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Finance Working Paper N° 955/2024
February 2024

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ECGI Working Paper Series in Finance

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Keywords: Crowdfunding, Platform, Angel, Digital finance, Lead investor, Governance

JEL Classifications: G23, G24

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This Draft: January 2024

First Draft: January 2021

Abstract

Collective action problems arise in equity crowdfunding (ECF) markets due to coordination failures linked to the free rider problem and due to the costs of undertaking due diligence and monitoring. ECF platforms have responded to this challenge by combining aspects of the pure and angel ECF models into the syndicated ECF model. The latter mitigates collective action problems by requiring a lead investor syndicate (group) to garner pledges for 20% or more of the target capital prior to the campaign going public. The lead investor's own stake incentivizes her to conduct thorough due diligence and to monitor the ECF firm until exit. The nominee structure is ideal for syndicated ECF as it mitigates conflicts by assigning equal ownership and voting rights to all investors, enabling angels to exploit the wisdom of the crowd and alleviating potential principal-principal conflicts between angels, other accredited investors and the crowd. The data examined support these predictions insofar as syndicated nominee ECF campaigns exhibit better short- and long-run performance than their direct ownership counterparts. Our findings offer valuable governance insights to platform managers and policymakers who promote nominee schemes.

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INTRODUCTION

In innovative entrepreneurial finance markets, equity crowdfunding platforms (ECFPs) target a set of heterogeneous "digital" investors using distinct ECF models and corporate governance mechanisms (see, for example, Ahlers et al., 2015; Drover et al., 2017; Vu and Christian, 2023). ECFPs digitally match startups (entrepreneurs) seeking outside private equity and investors providing funds in exchange for potential future financial returns (Schwienbacher, 2019). In the pure ECF model (Vismara 2016) equity is supplied by the "crowd" of small investors. The limited individual incentives for crowd investors to perform due diligence or monitoring can lead to a collective action problem or coordination failure. Early on, the pure ECF model was challenged by angel crowdfunding (SyndicateRoom in the UK and AngelList in the USA) which is a pure accredited investor ECF model. A more influential development has been the emergence of the syndicated ECF model that combines aspects of the pure and angel ECF models (Hornuf and Schwienbacher 2016).

The large UK ECFPs attracted angels and other accredited investors to their campaigns from the outset (Cumming et al. 2019a; Ralcheva and Roosenboom 2020; Wang et al. 2019) but not in a formal, organized fashion. Although ECF has been widely studied (see Mochkabadi and Volkmann (2018) for a review), the agency issues raised by syndicated models and how ECFP corporate governance structures deal with these have been largely neglected. This paper addresses these issues. In innovative entrepreneurial finance markets, equity crowdfunding platforms (ECFPs) target a set of heterogeneous "digital" investors using distinct ECF models and corporate governance mechanisms. The matching between entrepreneurs and investors is performed digitally by the ECFPs that link the demand for private equity by entrepreneurs with the supply by a "crowd" of small investors and, increasingly, angels, venture capital, family offices and other qualified

investors (Wang et al. 2019). Now the collective action problem for the ECFP becomes one of coordinating a set of extremely heterogeneous investors that can lead to new potential principal-principal conflicts both between the crowd and accredited investors or between, for example, angel and VC investors (Cumming et al. 2019a).

This paper's first contribution is that it conceptualizes the syndicated ECF model (Rossi et al. 2019) as combining salient aspects of pure ECF and angel ECF into a new model.[1] Syndicated ECF applies the lead investor concept – typically an angel with relevant industry expertise – from angel and venture capital syndicates to equity crowdfunding (Agrawal et al. 2016). As the lead investor has skin in the game due to her large personal investment, she is incentivized to conduct thorough due diligence and this resolves one of the key problems that bedeviled pure ECF where no one investor has such a responsibility. Since the lead investor has a long-term perspective – she earns carry on a successful exit – she is also incentivized to engage in post-campaign monitoring. Monitoring mitigates potential adverse selection and moral hazard issues and thus aligns the interests of the ECFP, investors and startups. Moreover, the ECFPs have introduced a new provision point mechanism (PPM) where the lead investor must solicit pledges during the private ECF campaign for a minimum proportion (e.g. 25% on SyndicateRoom initially) of the target prior to the campaign going public. The intuition here is that this initial precommitment of funds induces L-shaped dynamics when the campaign goes public. In turn, this attracts investor attention and triggers investment cascades from both other accredited investors and the crowd (Hornuf and Schwienbacher 2018; Vismara 2018; Wang et al. 2019). These thus solve the initial collective action and traction problems for large campaigns.

[1] To the best of our knowledge, Rossi et al. (2019) were the first to refer to syndicate-like ECF platforms.

This paper's second contribution is that it investigates the governance mechanisms (nominee versus direct ownership) that can deal with syndicated ECF agency problems to advance a deeper understanding of crowdfunding investment contingencies (Cumming et al. 2019a). Syndicated ECF attracts VC, private equity, and family office funds alongside angels and the crowd. Its merits are that accredited investors can enjoy the wisdom of the crowd (Vismara, 2018) and the crowd can exploit the due diligence and monitoring roles of the lead angel. Such syndicated ECF models involve multi-sided markets – comprising the entrepreneur, lead investor and other qualified investors, and crowd investors - rather than the two-sided market of pure ECF (Belleflamme et al. 2015). Evans and Schmalansee (2016) highlight the key role indirect network externalities play in multi-sided markets or platforms. On ECF platforms, these arise between both the crowd and accredited investors and between them and the startup seeking funds.

The syndicated ECF model can also lead to potential principal-principal conflicts between angels and other accredited investors and other coordination issues. The nominee governance structure – which is both an adaptation and extension of angel and VC syndicate governance structures – is designed to resolve such issues in two ways. First, by assigning equal ownership and voting rights to all investors, it enfranchises the crowd and so ensures that nominee campaigns benefit from its wisdom. Second, by providing an ongoing digital governance structure for successful startups in terms of monitoring and follow-on funding, it aligns the long-term interests (Kleinert et al. 2020) of the startup, investors and ECFP, all of whom stand to benefit from a successful exit (Cumming et al. 2021). The UK ECF ecosystem offers a natural setting for testing hypotheses about contrasting governance mechanisms - nominee versus direct versus ownership – and, in particular, about the performance of syndicated nominee campaigns post-2016 when the ECF model was established.

The paper's third contribution is that it analyses the intra-platform quasi-experiment where Crowdcube offered the option of nominee campaigns from 2015. Using this experiment extends the analysis of ECF platforms from a *static* comparison to a *dynamic* perspective. In particular, the paper complements previous evidence (e.g., Butticè et al., 2020; Walthoff-Borm et al. 2018b) by producing intra-platform evidence that syndicated campaigns with a nominee structure are more likely to outperform in the short run relative to direct ownership campaigns. It also establishes that syndicated nominee campaigns on average enjoy greater long-run success in terms of conducting follow-on ECF and other offerings and numbers of such offerings (see also Hornuf et al. 2018; Signori and Vismara 2018; Coakley et al. 2022a).

The paper is organized as follows. The next section outlines equity crowdfunding innovations in the UK and discusses our hypotheses. Thereafter, we summarize our research design, and then discuss our empirical results and robustness tests, respectively. The final section concludes.

