

Entrepreneurial Team Size and Fundraising Success: Evidence from Equity Crowdfunding

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Abstract— How does entrepreneurial team size affect fundraising success? Theory and prior evidence are contradictory or inconclusive at least. Indeed, a resource dependency theory perspective suggests that larger teams have access to more resources, which should positively affect fundraising success. In contrast, a team effectiveness perspective suggests that larger teams incur higher coordination costs, which should negatively affect fundraising success. We address this theoretical paradox by arguing for a curvilinear effect between team size and fundraising success. By drawing on the liabilities of newness and smallness perspectives, we further argue that firm age and size will serve as important moderators. For this study, we exploit data from equity crowdfunding (ECF) markets. In Study 1, we examine the population of 2,942 initial ECF offerings from three ECF platforms in the UK. We provide first-time evidence of the inverted U-shaped relationship between entrepreneurial team size and the fundraising success of the ECF offering. Specifically, an entrepreneurial team of four members exhibits the highest probability in terms of ECF offering success. Moreover, we show that the inverted U-shape is stronger for younger and smaller firms relative to older and larger firms, respectively. In Study 2, we examine 256 initial ECF offerings from an Italian ECF platform and find broadly consistent results on the inverted U-shaped relationship between entrepreneurial team size and fundraising success.

Index Terms—Entrepreneurial finance, entrepreneurial team, equity crowdfunding (ECF), fundraising success.

*If you can't feed a team with two pizzas, that team is too large: we call that the two-pizza team rule*¹. Jeff Bezos, Amazon founder and former CEO

I. INTRODUCTION

EQUITY crowdfunding (ECF) markets provide a unique "laboratory" to study entrepreneurial ventures seeking financing [9], [11], [46]. These markets provide unique data on both ventures that raised financing and those that tried but failed to do so (data on the latter is usually unavailable in other

contexts, such as venture capital and angel markets) [71].

As venture (fundraising) success is a function of its entrepreneurs [41], scholars have extensively examined multiple aspects of entrepreneurial teams and their (fundraising) success [29], [45], [58], [67]. Gartner *et al.* [32] point out that entrepreneurship is more likely to be plural, rather than singular, because entrepreneurial efforts are often the result of collective endeavors. However, while entrepreneurial teams are "at the heart of any new venture" [19]:144, our theoretical and empirical understanding of the seemingly basic question of how entrepreneurial team size affects fundraising success remains surprisingly inconsistent and inconclusive.

Theoretically, resource dependency theory predicts that larger entrepreneurial teams are better equipped to provide resources that are important for venture growth [27], [55]. Ventures with larger teams can more quickly access critical resources for competitive advantage and hence can be viewed as "better" investment opportunities by prospective investors. However, work on team effectiveness highlights that larger teams have conflicting interests among team members that can result in disagreements, dispersed attention, and reduced decision-making abilities [37], [42]. Such effects can make prospective investors less likely to favor firms with larger teams. The above theoretical tensions can "stimulate the development of more encompassing theories" [57]:563, as we do in this study.

Clearly, resource dependency theory and the team effectiveness perspective give rise to conflicting views and the mixed empirical findings to date do not help resolve this quandary. Past crowdfunding research (both in the equity-based and rewards-based context) has indeed focused on whether the relationship between entrepreneurial team size and the success of ventures' fundraising success is linear. While some studies have found positive effects of team size² on fundraising success, other studies have failed to find any effect. It is also interesting to note that no study reports a significant negative effect of team size on fundraising success, despite team effectiveness research

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¹The quotation is from the 2018 Closing Conversation of the George W. Bush Presidential Center's Forum on Leadership, in partnership with Southern Methodist University, and the featured speaker Jeff Bezos, founder, executive chairman and former CEO of Amazon.

²In ECF, studies have focused on the top management team size [22], [69], [70], the board of directors size [59] and the entrepreneurial team size [56]. Also in rewards-based crowdfunding, studies have focused on the top management team size [4], [60], [72] and the funding team size [5]. We focus on the entrepreneurial team size at fundraising. Table A in the Appendix provides a detailed literature review.

highlighting that "smaller teams [demonstrate] better teamwork" [37]: 209. We approach this theoretical quandary through the integration of both resource dependency and team effectiveness frameworks. Specifically, we posit that the conflicting viewpoints regarding the optimal size of entrepreneurial teams become more pronounced as team size expands. As the team expands, the incremental advantages associated with incorporating an additional member (as advocated by resource dependency theory) may be counterbalanced by the escalating internal coordination expenditures (as highlighted in team effectiveness literature). Consequently, we propose a hypothesis positing an inverted U-shaped correlation between entrepreneurial team size and the success of fundraising for entrepreneurial ventures. This conjecture suggests that, at a certain juncture, potential investors may perceive that the anticipated incremental benefits of incorporating an additional team member are outweighed by the associated costs [34].

Moreover, the liabilities of newness perspective [66] suggest the potential for firm age as an important moderator for the team size - fundraising success relationship. Indeed, firm age is theoretically important [12], [51], [52] because younger firms are confronted with key liabilities, such as limited access to resources, working relationships, and tested routines. These characteristics of younger firms make both the resource-provision role of larger teams, but also the coordination costs of larger teams more pressing, relative to their older counterparts. Accordingly, we hypothesize that the inverted U-shaped relationship between team size and fundraising success will be stronger in younger firms than in older firms. In a similar way, the liability of smallness perspective [30] would suggest that firm size could serve as a moderator for the team size - fundraising success relationship. Accordingly, we hypothesize that the inverted U-shaped relationship between team size and fundraising success will be stronger in smaller firms than in larger firms. The joint consideration of both liabilities is important because "existing research has not clearly distinguished between the two liabilities" [33]:1, and it is important to recognize that "[a]lthough most new firms are small, the vast majority of small businesses are old firms" [1]:999. Overall, our study can provide new insights into the question of whether liabilities of newness *and/or* liabilities of smallness are at play.

In Study 1, we examine the population of 2,942 initial ECF offerings from the UK ECF platforms, Crowdcube, Seedrs, and SyndicateRoom, between 2013 and 2020. To control for self-selection in ECF (i.e., entrepreneurial ventures do not end up on ECF platforms at random, rather entrepreneurs need to decide to search ECF first), we also collect data on 3,249 entrepreneurial ventures from Crunchbase that raised equity capital from VCs and Series A funding in particular. Our research provides evidence that there is an inverted U-shaped relationship between team size and the success of the ECF offering. The entrepreneurial team with the highest probability of ECF offering success consists of four members. Finally, the inverted U-shape relationship is especially strong for younger

and smaller firms. In Study 2, we examine the population of 256 initial ECF offerings from an Italian ECF platform, Crowdfundme, between 2015 and 2023. The ventures on this platform are on average larger than in Study 1. We again find an inverted U-shaped relationship between team size and fundraising success, where teams with 5 to 6 people have the greatest ECF fundraising success.

Our study contributes in two ways. First, we contribute to research examining entrepreneurial teams. Prior research acknowledges the importance of teams by studying team formation [45], [46], [61], team characteristics [41], team processes [67], and team performance [68]. Still, we know little about the impact of team size, a basic yet fundamental characteristic of teams. Different theories make opposing predictions. Our study presents a solution to an important theoretical paradox [57] on the value of larger versus smaller teams by arguing for a curvilinear between team size and fundraising success.

Second, this study contributes to the crowdfunding literature and the factors that impact the probability of offering success. Both the ECF crowdfunding [16], [17], [23], [58], [70], [71] and rewards-based crowdfunding literature [4], [60], [72], have explored the linear and independent relationship between team size and the probability of offering success. We show that larger teams do not automatically lead to more successful offerings. Rather, our findings highlight that there is an optimal entrepreneurial team size for the success of initial ECF offerings and that this optimal size is not universal but conditional on firm age and size. This is an important aspect because crowdfunding provides a unique opportunity for studying entrepreneurial finance due to the possibility of differentiating the demand side from the supply side of the market [58]. This differentiation is not simple to achieve in traditional entrepreneurial finance, such as with venture capital and angel investments, because researchers can only observe the outcome of the matching between investors and entrepreneurs. Instead, ECF provides a unique opportunity to observe entrepreneurial teams during fundraising and gain insights into the factors that investors deem important.

