raised in both the presale and crowdsale, where about half of the sample observations involve positive presale amounts. Here, the estimation results are qualitatively similar to those reported in Table 2.

Next, Table 4 replicates the estimation results using the same specifications as in Table 2, except that the dependent variable is now defined using a return threshold of at least -99%, rather than -90%, relative to the first trading day. This represents a slightly more permissive definition of project success and reclassifies 10 projects as successful. The qualitative results are the same as those in Table 2, although the coefficients are estimated with slightly less precision, consistent with our main hypotheses.

Finally, Table 5 replicates the estimation results using the same specifications as in Table 3, where the share of tokens sold includes presale amounts, again using a dependent variable based on the more conservative -99% return threshold rather than -90%. We find that

the qualitative results are preserved, especially when control variables are included. These findings support the premise that initial ICO participants have somewhat naive expectations regarding the entrepreneur's investment incentives, and that VCs specializing in blockchain technologies can effectively monitor the use of ICO funds.

Therefore, the observed pattern in the data from the first wave of ICOs is broadly consistent with the model's predictions. We acknowledge that VCs may influence ICO project outcomes through channels other than monitoring, such as the provision of value-added services via their networks of professionals and investors. However, monitoring appears to be the most intuitive explanation for the positive relationship between the fraction of capital raised in the ICO and project success in the presence of VCs, and the negative relationship observed in their absence. For instance, VCs' professionalization advice may increase the likelihood of project success, but it need not generate a systematic relationship with the fraction of capital raised in an ICO.

6 Conclusion

We presented a stylized model of token financing (ICOs) in which participants have either rational or naive expectations regarding the use of ICO funds. We found that entrepreneurs may lack incentives to allocate all ICO proceeds to project development, instead diverting a portion of funds for private benefit. This can result in poor token performance and ultimately project failure. However, we also showed empirically that the involvement of specialized VCs can mitigate such diversion. Specifically, the relationship between post-ICO investment and the ICO token share is positive for ICOs backed by VCs specializing in blockchain technologies.

A policy implication is that the involvement of specialized VCs in ICOs may reduce risk and improve efficiency in settings where ICO participants have naive expectations and entrepreneurs maintain de facto control over ICO funds. If ICO participants become fully

rational over time, some entrepreneurs may voluntarily involve specialized VCs to enhance credibility and increase the success of ICO fundraising, but others may still prefer not to do so and continue to divert a portion of ICO funds. Therefore, the industry's incentives for voluntary self-regulation may not substitute but rather complement traditional regulatory approaches.

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Appendix

Proof.(i) Let $F(y,\varphi) = \varphi(1-y) - g^* + p^*y$, $G_1(y,\varphi) = \theta(g^*)u(1/2) + \theta(g^*)u'(1/2)(1/2 - y) - \varphi(1-y)$, and $G_2(y,\varphi) = \varphi(1-y) - \bar{f}$ be real-valued functions defined on a closed and bounded set $M = [0,1] \times [0,\bar{\varphi}]$. Then F, G_1, G_2 are everywhere continuous on the domain. Since the feasible set is defined by two weak inequality constraints, $G_1(y,\varphi) \geq 0$ and $G_2(y,\varphi) \geq 0$, it is a compact set.

Given that $\bar{f} > 0$, the solution cannot include $y = 1$ or $\varphi = 0$ because it implies $G_2 < 0$, which is a contradiction. If $y^* = 0$, the optimal investment is zero ($g^* = 0$). This implies $G_1 = -\varphi < 0$, which is a contradiction. Further, consider a point $(y,\varphi) = (1-\epsilon, \epsilon)$, where $\epsilon \in [0,1]$. Then $h(\epsilon) \equiv G_1(1-\epsilon,\epsilon) = -1 < 0$ at $\epsilon = 1$ because $y = 0$ implies $g^* = 0$. Also, $h(\epsilon) > 0$ if $\epsilon > 0$ is sufficiently small because $g^* = \epsilon^2$ and $\theta'(\epsilon^2) \to \infty$ as $\epsilon \to 0$.