LITERATURE AND HYPOTHESES

Evolution of ECF platforms in the UK

The UK has the world's most developed ECF ecosystem that exhibits great diversity among its three large platforms, Seedrs, Crowdcube, and SyndicateRoom. Crowdcube started with a direct ownership governance structure in 2011 and established itself as the leading UK ECF platform. Seedrs distanced itself from Crowdcube in 2012 by employing a nominee governance model run by the platform. Prior to 2016, pure ECF campaigns on these two platforms enjoyed the wisdom of the crowd but, as two-sided markets (Belleflamme et al. 2015), they struggled to raise large amounts of equity without the traction of quality signals and monitoring roles provided by angels

and other qualified investors. Along these lines, Walthoff-Borm et al. (2018b) describe their sample of UK ECF campaigns up to 2015 as funding of last resort.

SyndicateRoom commenced business in 2013 as a direct ownership angel ECFP. It featured an angel lead investor (LI) who performed due diligence and organized a syndicate that committed pledges for 25% of the target capital prior to the public launch of the campaign. For this reason we refer to it as a syndicated angel ECF that was quite similar to AngelList in the USA (Agrawal et al. 2016). It pioneered a provision point mechanism (PPM) with the lead investor syndicate responsible for garnering pledges for at least 25% of the target capital in the private phase of the campaign. These early pledges based on thorough due diligence ignited investor attention from day one of the public campaign and led to cascading investor behavior and L-shaped early funding dynamics (Vismara 2018). This type of PPM was crucial to the success of the large SyndicateRoom campaigns and so a version was also adopted by Crowdcube and Seedrs.

As evident in the above description of each platform, the evolution of the equity crowdfunding market in the UK testifies to the emergence of different equity crowdfunding models. Perhaps the most significant post-2015 change is the rise of the syndicated ECF model with a lead angel investor syndicate (group) on both Crowdcube and Seedrs. The lead investor provided a very effective means of attracting more professional investors to invest in ECF campaigns so that ECFPs and professional investors (VC and private equity funds, family offices and others) became complementary. The syndicated ECF firm has a more complex share ownership structure involving an angel (broadly defined) lead investor, other qualified investors and the crowd with potential for principal-principal conflicts between different groups of shareholders The digital nominee governance structure is well suited both to dealing with coordination issues involving the high investor numbers associated with large ECF campaigns and to resolving possible principal-

principal conflicts (Coakley and Lazos 2021). This explains why it was adopted by both SyndicateRoom and Crowdcube (as an option) from late 2015.

Figure 1 synthesizes the evolution of platform mechanisms. This evolutionary trajectory, coupled with inherent variations across platforms, offers a unique opportunity to explore the micro-functioning of ECF markets. Consequently, it facilitates an examination of the extent to which governance mechanisms address collective action problems stemming from coordination failure and the significant costs associated with due diligence in ECF markets (Cumming et al. 2019b).

[Figure 1 around here]

Hypothesis development

Short-run performance. In direct ownership ECF, investors directly own shares in the ECF firm. Voting rights are not automatically allocated on Crowdcube; investors might invest just at (more than) the threshold required in each campaign to obtain voting rights. Smaller impecunious investors are less likely to obtain voting shares.. This separation between ownership and control can lead to agency costs and conflicts between large and small investors (Cumming et al. 2019a). The underlying rationale for a nominee ownership and governance structure is that campaigns with these features are attractive to crowd investors and also are more likely to attract accredited investors. Nominee ownership also signals better investor protection (especially for the crowd) relative to direct ownershipa as this structure has been well established in angel and venture capital syndicates (Catalini and Hui 2019). These considerations lead to our first main hypothesis:

H1: Nominee ECF firms outperform direct ownership firms over the full sample period.

The syndicated ECF model that combines aspectsof the pure ECF and the angel ECF model emerged in late 2015. Its nominee structure is designed to mitigate principal-principal conflicts. In turn, the involvement of the angel lead investor syndicate in campaigns acts as a quality signal (Kleinert et al. 2022). As such it provides a certification effect for due diligence and garnering early pledges from other accredited investors and for future monitoring of the venture. Wang et al. (2019) highlight that angels play a very important role in the pre-campaign provision point mechanism for financing large campaigns by attracting more accredited investors while the crowd plays a pivotal funding role for small campaigns. Finally, the nominee strvuture also minimizes coordination and related administrative costs for startups as the platform as nominee digitally manages the arm's length relationship between the shareholders and the venture founder team through electronic voting and decision-making, updates and online meetings (Butticè et al. 2020).

SyndicateRoom switched from a direct ownership to a nominee syndicated ECF platform that was fostered by the growing involvement of angel, VC and other accredited investors from late 2015. It was likely influenced by the prior rise of nominee syndicated ECF on the Seedrs platform (Wang et al. 2019). The nominee structure's lead investor provision point mechanism leads to early L-shaped dynamics that are vital for the funding of large campaigns (Agrawal et al. 2016). This leads to Hypothesis 2.

H2: Syndicated nominee ECF firms outperform syndicated direct ownership firms from 2016.

Crowdcube acknowledged the clear merits of nominee ECF campaigns from February 2015. It thus began to offer nominee as well as direct ownership campaigns on its platform. Moreover, it followed Seedrs and SyndicateRoom in moving to syndicated nominee campaigns

from late 2015. Thus, Crowdcube syndicated nominee campaigns are also predict to outperform their syndicated direct ownership counterparts in line with H2

Long-run performance. Here we follow the ECF literature in referring to the post-initial ECF campaign performance of firms as their long run performance (Signori and Vismara 2018; Hornuf et al. 2018; Coakley et al. 2022b) [2]. The typical ECF firm is young and will thus require follow-on funding to scale and grow. Here the nominee structure acts as a signaling device or certification effect for both existing and new investors. Supportive of this idea, Coakley et al. (2022a) study seasoned (follow-on) equity crowdfunded offerings (SECOs). Their results show that the Seedrs nominee model and SyndicateRoom angel ECF model dominate the direct ownership model in terms of the probability of conducting a successful first SECO campaign. Signori and Vismara (2018) and Butticè et al. (2020) also find that a successful initial ECF campaign facilitates the attraction of VC financing, particularly for campaigns with a nominee structure as it lowers the chances of agency conflicts with and between follow-on investors. Walthoff-Borm et al. (2018a) find that nominee ECF firms make smaller post-campaign losses than their direct ownership counterparts. Finally, by providing an ongoing digital monitoring system for successful startups and a structure for follow-on funding, it aligns the long-term interests (Kleinert et al. 2020) of the startup, investors and ECFP, all of whom stand to benefit either via carry or reputational effects from an eventual successful exit (Cumming et al. 2021). This leads to the following hypothesis:

H3: Nominee ECF firms outperform direct ownership ECF firms in terms of successful follow-on (SECO) campaigns and the number of such campaigns.

[2] We are grateful to an anonymous reviewer for bringing the issue of the definition of the long run to our attention.

RESEARCH DESIGN

This section outlines the data, defines the variables, and explains the methodology employed in this study. Table A1 gives detailed variable definitions.

Sample and variables

The data were purchased from TAB UK – formerly Crowdsurfer – on 1,126 (successful and unsuccessful) initial ECF campaigns over the 2012-2018 period in the UK.[3] TAB was acquired by Thomson Reuters and added to its Eikon App Studio.[4] Our dataset was augmented with firm-level data gathered from the UK Companies House. It has been deployed in other ECF studies such as Signori and Vismara (2018) and Walthoff-Borm et al. (2018a). Firms are monitored from the end of their initial campaign /offering until November 2020.