II. THEORY AND HYPOTHESES

A. *Entrepreneurial Team Size and Fundraising Success*

The underlying theoretical rationale for the positive relation between entrepreneurial team size and ECF offerings success is that larger teams may be viewed by prospective investors as more capable of providing additional and critical resources that in turn positively affect ventures' prospects. This is consistent with resource dependence theory [55]. In this line, entrepreneurial team members are functional in providing the firm with additional resources, thus reducing firm resource dependency on the environment [54]. Team members provide advice, professional expertise, legitimacy, channels of communication with the environment, and preferential access to elements outside the firm. Everything else equal, the human and relational capital of the entrepreneurial team, which determines its ability to provide such resources to ventures,

increases with its size. Therefore, larger entrepreneurial teams may be able to receive higher pledges when seeking external capital [69]. This, in turn, may positively affect the chances of success or their attempts at raising early-stage finance. Previous studies have pointed to a positive relationship between the venture founding team size and the new ventures' success. Mayer-Haug *et al.* [47] conduct a meta-analysis on the antecedents to venture performance, showing that founding team size positively impacts venture performance. Eesley *et al.* [26] find a positive relationship between founding team size and venture performance, in particular, when the venture operates in a cooperative commercialization environment. Motley *et al.* [49] indicate that the founding team size exhibits positive correlations with positive outcomes, in terms of survival rates and positive exits.³

By contrast, a significant stream of research on team effectiveness highlights that team size is important, "with smaller teams demonstrating better teamwork" [37]:209 (emphasis added). As the size of an entrepreneurial team grows, coordination, communication, and social loafing issues become more likely due to the challenge of managing such larger groups of individuals. Indeed, any organization is comprised of individuals and constituencies pursuing different interests [25] and potentially conflicting goals [2]. All else being equal, an increase in the size of the entrepreneurial team makes it more problematic to identify and achieve organizational goals. Organizational studies indicate that coordination inefficiencies cause diminishing marginal productivity and there are common coordination issues in overall team productivity [18]. Larger teams incur higher coordination costs and are more likely exposed to the coexistence of competing values. This might hinder individual identification in the organizational goal system and the capacity to achieve goals [43]. Members of larger teams may experience lower reciprocity and a higher likelihood of free-riding behavior [68]. Research shows that individuals in larger teams perform worse than smaller teams [35], [50]. Larger entrepreneurial teams face indeed greater internal complexity in terms of mutual coordination and decision-making, with less motivation to assume responsibility, engage in differentiated tasks, social loafing [44], or may even break down when disagreements arise. Therefore, the size of the entrepreneurial team may negatively affect a venture's prospects as prospective investors anticipate the issues linked to larger teams.

Combining both resource dependency theory and research on coordination costs, adding one more team member may be beneficial for small entrepreneurial teams in their effort to receive higher pledges when seeking external capital. However, when reaching a certain size, the expected marginal effect of adding a new member may not be positive for the venture's prospects. Therefore, too large entrepreneurial teams may have a lower probability of reaching the target funding goals due to

greater coordination costs. Hence:

(1): *There is an inverted U-shaped relationship between the entrepreneurial team size and the probability of equity crowdfunding offering success.*

B. The Influence of Firm Age

Theoretically, firm age is likely to serve as a crucial moderator of the relationship between entrepreneurial team size and fundraising success. Indeed, younger firms are confronted with "liabilities of newness" in that they lack access to resources, established working relationships, and tested routines [3], [66], [74]. These challenges are expected to influence both the advantages and disadvantages of entrepreneurial team size for fundraising success as discussed before.

More specifically, younger firms are usually more constrained in their access to financial and other resources, which increases their risk of failure [39], [74]. Accordingly, resource dependence theory's premise that larger entrepreneurial teams are functional in providing firms with more resources becomes especially salient in younger firms. As Chandler and Hanks [14] show, younger firms require fewer financial resources to survive and thrive conditional upon having teams with more human capital. Conversely, older firms typically have established comprehensive internal routines and procedures, granting them preferential access to resources [63] and social connections [66] within their respective sectors. Therefore, older firms will be less dependent upon larger entrepreneurial teams for resource access.

Moreover, as younger firms lack working relationships and tested routines, larger entrepreneurial teams may be especially important in order to have the human resources and related capacity to tackle these issues. In younger firms, there is a stronger need for entrepreneurial team members to engage in activities related to building relationships and establishing routines across the firm's functional domains [15]. Typically, in younger firms, entrepreneurial team members will be extensively involved in nearly all aspects of their venture's activities. Hence, prospective investors in younger firms might especially value teams that are sufficiently large to manage these key challenges. Conversely, as firms age, routines, systems, and standard operating procedures get developed and working relationships are formed. As Jayaraman *et al.* [40]:1217 highlight, "[a] result of this developing organizational architecture is that senior managers will have less need to become involved in operating decisions, or even all strategic decisions, since various aspects of structure broadly defined, will now be substituting for their managerial discretion". Thus, prospective investors in older firms are expected to put less value on larger teams.

However, established relationships, structures, and routines

³Related research links the founder's exit decisions to the size of the entrepreneurial team and its impact in terms of resources and network capabilities. In family businesses, for instance, Wiklund *et al.* [75] have noted that a founder's choice to sell shares to a family member, rather than to a non-family member, depends on the entrepreneurial team size and family

involvement. Piva and Rossi-Lamastra [56] find that in small entrepreneurial teams, founders are less likely to exit by selling shares to an external buyer (rather than to another entrepreneurial team member). See Wennberg & DeTienne [73] for a review of research on entrepreneurial exit.

also foster coordination [7]. Because younger firms generally lack these elements, coordination issues are expected to be especially salient in these firms. Accordingly, prospective investors in younger firms are unlikely to value entrepreneurial teams that are too large because in such teams information sharing and coordination are known to be more difficult [37]. Conversely, in older firms, the developed organizational architecture can help reduce coordination issues across larger entrepreneurial teams, who lead different functional units.

Taken together, the possible benefits of larger entrepreneurial teams—i.e., that they are more likely to have access to critical resources (as detailed in H1)—are especially viewed as important in younger firms because these firms lack internal resources and need the capacity to develop working relationships and routines. However, the possible costs—i.e., coordination issues—of entrepreneurial teams that are too large (as detailed in H1) are also especially salient in younger firms because these firms generally lack established routines and procedures. Hence:

(2): *The inverted U-shaped relationship between the entrepreneurial team size and the probability of equity crowdfunding offering success is stronger for younger firms compared to older firms.*

C. The Influence of Firm Size

From the perspective of resource dependence, smaller firms are confronted with the “liability of smallness”, whereby they are challenged by limited resources and limited market presence [30] (for a recent review, see [33]). Small firms often struggle to compete with larger competitors due to disparities in terms of economies of scale, bargaining power with suppliers, and access to financial resources [53]. Furthermore, small firm size is typically associated with limited market visibility, accountability, and legitimacy, putting small firms in a disadvantageous position during negotiations. In particular, smaller firms are usually more constrained in their access to finance, and more sensitive to environmental variations than large firms, thereby increasing their risk of failure [30], [36], [65]. Thus, resource dependence theory’s premise that larger entrepreneurial teams are instrumental in providing firms with more relationships and resources becomes especially acute in smaller firms.

Moreover, entrepreneurial teams in smaller firms may exhibit higher sensitivity to internal coordination than in larger firms. Internal coordination processes more prominently underlie the liability that smaller firms face than larger firms [65]. Hence, prospective investors are less likely to value too large entrepreneurial teams in smaller firms because in such teams information sharing and coordination are known to be more difficult. Conversely, larger firms possess greater resilience in managing complexity due to their established hierarchical organizational structures that can facilitate internal coordination across larger entrepreneurial teams more effectively.