By the Intermediate Value Theorem, there exists a value $\bar{\epsilon} \in (0,1)$ such that $h(\epsilon) \equiv G_1(1-\epsilon,\epsilon) = 0$. Substituting $\epsilon = \bar{\epsilon}$ into $G_2(1-\epsilon,\epsilon)$, we have $\bar{\epsilon}^2 \geq \bar{f}$. Thus, by taking $\bar{f}$ sufficiently small, $G_2(y,\varphi) \geq 0$ is satisfied, and the feasible set is non-empty. Then the Weierstrass Theorem implies that there exists a solution $(y^*,\varphi^*) \in (0,1) \times (0,\infty)$.

(ii) We first show that the participation constraint binds. Suppose $G_1(y^*,\varphi^*) > 0$ at a solution vector (y^*,φ^*). Consider another vector $(y^*,\varphi^* + \epsilon)$ for an arbitrarily small $\epsilon > 0$. The entrepreneur's objective function is either $F(y,\varphi) = p^*y = \theta(g^*)u'(1/2)y$ when $g^* = \varphi^*(1-y^*)$, or $F(y,\varphi) = \varphi(1-y) - g^* + \theta(g^*)u'(1/2)y$ otherwise.

In the former case, $\partial F(y,\varphi)/\partial\varphi = \theta'(g^*)(\partial g^*/\partial\varphi)u'(1/2)y > 0$ because $\partial g^*/\partial\varphi > 0$. In the latter, $\partial F(y,\varphi)/\partial\varphi = (1-y) > 0$ because $\partial g^*/\partial\varphi = 0$. This implies that $(y^*,\varphi^* + \epsilon)$ yields a higher value of $F(y,\varphi)$ while satisfying $G_1(y^*,\varphi^* + \epsilon) \geq 0$. Thus, $G_1(y^*,\varphi^*) \geq 0$ must bind at the solution.

For the entrepreneur to raise exactly the required amount $\bar{f}$, $G_2(y^*,\varphi^*) \geq 0$ must bind at the solution. Given the strict curvature assumptions on $\theta(g)$ and $u(x)$, $G_1(y,\varphi)$ and $G_2(y,\varphi)$ are nowhere locally constant. Thus, the feasible set $(y,\varphi) : G_1(y,\varphi) = 0,\ G_2(y,\varphi) = 0$ is countable and has measure zero. Therefore, generically, the solution satisfies $G_2(y,\varphi) > 0$,

so $\varphi^*(1-y^*) > \bar{f}$.

(iii) Suppose the solution vector (y^*, φ^*) satisfies $\varphi^* = p^* = \theta(g^*)u'(1/2)$. Then substitute $\varphi^* = \theta(g^*)u'(1/2)$ into $G_1(y, \varphi) \geq 0$, which can be rearranged in equilibrium as $\theta(g^*)[u(1/2) - u'(1/2)(1/2)] \geq 0$. Since $\theta(g^*) > 0$ at the interior and $u(1/2) - u'(1/2)(1/2) > 0$ by concavity of $u(x)$, it follows that $G_1(y^*, \varphi^*) > 0$, which is a contradiction because the constraint must be binding at the solution. Thus, (y^*, φ^*) cannot satisfy $\varphi^* = p^*$ in equilibrium. ■