Three dependent variables are used to proxy short-term success. The first is a success dummy (*Success_d*) that takes value 1 for successful campaigns and 0 otherwise. The second is the (logged) total amount (£k) of funds (*Amount*) raised by the end of the initial campaign. The final one is an amount-to-goal (*Amount-to-goal)* that is the amount raised over the goal set at the beginning of the offering.[5]

Three dependent variables are also used to proxy post-campaign performance. The first is a dummy variable (*SECO_d*) that takes value 1 if a firm has conducted at least one SECO and 0

[3] Follow-on offerings - the same venture using the same ECF platform to issue additional equity - are removed to avoid endogeneity that may arise from the certification effect of a successful initial campaign signals and the first follow-on campaign performance.
[4] See https://www.financedigest.com/thomson-reuters-adds-alternative-finance-intelligence-to-eikon-with-tab-dashboard.html
[5] Rossi et al. (2021) reveal that female entrepreneurs ask for less by setting lower target for their offerings. Thus, while their campaigns may be more likely to reach the target, they are less likely to raise more capital. We employ these dependent variables to reduce the likelihood that our results are driven by fundraising strategies.

otherwise. The second is the total number of SECOs (*SECO_nos*) conducted. The last dependent variable is a failure dummy (*Fail_d*) that takes the value 1 if the firm has defaulted, is in liquidation or administration, and 0 if it still operates. Signori and Vismara (2018) and Hornuf et al. (2018) follow a similar approach. The variables of interest and control variables are defined in Appendix A.

Methodology

Short-term performance. Our study compares Seedrs nominee with Crowdcube direct offerings and SyndicateRoom-Crowdcube nominee with Crowdcube direct campaigns to analyze the effect of the nominee ownership structure on ECF firm short-term outcomes. Due diligence may differ across platforms which in turn may affect campaign outcomes (Kleinert et al., 2022). As a result, there may be differences in startup intrinsic value across platforms. We deal with this potential endogeneity issue by constructing a sub-sample in which nominee and direct offerings share similar characteristics thereby isolating the effect of nominee on campaign outcomes. This check mitigates the likelihood that our results are driven by the possibility that higher-quality startups underpin a specific corporate governance scheme due to, for example, more thorough due diligence being undertaken by a platform.

The coarsened exact matching method is employed to construct a subsample in which nominee ECF firms share similar characteristics to direct ownership ECF firms. The advantage of this method is that it belongs to a class of monotonic imbalance bounding methods. It bounds the error in estimating the average treatment effect and that regarding model dependence. Thus, it may result in better balance compared to other matching methods (Blackwell et al., 2009). We follow Walthoff-Borm et al. (2018b) in employing matching criteria that have been shown to affect

campaign success and can be viewed as quality signals. Nominee campaign firms are matched with direct ownership campaign firms according to firm age, pre-money valuation and industry group (industry dummies are used in the regressions).[6] Our method can be thus summarized:

Seedrs nominee vs Crowdcube direct campaigns

$$Success\_d = \alpha_1 + B_1 Sdrs\_Nominee + \Gamma_1 Controls + \varepsilon_1 \quad (1)$$

$$Amount = \alpha_2 + B_2 Sdrs\_Nominee + \Gamma_2 Controls + \varepsilon_2 \quad (2)$$

$$Ln\,(Amount - to - goal) = \alpha_3 + B_3 Sdrs\_Nominee + \Gamma_3 Controls + \varepsilon_3 \quad (3)$$

SyndicateRoom nominee vs Crowdcube direct campaigns

$$Success\_d = \alpha_4 + B_4\, SR\_Nominee + \Gamma_4 Controls + \varepsilon_4 \quad (4)$$

$$Amount = \alpha_5 + B_5 SR\_Nominee + \Gamma_5 Controls + \varepsilon_5 \quad (5)$$

$$Ln\,(Amount - to - goal) = \alpha_6 + B_6 SR\_Nominee + \Gamma_6 Controls + \varepsilon_6 \quad (6)$$

where Sdrs_*Nominee (SR_Nominee)* is the nominee dummy comparison between Seedrs and Crowdcube direct (SyndicateRoom nominee and Crowdcube direct) and *Controls* is the vector of control variables employed in this study. Equations (1) and (4) are estimated using a logit model whereas the others use OLS.

Long-run campaign performance. Post-initial campaign success is studied by analyzing the effect of the nominee approach on the likelihood of conducting a first SECO, the number of successful SECOs, and the likelihood of firm failure. SECOs are observed only for those firms that conduct initial campaigns. Thus, a similar approach to that of Signori and Vismara (2018) and Coakley et al. (2022a) employs the Heckman method to confront sample selection bias. The first step in Equation (12) employs data from initial Crowdcube, Seedrs and SyndicateRoom – both

[6] This approach has been recently employed in other management studies (e.g., Kuhn and Teodorescu, 2021 and Mahieu et al., 2021). In unreported results we add equity and goal to the set of matching criteria and results remain qualitatively similar. Results are available upon request. We also check whether our results are driven by sample selection due to matching criteria effects in Table B4 and employ unmatched samples. The implication of this study does not change in this case either.

successful and unsuccessful – campaigns in which a success dummy (*Success_d*) is the dependent variable and competing offerings ($Competing\_offs$) is the instrumental variable. The latter is defined as the number of live competing offerings on the public launch date on the same platform (Vismara, 2018) and spans the period from January 2012 to December 2018.

$$Success\_d = \alpha_7 + B_7 Competing\_offs + \Gamma_7 Controls + \varepsilon_7 \quad (7)$$

The logic is that, with only a limited number of investors and many investment options, their distribution across projects may become thin. Hence, many projects, including good ones, might fail to get funded. The number of competing offerings on the day of the initial ECF offering is unlikely to impact the success of a potential follow-on offering taking place at a later date. This instrument therefore satisfies the exclusion restriction (Roberts and Whited, 2013) in that competing offerings are unlikely directly to affect the outcome variables that refer to SECOs.[7]

The second step Heckman regressions in Equations (8) – (13) employ data from successful initial campaigns augmented by the related Inverse Mills ratio ($Inv.Mills$) in each case.[8]

Seedrs nominee vs Crowdcube direct

$$SECO\_d = \alpha_8 + B_8 Sdrs\_Nominee + \Gamma_8 Controls + \delta_8 Inv.Mills + \varepsilon_8 \quad (8)$$

$$SECO\_nos = \alpha_9 + B_9 Sdrs\_Nominee + \Gamma_9 Controls + \delta_9 Inv.Mills + \varepsilon_9 \quad (9)$$

$$Failure\_d = \alpha_{10} + B_{10} Sdrs\_Nominee + \Gamma_{10} Controls + \delta_{10} Inv.Mills + \varepsilon_{10} \quad (10)$$

SyndicateRoom vs Crowdcube direct

$$SECO\_d = \alpha_{11} + B_{11} SR\_Nominee + \Gamma_{11} Controls + \delta_{11} Inv.Mills + \varepsilon_{11} \quad (11)$$

$$SECO\_nos = \alpha_{12} + B_{12} SR\_Nominee + \Gamma_{12} Controls + \delta_{12} Inv.Mills + \varepsilon_{12} \quad (12)$$

$$Failure\_d = \alpha_{13} + B_{13} SR\_Nominee + \Gamma_{13} Controls + \delta_{13} Inv.Mills + \varepsilon_{13} \quad (13)$$

[7] One can assume that the instruments are not weak since the F-statistics on the joint significance of instruments in the first stage are higher than the Stock et al. (2002) recommended value.

[8] Crowdcube nominee offerings are removed in the long run tests since most of these initial offerings take place in 2017 and 2018.