Taken together, the benefits of larger entrepreneurial teams are viewed as important for small firms because these firms lack internal resources and encounter challenges in attracting talented human capital. However, the costs of entrepreneurial teams are especially salient for smaller firms because they lack established organizational structures to manage internal coordination. Therefore, we formalize our third hypothesis:

(3): *The inverted U-shaped relationship between the entrepreneurial team size and the probability of equity crowdfunding offering success is stronger for smaller firms compared to larger firms.*

III. DATA AND METHOD

A. Main Study (Study 1) in the UK ECF market

The United Kingdom’s ECF market is the largest, raising more than £332m and funding 433 offerings in 2020 [20]. It provides researchers with a large population of ECF offerings launched by entrepreneurial ventures. Most ECF offerings are launched on one of the three main UK crowdfunding platforms, namely Crowdcube, Seedrs, and SyndicateRoom [17]. Crowdcube was the first ECF platform established in 2011. Since then, more than £1b has been raised through ECF offerings [21]. Seedrs was established in 2012 and, as of today, it records a total of £2.4b in investments and 1,900 deals [62]. SyndicateRoom was an ECF platform active between 2013 and 2019, during which over £250m of capital was raised [59]. These three platforms adopt an “all-or-nothing” model as an offering is successfully funded if the target amount is reached, refunding the investors in case of failure in reaching the target otherwise.

B. Sample and data

The empirical setting of this study comprises the population of initial ECF offerings launched by entrepreneurial ventures on UK platforms, as well as a sample of VC-backed ventures (to model possible self-selection into ECF). Consistent with previous studies on ECF [16], [17], [24], we focus on the three largest platforms, namely Crowdcube, Seedrs, and SyndicateRoom, to collect information on initial ECF offerings from entrepreneurial ventures. Since our attention is directed exclusively towards ECF offerings, we do not include offerings that offer convertibles or debt (bonds), but only equity-related offerings. Furthermore, as we are interested only in initial ECF offerings by ventures that raise funds for the first time, we do not consider offerings by entrepreneurial ventures that have already launched previous ECF offerings. Gathering comprehensive information on prior offerings may indeed be challenging [13], [59], as these platforms may decide to not archive all past ECF offerings on their websites. Therefore, to obtain information pertaining to initial ECF offerings that were no longer listed on these platforms’ websites, we used multiple online sources, including Crunchbase⁴ and the Wayback

⁴Crunchbase is an online platform that provides information on ventures and start-ups, including data on founding team, technology, industry news and, most

interestingly, previously firm’s financing rounds. It has been increasingly used in research [13], [64].

Machine⁵. In particular, utilizing the Wayback Machine website allowed us to retrieve the exact amount of the funds collected, and the number of investors involved on the offering closing day. Then, we differentiate between successful and unsuccessful ECF offerings by looking at the amount of capital raised at the closing date of each offer. If the raised amount is greater than the target, the offering is classified as successful, or unsuccessful otherwise. Therefore, we include 1,503 observations from Crowdcube and 1,188 observations from Seedrs. We include data on 251 observations from SyndicateRoom from January 2013 until October 2018, as the platform announced that starting in 2019 it would no longer offer individual ECF investments to investors, but it would transition to a different investment model based on a venture capital approach. Ultimately, the population of our study consists of 2,942 ECF offerings from Crowdcube, Seedrs, and SyndicateRoom from January 2013 to September 2020.

For VC-backed ventures, data on entrepreneurial ventures that received funds from VCs and Series A funding rounds are collected from the Crunchbase database. We considered all registered initial funding rounds from January 2013 to September 2020. VC-backed funding rounds missing essential data were excluded. To maintain comparability between ECF and VC, we only considered deals for early-stage ventures and lower than £3m, excluding multiple rounds of funding. This procedure led to the selection of a sample of 3,249 entrepreneurial ventures that received financing in the form of VC.

C. Variables

Consistent with previous literature on ECF [48], [64], we employ as the main dependent variable of offering success (*Offering Success*), which is defined as a dummy variable equal to one if the funding amount at the offering closing date is at least equal or greater than the target amount. To test our hypotheses, the explanatory variable in the study is the size of the leading entrepreneurial team (*Entrepreneurial Team Size*), which is disclosed on the ECF platform's website. We include two moderator variables. First, the venture's age (*Firm Age*) is calculated as the time between the date of incorporation and the launch date of the offering (to test H2). Second, we include total assets (*Firm Size*), in logarithmic value. Total assets refer to the value of the balance sheet the year before the offering, expressed in millions of British pounds.⁶ We also control for a series of variables that are related to the offering and venture characteristics [70]. Specifically, we include the pre-money valuation (*Pre-Money Value*) measured in logarithmic value. We include a dummy variable that identifies the location, indicating whether the venture is based in London (*London*). Intellectual capital is assessed through a dummy variable that considers if the venture owns or is filing patents (*Patents*). We include a variable accounting for venture diversification strategy (*Diversification*), which is a dummy variable, by

observing the venture's 2-digit SIC level. Finally, we control for tax incentives such as the UK Seed Enterprise Investment Scheme with a dummy variable (*Tax Relief*) which encourages early-stage and seed investments up to £150,000 threshold of capital raised [70]. Platform and industry fixed effects are finally included by employing a set of dummy variables. Table B in the Appendix defines all variables within our model.

D. Model

To test the relationship between the size of the entrepreneurial team and the ECF offering success, we regress *Offering Success* as the dependent variable while controlling for other venture characteristics, industry, and platform dummies.

First, we estimate the determinants of a venture's success by controlling for the potential endogeneity between a venture's entrepreneurial team size and its ECF offering success. In particular, since our focus is on the size of the entrepreneurial team, our main concern is whether some venture's unobserved characteristics may jointly affect the size of the entrepreneurial team and the success of ECF offerings. This potential issue is addressed by employing instrumental variables and using a two-stage regression model (as in [8], [58]). In the first stage, entrepreneurial team size is instrumented through a Mimicking variable, which is calculated as the average entrepreneurial team size of all competing offerings clustered by the same industry (SIC-1 digit) and listed in the three platforms during the current and previous year of analysis. Scholars agree that mimicking is a common behavior for achieving social legitimacy and recognition [8], [28], and is particularly relevant for ECF offerings. The instrumental variables are intended to capture the effect of unobserved factors, in our case industry and platform characteristics by observing all other competing offerings at the time of the offering launch and in the past. Therefore, we use an instrumental variables (IVs) probit regression model.

Second, we also control for potential sample selection bias, as entrepreneurial ventures in the UK that aim to raise early-stage funding may choose ECF, as well as approach traditional funding opportunities, like VC funds and Series A round funding. The selection of these funding sources can be a factor in these ventures' prospects. The selection mechanism is based on unobservable venture characteristics that could be related to the choice of funding source. We use a Heckman model, which consists of a bivariate probit regression on the likelihood of raising funding through ECF. We employ an identification variable (*ECF Propensity*), measured as the number of ECF offerings listed in the UK platforms, divided by the total number of ECF offerings and VC funding rounds in the same industry and the same period or previous to each observation. The selection equation is used to estimate the Inverse Mills Ratios (*IMR*) that are included in the following regressions—i.e., the first and second stages. Therefore, our system of

⁵The Wayback Machine is a digital archive that capture and stores web pages over time, allowing scholars to access and view historical snapshots of such websites.

⁶For non-UK ventures, their total assets are originally expressed in local currency and then converted to British pounds through Orbis Europe, by using exchange rates at the timings of the balance sheet publication.

equations includes a selection equation, followed by two ordinary least squares (OLS) regressions (first stage) to estimate and predict the endogenous variable—i.e., the size of the entrepreneurial team and its squared value—and, finally, a probit regression to estimate the parameters of the main model (second stage). Our system of equations, as described above, is given by the following:

$$ECF_{dummy} = \alpha_1 + \gamma_1 ECF \text{ Propensity} + \delta_1 \bar{X} + \varepsilon_1 \quad (1)$$

$$\ln(ETS) = \alpha_2 + \gamma_2 \text{Mimicking_ln}(ETS) + \gamma_3 [\text{Mimicking_ln}(ETS)]^2 + \theta_2 IMR + \delta_2 \bar{X} + \varepsilon_2 \quad (2)$$

$$[\ln(ETS)]^2 = \alpha_3 + \gamma_4 \text{Mimicking_ln}(ETS) + \gamma_5 [\text{Mimicking_ln}(ETS)]^2 + \theta_3 IMR + \delta_3 \bar{X} + \varepsilon_3 \quad (3)$$

$$\text{Offering Success} = \alpha_4 + \beta_1 \ln(\widehat{ETS}) + \beta_2 [\ln(\widehat{ETS})]^2 + \theta_4 IMR + \delta_4 \bar{X} + \varepsilon_4 \quad (4)$$

Where ECF is a dummy variable equal to 1 if the entrepreneurial venture raises funding through ECF offerings, ECF Preference is measured as the number of ECF offerings, divided by the number of ECF offerings and VC funding rounds in the same industry in the same period or before for each observation, Offering Success is a dummy variable equal to 1 for offerings that raised more capital or the same amount as the target; $\ln(ETS)$ is the logarithmic value of the size of the entrepreneurial team and $\ln(\widehat{ETS})$ are the predicted values from the first-stage regressions (2) and (3) for its square value; $\text{Mimicking_ln}(ETS)$ and its square value are the mimicking variables calculated as the average size of the entrepreneurial team by considering all competing offerings in the same industry (SIC-1 digit), previous and current years; \bar{X} contains the observable determinants of the independent variables, control variables, and dummy variables for industries and platforms for the first and second-stage regressions; ε is the error term.