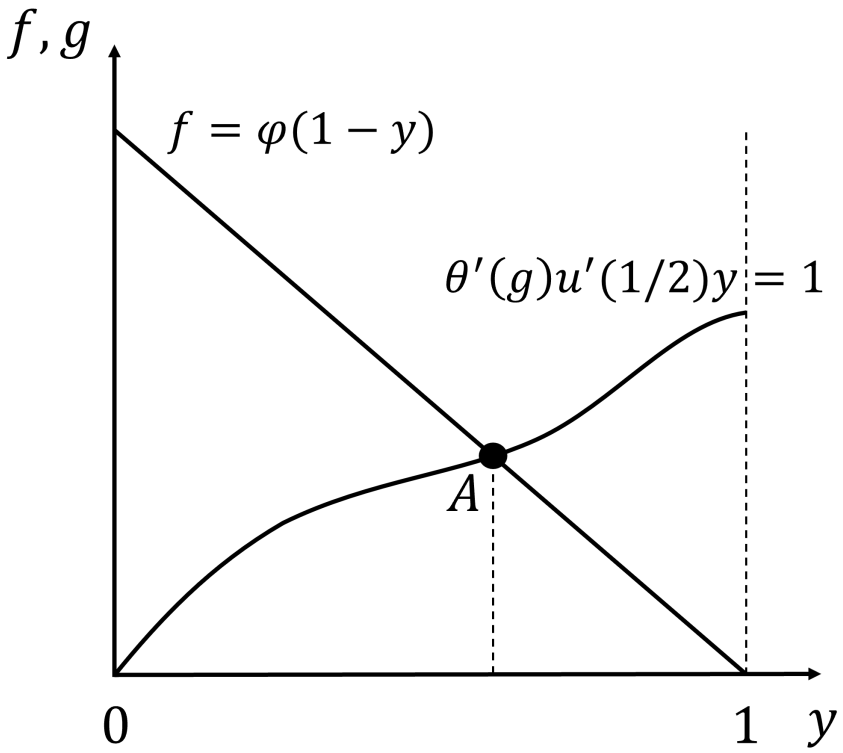


Figure 1: Optimal post-ICO investment

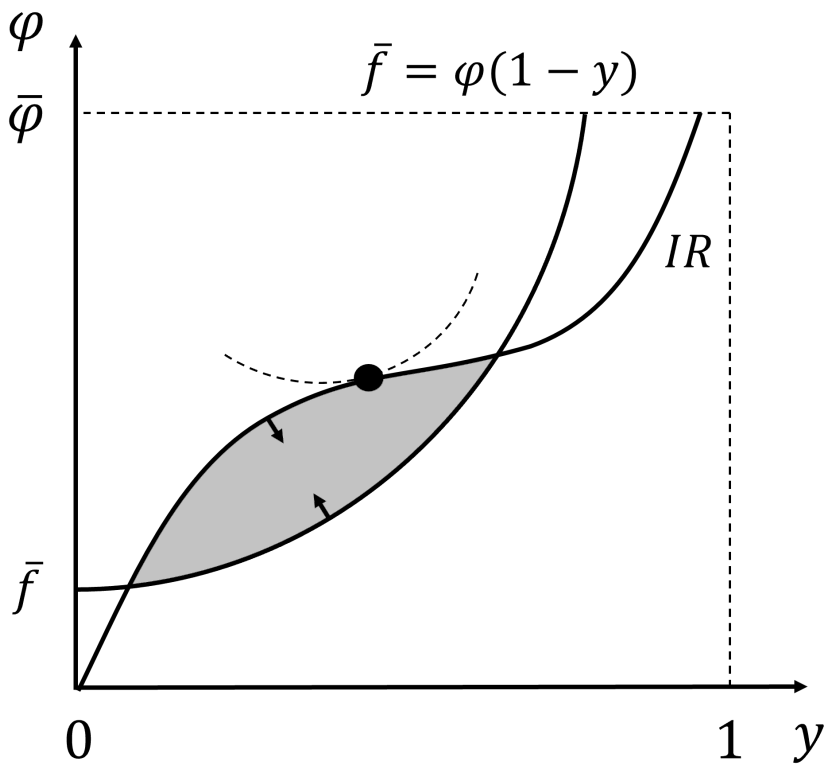


Figure 2: Optimal ICO parameters

Table 1: Summary Statistics

Variable	Mean	St Dev	Min	Max	N
Success[1]: not lower than −90% return	.174	.381	0	1	155
Success[2]: not lower than −99% return	.239	.428	0	1	155
Float[1]: crowdsale/post-money valuation	.383	.247	.008	1	118
Float[2]: (presale+crowdsale)/post-money	.479	.235	.008	1	118
VC backing	.303	.461	0	1	155
Generalist VC backing	.194	.396	0	1	155
Specialist VC backing	.181	.386	0	1	155
Whitepaper page count	31.9	15.2	0	89	155
Development roadmap available	.865	.343	0	1	155
Business model available	.697	.461	0	1	155
Funding milestones available	.032	.177	0	1	155
Team size	11.5	8.28	2	48	148
Team experience information missing	.129	.336	0	1	155
Investors have governance rights	.148	.357	0	1	155

The sample contains 155 ERC-20 tokens that raised at least $1 million in an ICO that took place between March 2016 and March 2018.

Table 2: Regression of Project Success[1]

	(1)	(2)	(3)	(4)	(5)	(6)
Float[1]	-1.825	-2.254	-.8151	-1.054	-1.860	-2.020
	(1.274)	(1.394)	(1.004)	(1.134)	(1.260)	(1.331)
Float[1] × VC backing	4.674	6.790				
	(2.155)**	(2.545)***				
VC backing	-.7795	-1.979				
	(.8878)	(1.124)*				
Float[1] × General VC			.8354	3.708		
			(3.068)	(3.463)		
General VC			-1.025	-2.492		
			(1.120)	(1.529)		
Float[1] × Special VC					6.175	7.623
					(2.655)**	(2.927)***
Special VC					-.5455	-1.755
					(1.027)	(1.278)
Whitepaper pages		-.0227		-.0269		-.0207
		(.0202)		(.0198)		(.0204)
Development roadmap		-.6737		-.6329		-.4057
		(.8588)		(.7598)		(.8677)
Business model		-1.094		-1.201		-.8637
		(.5880)*		(.5625)**		(.6159)