Equation (7) uses a probit model whereas equations (8), (10) and (11) are estimated via a logit model and equations (9) and (12) via the zero-inflated negative binomial method.[9]

EMPIRICAL RESULTS

Descriptive statistics

ECF platforms have undergone major changes over the 2012-2018 sample period as is apparent from Table 1. This table reports the results from an equality of means test between different sub-samples of successful initial ECF campaigns that account for 87% of all campaigns. The unsuccessful campaign data are relatively few as platforms have improved their due diligence over time and, moreover, they do not wish to advertise failures due to reputational capital concerns.

[Table 1 around here]

Panel A presents the test results for Seedrs nominee versus Crowdcube direct ownership campaigns from January 2012 to December 2018. The data show no significant differences between *Amount*, *Goal*, and *Amount-to-goal* on both platforms. Nominee campaigns are conducted by significantly smaller (at the 1% level) teams that are also significantly younger. However, the actual differences are not economically large: 2.05 versus 2.35 for Team size and 39.2 versus 41.9 years for Team age (Kleinert et al., 2020). Nominee campaigns also issue a significantly smaller proportion (10.7% versus 15.6%) of Equity at the 1% level and attract significantly fewer Funders (227 versus 308) at the 5% level despite running significantly longer campaigns. Offering a lower

[9] In unreported results we also employ the Cox and Weibull hazard model that takes into account time to failure and the results remain qualitatively similar to the logit results.

equity share implies more skin in the game for Nominee founders and this is interpreted as an effective signal of nominee venture quality (Ahlers et al, 2015; Vismara 2016).

Panel B presents the results of an equality of means test between pre- and post-2016 initial ECF campaign characteristics. One can broadly interpret the pre-2016 campaigns as examples of pure ECF (Vismara 2016) and the post-2016 campaigns as examples of syndicated ECF where Crowdcube and Seedrs followed the SyndicateRoom lead investor (syndicate) model. They show that post-2016 initial campaigns are overwhelmingly larger for two important variables, *Amount* and *Funders*, and both are significant at the 1% level. The mean post-2016 campaign *Amount* of £559k is more than 1.8 times its pre-2016 counterpart and the mean of 421 *Funders* is more than twice (2.4 times) the pre-2016 number. Post-2016, initial campaigns attract older (mean of 3.7 years) teams and larger startups. The *Pre-money valuation* of post-2016 campaigns (£4.5m) is also some 2.6 times larger than the pre-2016 campaigns.

While SyndicateRoom was founded as a direct ownership angel (accredited investor) crowdfunding platform in 2013, it followed Seedrs in switching to a nominee-only platform from late 2015 in response to investor demands - hence the post-2016 comparison with Crowdcube direct campaigns in Panel C. The results show highly significant differences between initial successful ECF campaigns on these two platforms for all but the *Equity* and *Pre-money valuation* variables. The *Amount* (£k) raised by SyndicateRoom campaigns is significantly larger and the number of (accredited) *Funders* is significantly smaller, at the 1% level in both cases. Crowdcube campaigns attract more than 10 times the number of funders as SyndicateRoom campaigns, underscoring the wisdom of the crowd effect for Crowdcube. There are many other significant differences between both that can be summarized by saying that SyndicateRoom founders are significantly more educated (*Advanced degree*), with larger (*Team size*) and more experienced

(*Team age*) teams working for older (*Team age*) ventures, and all these are significant at the 1% level.

Finally, the Panel D results indicate significant differences between post-February 2015 direct and nominee offerings conducted on Crowdcube. Interestingly, nominee campaigns raise a significantly larger mean *Amount* of capital (£838m) and attract more *Funders* (554) and both are significant at the 1% level. These nominee campaigns also raise significantly less *Equity* (12.2%) and have larger teams. These findings offer preliminary evidence that nominee governance structure is thriving under syndicated ECF.

Multivariate analysis: Nominee effect

Any inter-platform study must confront potential selection bias. One platform may attract higher-quality startups via, for instance, more thorough due diligence by the lead investor. Extant findings suggest that due diligence differs across platforms and this may affect campaign outcomes (Cumming et al., 2019b). The question is whether the nominee effect is driving our results or whether the effect is the outcome of higher-quality startups. To confront this potential selection bias, the coarsened exact matching method is employed so that nominee and direct offering startups share similar characteristics or exhibit similar characteristics to those outlined in the methodology section.

Tables 2 reports the results of the effect of a nominee dummy on short-run performance at the inter-platform level using the matched samples of ECF initial campaigns between Seedrs nominee and Crowdcube direct ownership firms. The dependent variables are proxies for short-run performance – campaign success in logit regression (1), Amount(£k) raised and Ln(Amount-to-goal) in OLS regressions (2) and (3), respectively.

[Table 2 around here]

The coefficients on *Sdrs_Nominee* in Models (1) and (2) are both significant at the 5% level or better. These suggest that Seedrs nominee campaigns enjoy a 70% higher chance of success relative to Crowdcube direct campaigns over the full sample period. They also raise £85k more capital. These results lend support to H1 for the full sample period. These results are consistent with other studies that establish that nominee ECF campaigns outperform their direct ownership counterparts (Walthoff-Borm et al. 2018a; Cumming et al. 2021a; Rossi et al. 2019).

The syndicated ECF effect

The UK ECF market has evolved from the pure ECF model dominated by crowd investors outlined in Vismara (2016) to the syndicated ECF model where an angel lead investor, VC and other accredited investors participate as a syndicate alongside the crowd (Wang et al. 2019). We take post-2016 campaigns as Zhang et al. (2017) have pointed to increased professional investment in ECF campaigns from that year. Since syndicated ECF campaigns can lead to potential principal-principal conflicts between groups of investors (angel versus VC for instance or accredited versus crowd investors), the performance of these campaigns is benchmarked against syndicated direct ownership campaigns.

To test for the syndicated ECF effect, Table 3 reports the results of employing a diff-in-diff approach.[10] This has the advantage of comparing variation between control and treated groups as one moves from the early ECF years (2012-2015) to the more recent years (2016-2018).

[Table 3 around here]

Model (1) to (3) results are for the Seedrs nominee (*Sdrs_Nominee*) syndicated ECF coefficients and those of Models (4) to (6) are for the SyndicateRoom nominee (*SR_Nominee)* coefficients

[10] We remove the post-February 2015 variable to avoid any correlation issues with the post-2016 variable.

both against Crowdcube direct campaigns. The variables of interest are the interaction terms Sdrs_*Nominee*Post2016 and SR_Nominee*Post 2016.*

The Model (1) and (3) results strongly suggest that the growing presence of lead angel syndicates (with other accredited investors) in the post-2016 ECF campaigns may be driving the Seedrs nominee outperformance in earlier results. The *Sdrs_Nominee*Post2016* interaction terms for all three dependent variables are significantly positive at the 1%, 5%, and 1% level, respectively. Moreover, the results are economically significant also. This suggests that post-2016 syndicated nominee campaigns are more likely to outperform Crowdcube syndicated direct campaigns across all three performance measures an so supports H2. The *Sdrs_Nominee* coefficients are significantly negative at the 5% level with values for *Success_d* and *Ln(Amount-to-goal)* regressions, respectively, suggesting that Seedrs campaigns underperformed relative to Crowdcube direct campaigns during the pre-2016 period of mostly pure ECF campaigns. Thus the nominee governance structure is associated with superior performance for syndicated ECF campaigns. The Model (4) and (5) results support outperformance by SyndicateRoom nominee campaigns in line with H2 alsoalso. The coefficients on the *SR_Nominee*Post2016* interaction term are positive and significant at 5% for both *Success_d* and *Amount*.