Finally, we follow the three steps suggested by Haans *et al.* [34] for the inverted U-shaped relationship by studying the coefficients from the estimation of (4). First, the significance level and, in particular, the significance and negative signs of β_2 for inverted U-shaped relationships. Second, the sign of the slope at the minimum and maximum value of the explanatory variable calculated by the partial derivative—i.e., $\beta_1 + 2\beta_2 \ln(ETS)_L$ for the lower end (positive) and $\beta_1 + 2\beta_2 \ln(ETS)_H$ at the higher end (negative). Third, we estimate the value of the curve turning point to be reached within the observed data range. To calculate the turning point, we take the first partial derivative and set it to zero to obtain the turning point for variable $\ln(ETS)$ at the value of $-\beta_1/2\beta_2$. Thus, we convert it into the exponential value $ETS = e^{(-\beta_1/2\beta_2)}$ to calculate the turning point linear value. Haans *et al.* [34] demonstrate with formal proofs and mathematical methods that the calculation for the tuning point is the same for probit models as well as for the linear model.

IV. RESULTS

A. Descriptive Statistics

The sample distribution, with the differences between ECF offerings and VC-backed entrepreneurial ventures, is shown in Table I. Of the 2,942 ECF offerings in our population, 1,389 (47%) are successful, as the funding target of the initial ECF

offering has been reached or exceeded at the time of the closing date. On average, the capital raised is £320k from 180 investors and the ratio of raised over the target amount is 85%. The average size of the entrepreneurial team is 3.0, above the median value of 2. On average, the pre-money value of the offering is £4,336k and the venture's total assets are £287k. Also, 1,049 (36%) ventures are located in London, 324 (11%) ventures own or are filing patents, 1,052 (36%) ventures adopt a diversification strategy, and 2,108 (72%) offerings provide a tax relief model to their investors. Finally, the average firm age is 3.3 years from the incorporation date, higher than the median value of 2.

Concerning the sample of 3,249 VC funding rounds, the average capital raised was £753k and the average size of the entrepreneurial team is 2.0, which is also equal to the median value. On average, the pre-money value of the offering is £2,652k and the venture's total assets are £3,933k. 824 (25%) ventures are located in London, 556 (17%) ventures own or are filing patents, and 2,798 (86%) ventures adopt a diversification strategy. The average firm age is 5.9 years from the incorporation date, higher than the median value of 4.

[Please, Insert Table I about here]

Table II reports a summary of the distribution of entrepreneurial team size within the population of initial ECF offerings. This Table reports the number of initial ECF offerings, successful offerings, and unsuccessful offerings by the entrepreneurial team size. Fig. 1 graphically represents the distribution of initial ECF offerings, distinguishing by successful offerings and unsuccessful offerings. Table C in the Appendix presents the correlations between the variables employed in our analysis with an indication of a pairwise significance level of 1%. The mean variance inflation factor (VIF) for a linear model using an ordinary least square (OLS) regression and offering success as the dependent variable is 1.49. Therefore, the VIF level is well below the suggested threshold where multicollinearity may introduce problems.

[Please, Insert Table II about here]

[Please, Insert Figure 1 about here]

B. Main Results

Hypothesis 1. The results of the two-stage regression with selection estimation on the relationship between entrepreneurial team size, its square value, and offering success are presented in Table III. Column 1 of Table III reports the results of the selection estimation (probit) using *ECF dummy* as the dependent variable and *ECF Propensity* as the identification variable. Columns 2 and 3 report the results of the first stage OLS estimation in which the entrepreneurial team size and its squared value are using the mimicking variable of entrepreneurial team size and its square value. Both the mimicking variable and its square value are significant (p-value <1%) and therefore they are robust for endogeneity controlling (as suggested by Hans *et al.*, 2016). Columns 4 and 5 report the

results of the second stage probit estimations, without *IMR* at first, and then including *IMR* from the Heckman selection estimation, respectively. The outcome variables have the expected sign and significance in both models, following previous literature on ECF success [22], [23], [59], [64]. In Column 5, the linear term of entrepreneurial team size is positive and significant (p-value <1%), while the square value of entrepreneurial team size is negative and significant (p-value <1%). These outcomes, in accordance with Hypothesis 1, confirm that the relationship between the entrepreneurial team size and ECF offering success is an inverted U-shape. Following the three suggested tests for the U-shape relationship by Haans *et al.* [34], first, the squared term for entrepreneurial team size is negative and significant. Second, the slope is sufficiently steep at both ends of the data range, as the minimum value of the entrepreneurial team size corresponds to a positive and significant theoretical value of the partial derivative—i.e. partial derivative equal to 8.4 at the lower end, logarithmic value (p-value <1%)—and at the maximum value in the range of entrepreneurial team size logarithmic value corresponds a negative and significant theoretical value of the partial derivative—i.e. partial derivative equal to -1.4 at the higher end, logarithmic value (p-value <1%). Third, the turning point is located well within the data range, as the theoretical turning point value for both models is reached between the data range bounds. In particular, the turning point in the model 5 corresponds to a 1.5 logarithmic value—i.e., 4.4 individuals in the entrepreneurial team. Concerning control variables in Column 5, the ECF offering is more successful when pre-money valuation is higher (p-value <1%), when total assets are lower (p-value <5%), if the venture is located in London (p-value <5%), when the venture is younger (p-value <1%), if the venture does not adopt a diversification strategy (p-value <5%) and if the offering offers tax relief incentives to investors (p-value <1%). In particular, we report that the effect on *Firm size* and *Patents* variables is mediated by the determination of entrepreneurial team size, in Columns 2 and 3, as the significance levels are absorbed in the process of determining entrepreneurial team size. These results satisfy the suggested model outlined by Haans *et al.* [34] and validate the hypothesized inverted U-shaped relationship.

[Please, Insert Table III about here]

Robustness analysis related to Hypothesis 1. In Table IV, we replicate the analysis using different measures of ECF offering success as dependent variables. We include three new variables as dependent variables, namely the value of the raised amount at the closing date of the offering campaign (*Capital Raised*), the number of participating investors registered at the closing date of the offering (*Number of Investors*), and the ratio of

⁷See results in Table D in the Appendix. In Table E, we summarize all the entrepreneurial team size turning points, in linear value, obtained from all the previous two-stage regressions. In most models, the turning point of entrepreneurial team size in terms of ECF success is reached at four members. Given this overall stability in the turning points level between entrepreneurial team size and the measures of ECF offering success, we further test for

capital raised over the target amount (*Raised / Target*). These results, in accordance with the main analysis, confirm that the relationship between ECF offering success and entrepreneurial team size is an inverted U-shape relationship. Similarly, for the requirements for the U-shape relationship by Haans *et al.* [34] in the main model, we find significance and turning points located within the data range.