Funding milestones		-.3365		.0601		-.6436
		(1.477)		(1.310)		(1.597)
Team size		.0203		.0326		.0106
		(.0335)		(.0337)		(.0329)
Team exp missing		1.060		.8358		1.005
		(.7912)		(.7664)		(.8019)
Investor governance		.3182		.1550		.3761
		(.7402)		(.7168)		(.7465)
Pseudo R^2	.070	.158	.016	.113	.133	.181
No. of Obs.	118	112	118	112	118	112

Estimation is done by logistic regression. Standard errors of the coefficients are presented in parentheses. Statistical significance is denoted as *** 1%, ** 5%, * 10%.

Table 3: Regression of Project Success[1]

	(1)	(2)	(3)	(4)	(5)	(6)
Float[2]	-2.168	-2.449	-1.238	-1.430	-2.266	-2.320
	(1.312)*	(1.426)*	(1.048)	(1.178)	(1.281)*	(1.349)*
Float[2] × VC backing	4.761	5.992				
	(2.336)**	(2.682)**				
VC backing	-1.247	-2.156				
	(1.119)	(1.337)				
Float[2] × General VC			.2220	1.727		
			(3.370)	(4.115)		
General VC			-.9153	-2.054		
			(1.418)	(1.828)		
Float[2] × Special VC					7.229	7.379
					(2.982)**	(3.014)**
Special VC					-1.547	-2.189
					(1.372)	(1.494)
Whitepaper pages		-.0170		-.0237		-.0176
		(.0201)		(.0195)		(.0206)
Development roadmap		-.6392		-.5561		-.3422
		(.8308)		(.7565)		(.8388)
Business model		-1.095		-1.220		-.8865
		(.5744)*		(.5614)**		(.6075)
Funding milestones		-.1194		.0806		-.4173
		(1.409)		(1.311)		(1.502)
Team size		.0217		.0321		.0166
		(.0340)		(.0336)		(.0332)
Team exp missing		1.169		.8550		1.157
		(.7897)		(.7678)		(.8030)
Investor governance		.3790		.1753		.4359
		(.7354)		(.7198)		(.7475)
Pseudo R^2	.068	.138	.023	.113	.141	.171
No. of Obs.	118	112	118	112	118	112

Estimation is done by logistic regression. Standard errors of the coefficients are presented in parentheses. Statistical significance is denoted as *** 1%, ** 5%, * 10%.