The Table B7 and B8 results on *Sdrs_Nominee*Post201x* (x=7 and 8, respectively) in Appendix B confirm that the Seedrs nominee campaigns are more likely to outperform their Crowdcube direct syndicated ECF campaigns both post-2017 and post-2018 while the corresponding results for SR nominee syndicated campaigns are all insignificant. These findings imply that Seedrs syndicated ECF nominee campaigns are outperforming their SR counterparts post-2016. This finding and the the lack of evidence supporting the wisdom of the crowd may help explain the demise of the SyndicateRoom ECF platform at the end of 2018.

Syndicated angel ECF effect

The Model (1) to (3) columns in Table 4 present results on the post-2016 short-run performance of syndicated direct ownership (initial) ECF campaigns versus their syndicated nominee angel ECF counterparts. The analysis employs matched samples of Crowdcube ECF direct campaigns and SyndicateRoom nominee initial ECF campaigns.

[Table 4 around here]

The variable of interest is the SyndicateRoom nominee dummy (*SR_Nominee*). The Model (1), (2) and (3) results reveal that syndicated angel ECF offerings are 12.7% more likely to be successful, to raise £441k more capital on average, and to exhibit a much higher amount-to-goal ratio. These coefficients are all significant at the 1% level and support H2 that syndicated angel ECF campaigns outperform syndicated direct ownership campaigns. These results are likely due to a combination of the certification effects of the lead investor in terms of her due diligence, the syndicate committing to pledging 40% of the goal, and post-campaign monitoring. The lead investor can induce other professional investors to make relatively large contributions (Ralcheva and Roosenboom, 2020).

Finally, to address imbalance issues in our matched samples, the L1 statistic was calculated in unreported results. This statistic is a comprehensive measure of global imbalance (e.g., Blackwell et al., 2009). Values close to 0 indicate perfect balance whereas the opposite holds for values close to 1. The results suggest that the coarsened exact method reduces the imbalance in both Tables 2 and 4 as it yields lower L1 values.

Crowdcube intra-platform quasi-experiment

In February 2015, Crowdcube acknowledged the merits of nominee campaigns by offering nominee as well as direct ownership campaigns on its platform.[11] Selection effect evidence in Cumming et al. (2019a) suggests that entrepreneurs prefer a platform in which same industry startups have already sought to raise capital. Others argue that some entrepreneurs may be more likely to choose nominee due to the advantages it may offer in the-post campaign life of ventures (Coakley et al, 2022b). Entrepreneurs may observe the success of prior nominee offerings and may opt for that model to increase their likelihood of raising ECF funds. Therefore, we follow a similar approach to Cumming et al. (2019a) to account for this type of endogeneity by employing the 2-stage Heckman method. The first step employs a Crowdcube dummy (*Crowdcube_d*) as dependent variable from a sample of initial Crowdcube and Seedrs – successful and unsuccessful – campaigns. The exclusion variable – not used in the second step – is the platform preference variable (*Platform preference*) measured as the number of Crowdcube campaigns over the number of Seedrs campaigns in the same industry over the 12 months prior to each observation. The use of this variable seeks to capture any selection bias towards Crowdcube.

The second step employs a sample of Crowdcube's initial campaigns (both successful and unsuccessful) using the Generalized Structural Equation method. This consists of four models. The first employs a *CR_nominee* dummy as the dependent variable and uses the *Pr(Nominee)* mimicking variable as an instrument. This variable is calculated as the number of prior nominee campaigns conducted in the same year over the number of all prior offerings conducted on

[11] Whilst syndicated ECF campaigns commenced in late 2015, the vast majority of our sample post-Februry 2015 campaigns are syndicated ECF campaigns.

Crowdcube. The others employ *Success_d*, *Ln(Amount)* and *Ln(Amount-to-goal)* as dependent variables. Table 5 presents the results.

[Table 5 around here]

The *PostFebruary2015* dummy coefficient of 0.13 in Model (1) is positive and significant at the 5% level. This suggests that entrepreneurs are 1.14 - exp(0.13) - times more likely (in log odds terms) to choose Crowdcube rather than Seedrs to run their campaign in the post February 2015 period.

Model (2) results show the impact of choosing a *Cr_Nominee* campaign according to prior outcomes. The *Pr(Nominee)* instrumental variable is positive and significant at the 1% level suggesting that prior shareholder structure choice and its success may affect the entrepreneur's decision satisfying the relevance criterion. This together with its predetermined nature (average of past values of other firms) justifies the choice of *Pr(Nominee)* as a valid instrument. The Model (3) to (5) results give the impact of nominee campaigns (*Cr_Nominee*) on short-run performance. The coefficients are significantly positive at the 5% level or better indicating that Crowdcube nominee account campaigns outperform their direct ownership counterparts in the short run. They are more likely to reach (exceed) their target, raise more capital and exhibit a higher amount-to-goal. These results strongly support H2 that Crowdcube nominee outperform Crowdcube direct ownership ECF campaigns in the 2015-2018 period.

Post-initial campaign firm performance

Proxies for long-run success use din the ECF literature relate to the success and number of follow-on or seasoned equity crowdfunded offerings (SECOs) on the same platform. A SECO offers a readily available follow-on funding source facilitated by the syndicated nominee structure whereas injections of VC and other funds are more infrequent. The results are summarized in Table 6.

[Table 6 around here]

Model (1) column reports the results of the Heckman first-stage probit model in which a success dummy (*Success_d*) is the dependent variable from a sample of initial – successful and unsuccessful – Crowdcube, Seedrs and SyndicateRoom campaigns over the 2012-2018 period. These results suggest that the higher the number of competing offerings (*Ln(1+competing offerings)*) on a platform, the less likely a campaign is to succeed as in Signori and Vismara (2018).

The other columns report the second-stage results. The Model (2) probit results suggest that the (initial campaign) nominee dummy (*Sdrs_Nominee*) significantly increases the probability of conducting a nominee rather than a direct ownership first SECO. The Model (3) zero-inflated negative binomial results indicate the *Sdrs_Nominee* significantly increases the probability of conducting multiple nominee rather than direct ownership SECOs. The coefficients in both cases are significant at the 1% level and support H2 that ventures choosing nominee follow-on offerings are more likely to be successful (Hornuf et al. 2018; Coakley et al 2022a). . This result is important as, increasingly, SECOs are the main source of follow-on funding for ECF firms (British Business Bank 2019).

Similar findings are documented for the SyndicateRoom nominee angel SECOs as the Models (4) and (5) results indicate a significantly (at the 1% level) positive effect for a successful SECO and multiple SECOs, respectively. It is also worth noting that the *SR_Nominee* coefficients are considerably larger than those for *Sdrs_Nominee,* highlighting the importance of accredited investors and strongly supporting H2. They are consistent with Butticè et al. (2020) in which professional investors may opt for the nominee structure since it can increase the likelihood of startups raising capital from venture capital funds in the future. Finally, Table 4 shows that neither the Seedrs nor the SyndicateRoom dummy variable has a significant relationship with failure. This

is consistent with Signori and Vismara (2018) who found that none of the companies initially backed by qualified investors in their sample failed. It is also consistent with the Hornuf et al. (2018) finding that the likelihood of failure by UK ECF firms with follow-on campaigns was lower than that of their German counterparts.

Robustness tests

Robustness tests are presented in Appendix B. They show that the results are robust to selection between other forms of equity finance and ECF, campaign size, platform and nominee effects and prior financing from VCs.