[Please, Insert Table IV about here]

Furthermore, we also examine whether the entrepreneurial team size plays a role in determining the heterogeneity of the “crowd”, and their capability to attract also professional (and institutional) investors. Studying the factors that influence the heterogeneity of investors is important because these factors may also affect ECF offering success and the balance between small and professional investors. We repeat the main analysis using new variables as the dependent variables, namely the highest disclosed value of capital raised from an institutional investor (*Capital Inst. Investor*), the inverse ratio between the capital raised from an institutional investor and the capital from the “crowd” of all other investors, which we assume as small investors, on average (*Cap. Small / Inst. Investors*). Also for the study on the heterogeneity of investors and the balance between small and professional investors, we find results in line with previous outcomes.⁷

Hypothesis 2. In Table V, Column 1, we test the effects of firm age and its moderating effect on the entrepreneurial team size - fundraising relationship. The results indicate the presence of a moderating effect on the inverted U-shaped relationship between entrepreneurial team size and ECF success. We follow the tests of Haans *et al.* [34] on the estimation coefficients for moderating effects regression in the inverted U-shaped curves and we find mathematical evidence of the moderating effect of firm age from the estimation coefficients of Table V, in Column 1.

Hypothesis 3. In Table V, Column 2, we test the effects of firm size and its moderating effect on the relationship between entrepreneurial team size and fundraising success. We also find evidence of the presence of a moderating effect of firm size. Finally, Table G in the Appendix reports similar results on the effect of firm size and age when including alternative dependent variables.

[Please, Insert Table V about here]

To ease the interpretation of the age and size as moderator effects, in Fig. 2 and 3, we represent graphically the marginal effect of firm age and size, respectively, on the relationship between entrepreneurial team size on the probability of success. Overall, the evidence supports our Hypotheses 2 and 3.

significance in the differences among the predicted margins (means) at different numbers of entrepreneurial team size, compared with the turning points that were previously calculated. In Table F, we report the difference and significance using t-test statistics, and we find statistical significance in the differences among the means.

[Please, Insert Figure 2 about here]

[Please, Insert Figure 3 about here]

Additionally, to examine potential endogeneity concerns (as firm age and size might correlate with other unmeasured and difficult-to-measure variables), we assess how strong a correlated *omitted* variable would have to be to overturn our results on the effect of a moderating term. This assessment can be made by assessing the adjusted robustness of inference to replacement (RIR) for our interaction terms (as of Busenbark *et al.* [10])⁸. Our analysis reports adjusted RIRs for firm age and its squared term equal to 0.053 and 0.032, respectively, and for firm size and squared term equal to 0.035 and 0.011. This implies that partial correlations between the moderating term of firm age and firm size and entrepreneurial team size, its square value, and ECF offering success with an omitted confounding variable would have to be about 0.231 ($= \sqrt{0.053}$), 0.180 ($= \sqrt{0.032}$), 0.186 ($= \sqrt{0.035}$) and 0.105 ($= \sqrt{0.011}$), respectively, to overrun the results. To conceptualize this result, it would take an omitted variable whose impact is almost equal to that of the most significant variable identified in our analysis for the findings to be invalidated. Given that our model incorporates a reasonable selection of control variables based on prior research, it is unlikely that our results would be driven by a correlated omitted variable.

C. Additional Study (Study 2) on Entrepreneurial Team Size and initial ECF offering success

We replicate our main analysis in a different context. Specifically, we focus on the population of the Italian platform Crowdfundme, which primarily lists equity crowdfunding offerings. Studying a different context than the established UK ECF market from Study 1 can provide evidence on the generalizability of the effect of entrepreneurial team size on ECF success.

We collect data on the population of 256 initial ECF offerings that were launched on Crowdfundme from January 2015 to December 2023. As in Study 1, the main outcome variable is a dummy variable representing the initial ECF offering success (*Offering Success*), with a mean of 0.172.⁹ Our explanatory variable is the size of the entrepreneurial team (*Entrepreneurial Team Size*), with a mean of 4.8 and a median of 4.5. These values are slightly higher than the average entrepreneurial team size observed in Study 1. As control variables, we include the venture's age (*Firm Age*), with a mean of 4.5 years and a median of 3 years, and the total assets (*Firm Size*), with a mean of €1.191 million and a median of €0.186 million. Firms in Study 2 are slightly older and larger than the

firms observed in Study 1. Furthermore, we include the pre-money valuation (*Pre-Money Value*), with a mean of €5.351 million and a median of €2.371 million, a dummy variable equal to one if the venture is based in Milan (*Milan*), with a mean of 0.359 and a median of 0, a dummy variable equal to one if the venture has filed or is filing patents (*Patents*), with a mean of 0.129 and a median of 0, and a dummy variable equal to one if the venture adopt a diversification strategy by observing the venture's 2-digit SIC level (*Diversification*), with a mean of 0.273 and a median of 0. Table H in the Appendix reports the descriptive statistics and the correlations between the variables employed in Study 2.

The results of a probit regression on the relationship between entrepreneurial team size, its square value, and offering success are presented in Table VI. Column 1 is the baseline model including only control variables. Column 2 includes the entrepreneurial team size and its square value. Column 3 includes the moderating effect of firm age on the relationship between entrepreneurial team size and offering success. Column 4 includes the moderating effect of firm size on the relationship between entrepreneurial team size and offering success and Column 5 is the complete model. In these columns, the linear term of entrepreneurial team size is positive and significant (p-value <5%, in most cases, or at least <10%), while the square value of entrepreneurial team size is negative and significant (p-value <5%, in most cases or at least <10% in one case). For what concerns the moderating effect of firm age and firm size, we do not find strict significance, although the sign of these terms is coherent with the signs of Study 1 coefficients (this finding might not be surprising given the much smaller sample size in Study 2). These results confirm that there is an inverted U-shaped relationship between entrepreneurial team size and the probability of ECF offering success. In particular, the turning point is located within the range 5 to 6, which is higher than the turning points in Study 1, where the turning point was located within the range 3 to 5. This result is explained by the characteristics of the population of the platform, given that the average offering in Study 2 is older and larger than that of Study 1.

[Please, Insert Table VI about here]

V. CONCLUSIONS

This study investigates the relationship between entrepreneurial team size and the success of ECF offerings. In Study 1, we use the population of 2,942 ventures that launched an initial ECF offering from 2013 to 2020 in three UK ECF platforms and control for self-selection into ECF. In Study 2, we examine the population of 256 initial ECF offerings that were launched on an Italian ECF platform from 2015 to 2023.

compare our results. Using this approach, we find similar results to the main analysis.

⁹In Crowdfundme, offerings set two levels of target, a minimum and a maximum target. Since that the minimum target is zero in 21 instances (7.9%) within our population, we consider the maximum target. For this reason, Offering Success in Study 2 has a lower average value compared to the average value of Offering Success in Study 1.

⁸We follow the suggestions provided by Busenbark *et al.* [10] to calculate RIR in the case of a dependent binary variable using the average marginal effect for nonlinear models. We use the STATA command `-konfound-` with the options `-sig(0.10)-` for desired confidence level, and `non_li(1)` for binary independent variables and calculate RIR. Hubbard *et al.* [38] employ additional interaction terms in order to provide a better benchmark against which to

Our results indicate that, while a larger entrepreneurial team can be more advantageous for attaining ECF offering success, there are diminishing marginal benefits when the entrepreneurial team size becomes larger. An increase in the entrepreneurial team size can increase critical human capital resources but also internal coordination costs. Coherently, our findings show an inverted U-shaped between entrepreneurial team size and fundraising, reaching the highest probability of ECF offering success when the entrepreneurial team is composed of around four members. This inverted U-shaped relationship is especially strong for younger (smaller) firms as, relative to their older (larger) counterparts, they are more likely to both benefit from the resource-provision role of larger entrepreneurial teams but also suffer the coordination costs of larger teams.

This study contributes to the existing literature in two ways. First, we contribute to the existing literature on entrepreneurial teams for successful ventures. Entrepreneurial team formation (including deciding on team size) is particularly important during the initial stage, as this decision sets the foundation for all future entrepreneurial team dynamics, therefore determining early entrepreneurial success [45]. Theoretically, by arguing for a curvilinear relationship between entrepreneurial team size and ECF fundraising success, we have reconciled divergent views on team size from resource dependence theory and coordination costs from team effectiveness research, respectively. In other words, our paper has presented a novel perspective to bridge the paradox "or the tensions, oppositions, and contradictions among explanations of the same phenomenon" [57]:562 in resource dependence theory versus team effectiveness research. Overall, our research demonstrates that both perspectives hold value and that an integration of both presents a more accurate perspective to understand the team size - fundraising relationship.