Table 4: Regression of Project Success[2]

	(1)	(2)	(3)	(4)	(5)	(6)
Float[1]	-1.057	-1.527	-.4764	-.5852	-.9889	-1.216
	(1.075)	(1.193)	(.9181)	(1.047)	(1.054)	(1.124)
Float[1] × VC backing	3.154	5.162				
	(1.966)	(2.345)**				
VC backing	-.4082	-1.688				
	(.8132)	(1.034)				
Float[1] × General VC			-1.032	.7119		
			(3.060)	(3.234)		
General VC			-.4863	-1.218		
			(.9864)	(1.197)		
Float[1] × Special VC					4.169	5.478
					(2.433)*	(2.591)**
Special VC					.1235	-1.215
					(.9353)	(1.143)
Whitepaper pages		-.0025		-.0046		-.0008
		(.0168)		(.0167)		(.0168)
Development roadmap		-1.566		-1.361		-1.281
		(.8009)*		(.7321)*		(.7795)
Business model		-1.143		-1.205		-.9718
		(.5299)**		(.5134)**		(.5493)*
Funding milestones		-.6819		-.3972		-.9643
		(1.468)		(1.313)		(1.581)
Team size		-.0013		.0035		-.0093
		(.0336)		(.0330)		(.0329)
Team exp missing		.5775		.4506		.5690
		(.7699)		(.7619)		(.7796)
Investor governance		.8234		.7002		.8846
		(.6414)		(.6324)		(.6446)
Pseudo R^2	.038	.134	.015	.109	.098	.145
No. of Obs.	118	112	118	112	118	112

Estimation is done by logistic regression. Standard errors of the coefficients are presented in parentheses. Statistical significance is denoted as *** 1%, ** 5%, * 10%.

Table 5: Regression of Project Success[2]

	(1)	(2)	(3)	(4)	(5)	(6)
Float[2]	-1.421	-1.777	-.9094	-.9124	-1.387	-1.445
	(1.124)	(1.238)	(.9612)	(1.088)	(1.090)	(1.143)
Float[2] × VC backing	3.391	5.066				
	(2.139)	(2.530)**				
VC backing	-.8142	-2.055				
	(1.028)	(1.254)				
Float[2] × General VC			-.7201	.0374		
			(3.057)	(3.507)		
General VC			-.5321	-1.093		
			(1.262)	(1.463)		
Float[2] × Special VC					5.314	5.868
					(2.745)*	(2.817)**
Special VC					-.7329	-1.781
					(1.241)	(1.391)
Whitepaper pages		.0020		-.0034		.0020
		(.0171)		(.0167)		(.0173)
Development roadmap		-1.555		-1.335		-1.244
		(.7960)*		(.7291)*		(.7741)
Business model		-1.158		-1.222		-.9857
		(.5256)**		(.5150)**		(.5479)*
Funding milestones		-.5016		-.3730		-.8100
		(1.419)		(1.316)		(1.523)
Team size		.0016		.0050		-.0057
		(.0337)		(.0331)		(.0331)
Team exp missing		.6714		.4498		.6932
		(.7711)		(.7632)		(.7817)
Investor governance		.8695		.7201		.9195
		(.6420)		(.6349)		(.6460)
Pseudo R^2	.040	.128	.020	.112	.106	.144
No. of Obs.	118	112	118	112	118	112

Estimation is done by logistic regression. Standard errors of the coefficients are presented in parentheses. Statistical significance is denoted as *** 1%, ** 5%, * 10%.