DISCUSSION AND CONCLUSIONS

Equity crowdfunding raises unique agency cost challenges some of which are beginning to be studied (Bollaert et al., 2021). Collective action problems arise in equity crowdfunding (ECF) markets due to coordination failures linked to the free rider problem and to the costs of undertaking due diligence and monitoring. This paper documents the rise of a new syndicated ECF model with a lead angel syndicate that acts as a quality signal (Kleinert et al 2022) to attract other accredited investors as well as the the crowd on UK ECF platforms. The syndicated ECF approach deals with these issues using a new provision point mechanism that requires the lead investor to garner pledges for a significant proportion of the target capital prior to the campaign going public. The lead investor's own stake incentivizes her to conduct thorough due diligence and to monitor the ECF firm until it makes a successful exit.

This paper focuses on the micro-functioning of ECF markets to examine how contrasting ECF governance mechanisms – nominee versus direct ownership – address the collective action problem in the syndicated ECF model. Since this new nominee governance approach pioneered by

Seedrs has similarities with that of VC funds and BA syndicates, it readily attracts accredited investors like angels and VC funds. Interestingly, while the Agrawal et al. (2016) study and subsequent rise of the AngelList platform highlight the success of angel ECF in the USA with much higher numbers of angels, the UK case illustrates the superiority of the syndicated ECF model where other accredited investors coinvest alongside the lead (angel) investor and the crowd. Moreover, traditional accredited investors can invest in syndicated ECF campaigns without having to pay the typically high syndicate fees (carry) typical of venture capital private equity.

Our paper uses a platform corporate governance lens to interpret the nominee structure as a digital governance solution to the potential agency issues and principal-principal conflicts, especially for syndicated ECF campaigns. The nominee approach averts principal-principal conflicts by enfranchising both the crowd and accredited investors with the same ownership, voting and preemption rights. The platform and lead investor play an active digital corporate governance role in preparing and readying the venture for follow-on funding rounds and, eventually, for an exit. Finally, it should be noted that a Seedrs innovation – providing the first on-platform secondary marketplace for trading a selection of their ECF shares since July 2017 – has also mitigated information asymmetry issues for these shares.[12]

Our study has implications for policy and practice. Policymakers are interested in creating a framework that leads to a robust and sustainable ECF market that is capable of funding both large and small ECF campaigns. In this respect, the pure ECF model with just crowd investors had severe limitations. By contrast, the syndicated ECF model succeeded due to a lead investor being responsible for initial due diligence and securing pledges for a large proportion (20% upwards) of

[12] See Lukkarinen and Schwienbacher (2023) for an analysis of the first secondary crowdfunding marketplace established in Finland in 2014.

the campaign goal in the private campaign phase, and post-campaign monitoring of the successful venture. Securing substantial early pledges prior to the campaign going public provided a new provision point mechanism that could trigger early herding behavior and thus solve the collective action problem of large ECF campaigns that operate the All-or-Nothing funding model. SyndicateRoom's success with its syndicated model paved the way for both Seedrs and Crowdcube to develop their own syndicated ECF models based on the expertise of angel-led investors as well as the wisdom of the crowd.

The empirical findings confirm that nominee ECF campaigns generally outperform their direct ownership counterparts in terms of successful initial campaigns and the amount of funds raised. Moreover, nominee ECF firms conducting successful initial ECF campaigns are more likely to conduct a first follow-on or seasoned equity crowdfunded offering (SECO) than their direct ownership counterparts. They are also more likely to conduct multiple successful SECOs. These results hold both between and within crowdfunding platforms. The finding is confirmed by analyzing a quasi-experiment when nominee ownership became an option on Crowdcube. The findings show that nominee initial ECF campaigns are more likely to outperform relative to direct ECF campaigns.

Investors react to tax incentives and allocate more investments – around 24% - to firms under the UK's generous tax incentive scheme known as the SEIS (Seed Enterprise Investment Scheme) for seed-stage funding rounds. This, however, may make the crowd less smart by decreasing its incentives for screening. Policymakers and platforms could find ways to incentivize SEIS firms to pitch their campaigns via the nominee scheme. The platform's lead investor and new syndicate provision point mechanism prior to a campaign along with its concern to protect its

reputational capital are designed to offset the lower screening propensity of the crowd. The underlying logic is to help filter out low-quality startups.

As with any study, ours comes with limitations. It focuses only on the effect of the nominee ownership relative to the direct ownership structure in syndicated ECF firms. However, due to a lack of data, it is unable to study what exact types of investors each structure attracts. There is an exchange of information between the experienced angel (accredited) and inexperienced crowd investors and this improves the overall efficiency of the ECF market. The syndicate lead investor is incentivized to monitor entrepreneurs and and this can be beneficial for the growth of a startup. By contrast, inexperienced investors lack the sophistication to monitor startups. However, they may also be attracted by equivalent ownership and voting rights and so may be more likely to choose nominee campaigns. A study that focuses on the association between the nominee structure and investor types could be an interesting topic for future research.

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Figure 1. Evolution of platform mechanisms in UK equity crowdfunding

Pure ECF platform governance structures	
Crowd-based ECF	**Angel ECF**
Seedrs: Nominee structure Platform due diligence and monitoring C**rowdcube**: Direct ownership Platform due diligence and monitoring	**SyndicateRoom**: Direct ownership with lead investor syndicate that - pledges of 25% of goal prior to public launch - performs due diligence and monitoring
Post-2015 Syndicated ECF platform governance structures	
Seedrs: Nominee structure with lead investor group that - pledges 20% of goal pre-public launch - performs due diligence and monitoring **Crowdcube**: Direct ownership or nominee structure with lead investor group that: - pledges 20% of goal pre- public launch - performs due diligence and monitoring	**SyndicateRoom** Nominee (angel) syndicated ECF model with lead investor syndicate that - pledges 40% of goal prior to public launch - performs due diligence and monitoring

Table 1. Equality of means test between subsamples of successful initial ECF campaigns

Panel A employs data on Seedrs, Nominee and Crowdcube Direct initial campaigns 2012-2018. Panel B uses data on the pre- and post-2016 ECF campaigns on all platforms 2012-2018. Panel C employs data on the SyndicateRoom and Crowdcube platforms over the 2016-2018 period. Panel D uses data from the Crowdcube platform February 2015 to December 2018. All Panels include successful offerings. The difference column reports the mean difference along with its statistical significance for an equality of means test. Significance levels are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** when $p \leq 0.01$. Sample includes successful offerings. See Table A1 for variable definitions.

Panel A. Seedrs nominee vs Crowdcube direct campaigns

	Nominee	**Direct**	**Difference**
Amount (£k)	355	425	-70
Amount-to-goal	1.41	1.45	-0.04
PostFeb15	0.68	0.66	0.02
Funders	227	308	-81**
Advanced degree	0.04	0.06	-0.02
Team size	2.05	2.35	-0.3***
Equity (%)	10.7	15.6	-4.9***
Firm age (years)	2.8	2.9	-0.1
Goal (£k)	270	280	-10
Duration (days)	66.9	41.5	25.4***
Diversification	1.16	1.16	0
Team age (years)	39.2	41.9	-2.7***
Pre-money valuation (million)	2.5	3.1	-0.6

Panel B. Equality of means test between pre- and post-2016 campaigns

	Pre-2016	**Post-2016**	**Difference**
Amount (£k)	308	559	-251***
Amount-to-goal	1.39	1.45	0.06
Funders	178	421	--243***
Advanced degree	0.05	0.06	-0.01
Team size	2.25	2.39	-0.14
Equity (%)	14.2	13.5	0.7
Firm age (years)	2.3	3.7	-1.40***
Goal (£k)	216	383	-167***
Duration (days)	52.7	45.3	7.4**
Diversification	1.13	1.18	-0.05
Team age (years)	41.6	41.0	0.6
Pre-money valuation (million)	1.9	4.5	-2.6***