Second, this study contributes to the ECF literature and the factors that increase the probability of ECF offering success. Past research has focused on whether entrepreneurial team size impacts positively or negatively ECF offering success [16], [17]. We extend this literature by providing first-time evidence that this relationship is not linear, as there is an inverted U-shaped relationship between entrepreneurial team size and ECF offering success. While larger entrepreneurial teams may conveniently access critical human capital resources, the enlarged size increases the coordination and communication cost creating an information overload for the entrepreneurial team. This relationship is particularly pronounced in younger (smaller) firms, as they are more likely to lack internal resources [66], and are more significantly impacted by coordination costs, associated with difficulties in information sharing and coordination [37]. Bringing the liabilities of newness (smallness) perspectives into the crowdfunding literature represents another important contribution. Rather uniquely our study stresses variance in the age and size of firms that list on ECF platforms and how liabilities of newness and smallness can fundamentally (re-)shape important relationships, such as the team size - fundraising relationship. Research that accounts for both liabilities is important because

the implications of liabilities of newness (which fade as firms age) are distinct from the implications of liabilities of smallness (which may be long-lasting as most firms remain small firms). Accordingly, this distinction is critical for policy, and for our understanding of the drivers of successful fundraising, which is key for firm founding and growth. Overall, our study shows that both liabilities of newness and smallness bring important considerations for the consequences of team size in the ECF context.

Our study has also important practical implications. On the demand side, this research highlights the importance of entrepreneurial team size for aspiring entrepreneurs. Entrepreneurial teams are central to entrepreneurship, but there is surprisingly little guidance by scholarly work on "the optimal" team size. We present very hands-on insights. Adding more members to the entrepreneurial team can determine more resources and capabilities available to the venture, but can also hinder coordination and collaboration, making it more difficult for the task division to manage the venture. Teams of around four people seem to work best, although there is variance in this recommendation based on firm age and size. Such insights from crowdfunding research are particularly timely if we consider that the rise of digital technologies poses new organizational challenges, redesigning organizational structures, and paving the way for new opportunities [6]. On the supply side, investors may make more informed decisions when evaluating their investment options, such as considering ventures by observing their entrepreneurial team to assess their viability and potential. This is particularly relevant for equity crowdfunding investors, that typically engage with the startups in which they invest [31].

As with any study, our research also has limitations. For example, while we have established the generalizability of our findings in two contexts (i.e., the UK and Italian ECF market), future researchers should incorporate possible curvilinear team effects in other contexts, such as reward-based crowdfunding. Moreover, as with other studies in management focusing on the important moderating impact of firm age (size) [12], [51], [52] and the related liabilities of newness (smallness) perspective, firm age (size) can potentially relate to many other variables that are very difficult to measure, such as having or lacking more established routines. While we have presented additional empirical tests that limit such concerns, future research can further unravel the moderating impact of a broader set of variables (including, resource slack, network size, routines).

Furthermore, future studies regarding entrepreneurial teams in entrepreneurial finance are needed. We provide evidence of the role of entrepreneurial team size for ECF offering success, but we do not study the post-campaign success of these ventures [64]. The entrepreneurial team size, and, in particular, the entrepreneurial team's internal coordination costs, may play an important role also in the ECF offering aftermath. For instance, further studies could investigate the differences between initial offering and subsequent venture success to gain insight into the learning prospects for entrepreneurs. Finally, research on entrepreneurial teams has developed valuable knowledge about entrepreneurial teams' demographic composition, member

experiences and motivations, and their effects on various outcomes. We hope that this study will foster future research investigating the relationship between entrepreneurial teams and resource acquisition.

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TABLES

TABLE I
DESCRIPTIVE STATISTICS

Variable	ECF				VC		ECF vs VC
	Mean	Median	Min	Max	Mean	Median	Diff. (Mean)
<i>Outcome variables</i>							
Success (dummy)	0.472	0	0	1	-	-	-
Capital Raised (£m)	0.319	0.102	0	11.297	0.753	0.783	-0.433***
Number of Investors (n.)	180	57	0	7,967	6	3	174***
Raised / Target (ratio)	0.852	0.563	0	14.956	-	-	-
<i>Explanatory variable</i>							
Entrepreneurial Team Size (n.)	3.0	2	1	32	2.0	2	1.0***
<i>Control variables</i>							
Firm Age (years)	3.3	3	0	20	5.9	4	-2.6***
Firm Size (£m)	0.287	0.015	0	31.602	3.933	0.188	-3.647***
Pre-Money Value (£m)	4.336	1.425	0	251	2.652	1.342	1.679***
London (dummy)	0.3570	0	0	1	0.254	0.00	0.103***
Patents (dummy)	0.111	0	0	1	0.171	0.00	-0.061***
Diversification (dummy)	0.358	0	0	1	0.861	1	-0.504***
Tax Relief (dummy)	0.717	1	0	1	-	-	-
Competing Offerings (n.)	2.844	2.380	1	8	-	-	-
Mimicking Entr. Team Size (n.)	2.896	2.730	1.719	6.143	-	-	-
ECF Propensity (ratio)	0.551	0.564	0.071	1	0.481	0.5	0.070***
<i>Observations</i>	2,942				3,249		

Note. This Table reports the descriptive statistics and differences, when applicable, between the population of 2,942 ECF offerings in Crowdcube, Seedrs, and SyndicateRoom and a sample of 3,249 VC-backed entrepreneurial ventures from Crunchbase from 2013 to 2020. Significance levels for the test on the difference between ECF offerings and VC funding rounds are based on t-statistics (for mean values) or z-tests of equal proportions (for dummy variables), when applicable. Average values for successful and unsuccessful offerings are reported in the Table. *** represents statistical significance at the 1% level.

TABLE II
NUMBER OF SUCCESSFUL AND UNSUCCESSFUL OFFERINGS BY ENTREPRENEURIAL TEAM SIZE.

Entr. Team Size (n. of members)	Initial ECF Offerings (n.)	Percent of population(%)	Successful Offerings (n.)	Unsuccessful offerings (n.)
1	780	26.5	229	551
2	797	27.1	339	458
3	496	16.9	251	245
4	329	11.2	202	127
5	174	5.9	122	52
6	143	4.9	94	49
7	95	3.2	61	34
8	54	1.8	36	18
9	25	0.8	18	6
10	19	0.6	16	3
11	13	0.4	8	5
12 or greater	17	0.6	13	5
Observations	2,942	100	1,389	1,553

TABLE III
EFFECT OF THE ENTREPRENEURIAL TEAM SIZE ON THE ECF OFFERING SUCCESS.

	(1) Probit Selection ECF	(2) OLS First Stage ln(Entr. Team Size)	(3) OLS First Stage [ln(Entr. Team Size)] ²	(4) Probit Second Stage Offering Success	(5) Probit Second Stage Offering Success
ln(Entr. Team Size)	-0.070 (0.130)	-	-	8.219*** (2.163)	7.039*** (1.613)
[ln(Entr. Team Size)] ²	0.681*** (0.081)	-	-	-2.713*** (0.797)	-2.347*** (0.687)
ln(Firm Age+1)	-0.509*** (0.039)	0.017 (0.013)	0.025 (0.026)	-0.185*** (0.059)	-0.410*** (0.127)
ln(Pre-Money Value+1)	0.263*** (0.010)	0.108*** (0.010)	0.239*** (0.020)	-0.053 (0.128)	0.151*** (0.041)
ln(Firm Size+1)	-0.302*** (0.011)	0.046*** (0.004)	0.090*** (0.008)	-0.075 (0.055)	-0.155* (0.081)
London	0.322*** (0.058)	0.032 (0.023)	0.040 (0.047)	0.047 (0.110)	0.252** (0.105)
Patents	-0.069 (0.081)	0.253*** (0.038)	0.618*** (0.077)	-0.038 (0.324)	0.255 (0.188)
Diversification	-1.383*** (0.059)	0.028 (0.025)	0.041 (0.050)	-0.075 (0.112)	-0.831** (0.372)
Tax Relief	- -	0.046* (0.025)	0.040 (0.051)	0.275** (0.126)	0.370*** (0.098)
Competing Offerings by Entr. Team Size		-0.011 (0.107)	0.052 (0.216)	0.442 (0.422)	0.467 (0.363)
Mimicking ln(Entr. Team Size)	- -	4.550*** (1.160)	9.272*** (2.343)	- -	- -
[Mimicking ln(Entr. Team Size)] ²	- -	-2.385*** (0.599)	-5.548*** (1.210)	- -	- -
ECF Propensity	2.717*** (0.221)	-	-	-	-
IMR	- -	-	-	-	1.990** (0.875)
<i>Industry/Platform dummies</i>	-	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Constant	-2.744*** (0.184)	-2.369*** (0.515)	-4.546*** (1.040)	-4.290*** (0.926)	-6.725*** (0.882)
Observations	6,191	2,942	2,942	2,942	2,942
Log Likelihood	-1,741	-1,741	-1,741	-1,741	-1,739
Root MSE	2.365	2.365	2.365	2.365	1.970
<i>Turning Point = e^λ(-β₁/2β₂)</i>	-	-	-	4.548	4.479

Note. This Table reports the results of the two-stage model with the selection equation and using Offering Success as the dependent variable. We use the population of 2,942 ECF on UK platforms from 2013 to 2020, compared with a sample of 3,249 VC-backed entrepreneurial ventures for the selection equation. Model (1) is the selection equation where ECF Propensity is included for the identification condition. Models (2-3) are the first stage regressions in which Entr. Team Size and its square value have been instrumented with Mimicking ln(Entr. Team Size) and its square value. Model (4) is the second stage regression without including IMR and Model (5) is the second stage regression including IMR, estimated from the selection regression. Heteroscedasticity-robust standard errors are reported in parentheses. ***, ** and * represent, respectively, significance levels below 1%, 5% and 10%.

TABLE IV
ALTERNATIVE MEASURES OF ECF OFFERING SUCCESS

	(1) 2SLS	(2) 2SLS	(3) 2SLS	(4) 2SLS	(5) 2SLS	(6) 2SLS
	Second Stage	Second Stage	Second Stage	Second Stage	Second Stage	Second Stage
	ln(Capital Raised+1)	ln(Capital Raised+1)	ln(Num. Investors+1)	ln(Num. Investors+1)	Raised / Target	Raised / Target
ln(Entrepreneurial Team Size)	15.161*** (3.457)	13.563*** (2.643)	15.434*** (3.418)	13.644*** (2.536)	4.245*** (1.112)	3.614*** (0.830)
[ln(Entrepreneurial Team Size)] ²	-5.594*** (1.294)	-5.100*** (1.154)	-5.551*** (1.279)	-4.998*** (1.107)	-1.424*** (0.416)	-1.229*** (0.363)
ln(Firm Age+1)	-0.100 (0.098)	-0.400* (0.210)	-0.116 (0.097)	-0.452** (0.202)	-0.079** (0.032)	-0.197*** (0.066)
ln(Pre-Money Value+1)	0.344* (0.209)	0.616*** (0.071)	0.058 (0.206)	0.363*** (0.068)	0.050 (0.067)	0.158*** (0.022)
ln(Firm Size+1)	-0.106 (0.089)	-0.211 (0.135)	-0.135 (0.088)	-0.253* (0.130)	-0.041 (0.029)	-0.083* (0.042)
London	0.031 (0.184)	0.304* (0.180)	-0.051 (0.182)	0.255 (0.173)	-0.023 (0.059)	0.084 (0.057)
Patents	-0.032 (0.535)	0.360 (0.323)	-0.157 (0.529)	0.282 (0.310)	-0.038 (0.172)	0.117 (0.101)
Diversification	-0.315* (0.186)	-1.324** (0.620)	-0.260 (0.184)	-1.390** (0.595)	-0.058 (0.060)	-0.456*** (0.195)
Tax Relief	-0.300 (0.208)	-0.172 (0.169)	-0.436** (0.205)	-0.293* (0.162)	0.054 (0.067)	0.104** (0.053)
Competing Offerings by Entr. Team Size	0.727 (0.704)	0.759 (0.625)	0.895 (0.696)	0.931 (0.600)	0.227 (0.226)	0.239 (0.196)
IMR	- (1.539)	2.658* (1.458)	- (1.522)	2.978** (1.399)	- (0.495)	1.049** (0.458)
Industry / Platform dummies	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-14.636*** (1.539)	-17.867*** (1.436)	-6.891*** (1.522)	-10.510*** (1.378)	-2.532*** (0.495)	-3.807*** (0.451)
Observations	2,942	2,942	2,942	2,942	2,942	2,942
Log Likelihood	-6,047	-6,044	-5,033	-5,027	-3,473	-3,473
Root MSE	4.170	3.713	4.124	4.185	1.342	1.166
Turning Point = $e^{(-\beta_1/2\beta_2)}$	3.877	3.780	4.015	3.916	4.439	4.351

Note. This Table reports the second stages of 2SLS model using alternative dependent variables as measures of ECF offering success. Models (1-2) use the variable ln(Capital Raised+1) as the dependent variable. Models (3-4) use the variable ln(Num. of Investors+1) as the dependent variable. Models (5-6) use the variable Raised / Target as the dependent variable. The selection equation and the first-stage regressions are omitted. Heteroscedasticity-robust standard errors are reported in parentheses. ***, ** and * represent, respectively, significance levels below 1%, 5% and 10%.

TABLE V

MODERATING EFFECT OF FIRM AGE AND FIRM SIZE ON THE RELATIONSHIP BETWEEN THE ENTREPRENEURIAL TEAM SIZE AND THE PROBABILITY OF THE ECF OFFERING SUCCESS

	(1) Probit	(2) Probit	(3) Probit
	Second Stage Offering Success	Second Stage Offering Success	Second Stage Offering Success
ln(Entr. Team Size)	6.830*** (1.689)	7.775*** (2.031)	6.772*** (1.860)
[ln(Entr. Team Size)] ²	-2.267** (1.011)	-3.060** (1.229)	-2.285* (1.204)
ln(Firm Age+1) x ln(Entr. Team Size)	-2.750*** (0.769)		-2.293*** (0.514)
ln(Firm Age+1) x [ln(Entr. Team Size)] ²	1.106** (0.469)		0.939*** (0.281)
ln(Firm Size) x ln(Entr. Team Size)		-0.903*** (0.275)	-0.336** (0.165)
ln(Firm Size) x [ln(Entr. Team Size)] ²		0.409** (0.170)	0.113 (0.110)
ln(Firm Age+1)	0.594*** (0.165)	-0.313*** (0.075)	0.488*** (0.138)
ln(Firm Size+1)	-0.083* (0.046)	0.209*** (0.053)	0.103*** (0.038)
ln(Pre-Money Value+1)	0.143*** (0.045)	0.163*** (0.048)	0.139*** (0.048)
London	0.219*** (0.080)	0.252*** (0.083)	0.194** (0.078)
Patents	0.292** (0.140)	0.270 (0.166)	0.301** (0.141)
Diversification	-0.625** (0.247)	-0.521** (0.248)	-0.467** (0.206)
Tax Relief	0.464*** (0.085)	0.435*** (0.091)	0.479*** (0.084)
Competing Offerings	0.592* (0.317)	0.615* (0.324)	0.622** (0.303)
IMR	1.544*** (0.553)	1.351*** (0.523)	1.166*** (0.421)
<i>Industry / Platform dummies</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Constant	-6.657*** (0.698)	-6.745*** (0.743)	-6.475*** (0.671)
Observations	2,942	2,942	2,942
Log Likelihood	-1,759	-1,756	-1,752
Root MSE	1.738	1.830	1.689

Note. This Table reports the results of the second stages of the two-stage model with selection, using Offering success as the dependent variable. Model (1) include the interaction factors of Firm age on the relationship between Entr. Team Size and Offering success. Model (2) include the interaction factors of Firm Size (Total Assets) on the relationship between Entr. Team Size and its square value and Success. Model (3) is the complete model. We omit the selection regression and the first stage regressions in which Entr. Team Size and its square value have been instrumented with mimicking variable and its square value. Heteroscedasticity-robust standard errors are reported in parentheses. ***, ** and * represent, respectively, significance levels below 1%, 5% and 10%.