Panel C. SyndicateRoom nominee vs Crowdcube direct campaigns 2016-2018

	Nominee	Direct	Difference
Amount (£k)	757	496	261***
Aount-to-goal	1.30	1.54	-0.24***
Funders	44	457	-413***
Advanced degree	0.31	0.07	0.24***
Team size	3.4	2.2	1.2***
Equity (%)	18.4	15.7	2.7*
Firm age (years)	5.5	3.5	2.0***
Goal (£k)	598	304	294***
Duration (days)	43	34	9***
Diversification	1.06	1.02	0.04*
Team age (years)	48	40	8***
Pre money valuation (million)	3.6	4.2	-0.6

Panel D. Post-2015 Crowdcube nominee vs Crowdcube direct campaigns

	Nominee	Direct	Difference
Amount (£k)	838	425	413***
Amount-to-goal	1.46	1.51	-0.01
Funders	554	308	246**
Advanced degree	0.02	0.06	-0.04
Team size	3.1	2.3	0.8***
Equity (%)	12.2	15.5	-3.3***
Firm age (years)	4.3	2.9	1.4***
Goal (£k)	596	280	316***
Duration (days)	38.9	41.5	-2.6
Diversification	1.1	1.16	-0.06
Team age (years)	44.7	41.9	2.8*
Pre money valuation (million)	7.4	3.1	4.3*

Table 2. Seedrs nominee versus Crowdcube direct ownership campaigns

Table 2 reports the effect of a Nominee dummy on short run performance for a sample employing the coarsened exact matching method to deal with potential selection bias between ECF platforms. Seedrs nominee campaigns are matched with Crowdcube direct ownership campaigns according to firm age, pre money valuation and industry group. Model (1) reports the coefficients of a logit method when Success dummy is employed as dependent variables. Models (2) and (3) report the coefficients of an OLS method when total Amount (£k) and the logarithm of amount-to-goal are employed as dependent variables. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube direct ownership and Seedrs nominee firms. See Table A1 for variable definitions.

	(1) Success_d	(2) Amount	(3) Ln (Amount-to-goal)
Sdrs_Nominee	0.70**	85.1***	-0.053
	(2.12)	(3.82)	(-0.83)
Ln (Funders)	3.40***	125.6***	1.00***
	(11.34)	(10.72)	(29.63)
Advanced degree	0.069	-20.6	0.044
	(0.09)	(-0.40)	(0.30)
Team size	-0.087	18.0*	0.0076
	(-0.62)	(1.92)	(0.28)
Equity	0.027	14.5***	-0.0037
	(0.99)	(7.44)	(-0.66)
Ln (Firm age)	0.073	-1.65	-0.0098
	(0.42)	(-0.13)	(-0.27)
Ln (Goal)	-1.88***	27.6	-0.45***
	(-6.36)	(1.47)	(-8.37)
Pre-money valuation	0.020	83.2***	-0.0064
	(0.26)	(15.00)	(-0.40)
Diversification	-0.060	-49.2**	-0.018
	(-0.17)	(-2.20)	(-0.28)
Ln(Team age)	0.087	6.76	0.0097
	(0.13)	(0.15)	(0.08)
Post February 2015	2.27**	-29.0	0.49*
	(1.98)	(-0.33)	(1.91)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Observations	625	634	634
R-squared		0.604	0.670
Pseudo R-squared	0.599		

Table 3. Post-2016 Nominee versus direct ownership campaigns

Table 3 reports the impact of a nominee dummy variable to test for the post-2016 rise of syndicated ECF campaigns. Nominee campaigns are matched with Crowdcube direct ownership campaigns according to firm age, pre money valuation and industry group. Models (1) to (3) report the results for a Seedrs Nominee dummy variable while models (4) to (6) report them for a SyndicateRoom Nominee dummy variable. Models (1) and (4) involve a logit regression when a Success dummy is employed as dependent variable. Models (2) and (5) [(3) and (6)] employ OLS method when the total Amount (£k) [Ln (Amount-to-goal)] is the dependent variable. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** for p ≤ 0.01. The sample spans the period from January 2012 to December 2018 for a sample of initial Crowdcube direct, Seedrs and SyndicateRoom firms. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)
	Success_d	Amount	Ln (Amount-to-goal)	Success_d	Amount	Ln (Amount-to-goal)
Sdrs_Nominee	-2.55***	15.7	-0.62***			
	(-4.92)	(0.50)	(-4.63)			
SR_Nominee				2.64	-2.50	0.17
				(1.48)	(-0.02)	(0.29)
Sdrs_Nominee* Post 2016	4.13***	105.6**	0.71***			
	(6.27)	(2.55)	(4.02)			
SR_Nominee* Post 2016				4.43**	263.0**	0.90
				(2.29)	(2.31)	(1.49)
Post 2016	-3.29***	-44.6	-0.74**	-3.75***	-100.7	-0.56
	(-5.45)	(-0.54)	(-2.10)	(-3.68)	(-1.49)	(-1.57)
Ln (Funders)	0.022***	0.65***	0.0023***	0.032***	0.77***	0.0023***
	(10.19)	(12.84)	(10.48)	(6.57)	(14.92)	(8.46)
Advanced degree	-0.0079	-10.3	0.22	-0.43	8.50	0.23
	(-0.01)	(-0.21)	(1.05)	(-0.65)	(0.23)	(1.15)
Team size	-0.061	16.4*	0.047	0.14	12.9	0.086*
	(-0.47)	(1.81)	(1.22)	(0.82)	(1.56)	(1.96)
Equity	-0.0020	11.6***	-0.014*	0.062**	7.17***	0.018*
	(-0.08)	(6.13)	(-1.71)	(1.98)	(3.96)	(1.91)
Ln (Firm age)	0.088	0.15	-0.0069	0.25	16.6	0.072
	(0.54)	(0.01)	(-0.13)	(0.82)	(1.07)	(0.87)
Ln (Goal)	-1.57***	43.6**	-0.32***	-3.01***	130.6***	-0.72***
	(-5.28)	(2.40)	(-4.17)	(-4.75)	(5.09)	(-5.28)
Pre-money valuation	-0.11	67.3***	-0.031	0.42**	37.7***	0.081*
	(-1.16)	(12.01)	(-1.28)	(2.57)	(4.45)	(1.79)
Diversification	0.12	-30.1	0.059	-0.45	-12.9	0.064
	(0.40)	(-1.40)	(0.64)	(-0.87)	(-0.52)	(0.49)
Ln (Team age)	-0.33	-9.57	-0.21	-2.75**	-85.2	-0.18
	(-0.57)	(-0.22)	(-1.15)	(-2.32)	(-1.60)	(-0.62)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	625	634	634	303	306	306
R-squared		0.631	0.319		0.697	0.358
Pseudo R-squared	0.535			0.618		

Table 4. SyndicateRoom nominee versus Crowdcube direct ownership campaigns

Table 4 reports the results of the SyndicateRoom nominee dummy effect on short run performance employing the coarsened exact matching method to deal with potential selection bias. SyndicateRoom angel nominee campaigns are matched with Crowdcube direct ownership campaigns by firm age, pre money valuation and industry group. Model (1) gives the coefficients of a logit method when Success dummy is employed as dependent variables. Models (2) and (3) give the coefficients of an OLS method when total Amount (£k) and the logarithm of Amount-to-goal are employed as dependent variables. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube direct ownership and SyndicateRoom angel nominee offerings. See Table A1 for variable definitions.