TABLE V
EFFECT OF THE ENTREPRENEURIAL TEAM SIZE ON THE ECF OFFERING SUCCESS (STUDY 2)

	(1)	(2)	(3)	(4)	(5)
	Probit	Probit	Probit	Probit	Probit
	Offering Success				
ln(Entr. Team Size)		1.773*	2.075**	2.182**	2.055**
[ln(Entr. Team Size)] ²		(0.941)	(0.996)	(0.984)	(1.011)
ln(Firm Age+1) x ln(Entr. Team Size)		-0.537*	-0.721**	-0.725**	-0.725**
		(0.324)	(0.360)	(0.352)	(0.369)
ln(Firm Age+1) x [ln(Entr. Team Size)] ²			-0.089		-0.023
			(0.066)		(0.079)
ln(Firm Size) x ln(Entr. Team Size)			0.049		0.026
			(0.036)		(0.044)
ln(Firm Size) x [ln(Entr. Team Size)] ²				-1.551**	-1.436
				(0.785)	(0.937)
ln(Firm Age+1)	-0.034	0.001	0.125	0.101	-0.088
	(0.177)	(0.179)	(0.265)	(0.191)	(0.289)
ln(Firm Size+1)	-0.004	-0.000	-0.009	0.075	0.105
	(0.046)	(0.047)	(0.048)	(0.061)	(0.070)
ln(Pre-Money Value+1)	0.067	-0.056	-0.044	-0.022	-0.008
	(0.050)	(0.080)	(0.080)	(0.081)	(0.082)
Milan	-0.030	0.026	0.034	-0.009	-0.009
	(0.208)	(0.215)	(0.217)	(0.219)	(0.221)
Patents	0.135	0.234	0.213	0.282	0.272
	(0.285)	(0.288)	(0.290)	(0.296)	(0.300)
Diversification	-0.413	-0.353	-0.348	-0.246	-0.183
	(0.292)	(0.288)	(0.290)	(0.302)	(0.307)
<i>Industry dummies</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Constant	-1.660***	-2.056***	-2.281***	-2.727***	-2.633***
	(0.505)	(0.597)	(0.675)	(0.706)	(0.728)
Observations	256	256	256	256	256
Log Likelihood	-110.0	-107.6	-106.5	-104.0	-103.2
Pseudo R2	0.063	0.084	0.094	0.115	0.121
<i>Turning Point = e[^](-β₁/2β₂)</i>	-	5.214	-		

Note. This table reports the results of a Probit model with Offering Success as the dependent variable using the population of 256 initial ECF offerings from January 2015 to December 2023 in the Italian ECF platform Crowdfundme. Model (1) is the baseline model with control variables; Model (2) includes Entr. Team Size and its square value; Model (3) includes the interaction terms between Firm Age and Entr. Team Size and its square value. Model (4) includes the interaction terms between Firm Size (Total Assets) and Entr. Team Size and its square value. Model (5) is the complete model. Heteroscedasticity-robust standard errors are reported in parentheses. ***, ** and * represent, respectively, significance levels below 1%, 5% and 10%

FIGURES

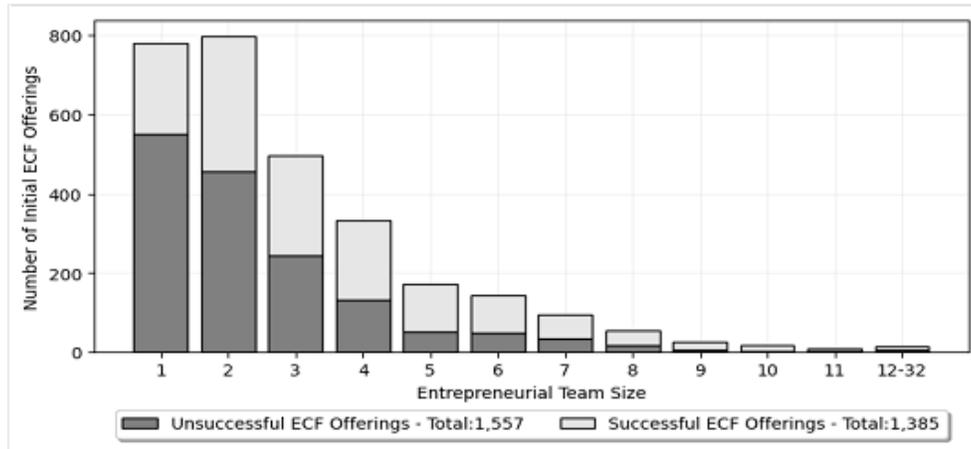


Fig. 1. Successful (1,385 obs.) and unsuccessful (1,557 obs.) offerings by entrepreneurial team size.

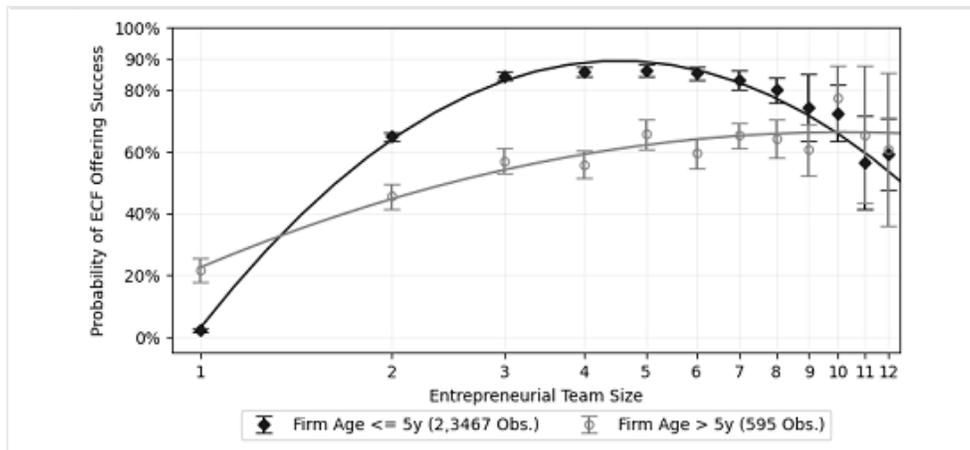


Fig. 2. Moderating effect of firm age on the relationship between entrepreneurial team size and probability of ECF offering success. For each level of entrepreneurial team size, mean values are represented at 95% confidence intervals.

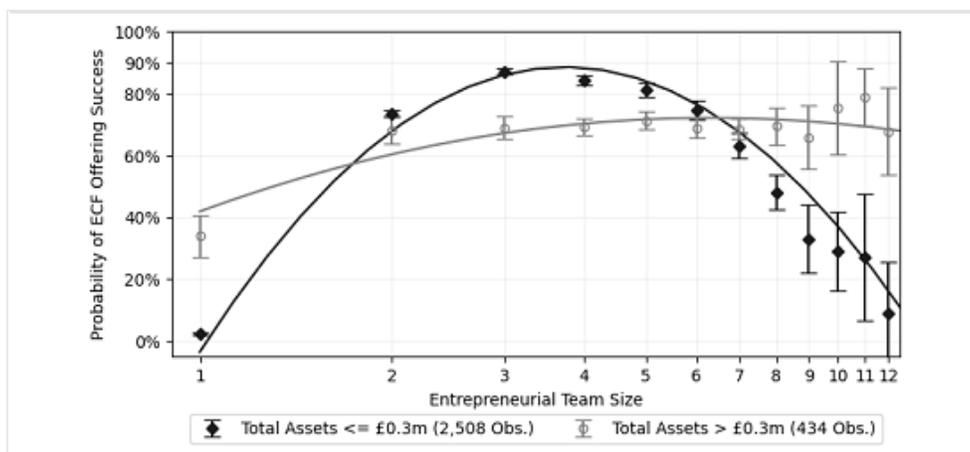


Fig. 3. Moderating effect of firm size on the relationship between entrepreneurial team size and probability of ECF offering success. For each level of entrepreneurial team size, mean values are represented at 95% confidence intervals.