	(1)	(2)	(3)
	Success_d	Amount	Ln (Amount-to-goal)
SR_Nominee	12.7***	440.7***	2.44***
	(6.09)	(10.73)	(15.35)
Ln (Funders)	4.86***	145.7***	0.77***
	(6.44)	(12.63)	(17.32)
Advanced degree	-0.75	-2.35	0.053
	(-0.83)	(-0.06)	(0.35)
Team size	-0.097	4.53	0.041
	(-0.36)	(0.51)	(1.20)
Equity	0.098	9.69***	0.028***
	(1.63)	(4.97)	(3.73)
Ln (Firm age)	0.074	-0.77	0.029
	(0.18)	(-0.05)	(0.45)
Ln (Goal)	-3.87***	127.3***	-0.81***
	(-4.22)	(4.60)	(-7.58)
Pre-money valuation	0.51**	50.4***	0.11***
	(1.99)	(5.56)	(3.20)
Diversification	-0.87	-27.0	0.015
	(-1.41)	(-1.01)	(0.15)
Ln (Team age)	-0.28	-61.0	0.090
	(-0.17)	(-1.06)	(0.40)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Observations	303	306	306
R-squared		0.647	0.607
Pseudo R-squared	0.750		

Table 5. Intra-platform nominee short run performance

Table 5 reports the impact of a nominee dummy variable on measures of short run performance for a sample of Crowdcube offerings. Model (1) reports the 1st stage probic Heckman coefficients for initial Crowdcube and Seedrs offerings in which a Crowdcube dummy is the dependent variable. The other models report the 2nd stage Heckman coefficients for Crowdcube offerings. Models (2), (3) and (4) employ Cr_Nominee dummy, Success dummy and Amount as dependent variables respectively whereas model (5) employs the logarithm of Amount-to-goal. It spans the period from January 2012 to December 2018. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)
	Crowdcube_d	Cr_Nominee	Success	Amount	Ln (Amount-to-goal)
Cr_Nominee	-	-	1.18***	113.3**	0.29***
			(3.61)	(2.41)	(3.12)
Post February 2015	0.13**	3.29	-2.19	-34.5	0.69***
	(2.48)	(0.01)	(-0.53)	(-0.28)	(2.84)
Ln (Funders)	0.21***	0.34***	1.64***	183.7***	0.83***
	(5.93)	(2.89)	(13.13)	(12.76)	(28.86)
Advanced degree	0.079**	-1.05**	0.02	68.2	0.14
	(2.55)	(-2.23)	(0.05)	(1.24)	(1.30)
Team size	0.053***	0.06	-0.003	25.3**	0.003
	(3.05)	(0.98)	(-0.05)	(2.48)	(0.16)
Equity	0.052***	-0.03*	-0.01	2.10	-0.003
	(41.71)	(-1.85)	(0.05)	(1.07)	(-1.01)
Ln (Firm age)	0.069***	0.02	-0.03	-28.01**	-0.03
	(4.57)	(0.17)	(-0.37)	(-2.18)	(-1.14)
Ln (Goal)	0.073	0.33**	-0.68***	261.3***	-0.43***
	(1.54)	(1.97)	(-4.96)	(13.53)	(-11.26)
Diversification	0.032***	-0.02	-0.26	-42.1*	0.01
	(3.28)	(-0.12)	(-1.61)	(-1.68)	(0.19)
Ln (Team age)	0.32***	0.96*	-0.42	-71.9	0.03
	(16.70)	(1.92)	(-1.18)	(-1.33)	(0.28)
Pre money valuation	0.025***	-0.001	-0.001	0.001***	-0.001
	(5.08)	(-1.39)	(-1.36)	(6.72)	(-0.81)
Platform preference	0.053***	-	-	-	-
	(4.51)				
Pr (Nominee)	-	17.8***	-	-	-
		(4.36)			
Inverse Mills ratio	-	-0.53	-0.54	-134.9***	-0.12
		(-1.18)	(-1.64)	(-3.00)	(-1.34)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	No	Yes	Yes	Yes	Yes
Observations	1,006	658	658	658	658
Pseudo R-squared	0.119				

Table 6. Nominee and long run performance

Table 6 reports the impact of a (Seedrs and SydndicateRoom) Nominee dummy variable on long run performance using a Heckman two step procedure. The Model (1) results give the coefficients of the first step regression where a Success dummy is the dependent variable in the sample of all firms conducting – successful and unsuccessful - ECF offerings for the first time. The other model results are the second stage Heckman coefficients from the sample of successful firms. Models (2) and (5) employ a SECO dummy whereas models (3) and (6) employ the number of SECOs. Models (4) and (7) employ a Failure dummy. The probit method is employed in models (1), (2), (4), (5) and (7) whereas the zero-inflated negative binomial model is used in models (3) and (6). Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube, Seedrs and SyndicateRoom offerings. See Table A1 for variable definitions.

	(1) Success_d	(2) SECO_d	(3) SECO no	(4) Failure_d	(5) SECO_d	(6) SECO no	(7) Failure_d
Sdrs_Nominee	-	0.57*** (6.20)	0.74*** (66.90)	-0.13 (-0.72)	-	-	-
SR_Nominee	-	-	-	-	1.17*** (19.12)	1.03*** (17.22)	0.007 (0.06)
Post February 2015	0.48 (1.53)	-1.08*** (-7.21)	-1.16*** (-2.90)	0.26 (0.70)	-1.21*** (-4.06)	-1.64*** (-7.79)	0.49*** (3.41)
Ln (Funders)	1.17*** (6.02)	0.40*** (3.36)	0.46*** (74.57)	-0.12*** (-3.73)	0.41*** (3.37)	0.31*** (2.66)	-0.24** (-2.12)
Advanced degree	0.37*** (6.06)	0.063 (0.33)	-0.15 (-0.63)	-0.21 (-0.93)	0.19* (1.75)	0.13*** (7.72)	-0.33 (-1.20)
Team size	0.16*** (2.81)	0.022 (0.19)	0.16 (1.51)	-0.095 (-1.45)	0.12*** (7.44)	0.21*** (10.34)	-0.027*** (-2.93)
Equity	0.017*** (5.88)	-0.0074*** (-7.99)	-0.0065*** (-8.58)	-0.0031 (-0.29)	-0.0066 (-1.22)	-0.011** (-1.99)	-0.0014 (-0.13)
Ln (Firm age)	0.016 (0.30)	-0.23*** (-18.90)	-0.27*** (-5.19)	-0.013 (-0.57)	-0.17* (-1.82)	-0.20*** (-2.79)	0.0094 (0.16)
Ln (Goal)	-0.40*** (-3.21)	0.018 (0.63)	0.028 (0.29)	-0.19*** (-26.68)	-0.021 (-0.18)	0.14 (1.41)	-0.17*** (-4.28)
Ln (Duration)	0.61*** (4.83)	-0.18*** (-4.42)	-0.16** (-2.55)	-0.019 (-0.72)	-0.091 (-1.30)	-0.01 (-1.41)	0.044 (0.49)
Diversification	-0.17*** (-3.07)	-0.12 (-0.58)	0.077 (0.44)	0.35*** (3.76)	0.079 (1.39)	0.32*** (45.60)	0.18 (1.63)
Ln (Team age)	-0.12 (-0.87)	-0.30*** (-32.43)	-0.57*** (-4.22)	0.096 (0.98)	-0.46** (-2.37)	-0.61** (-2.28)	0.17*** (3.14)
Ln (1+ Competing offerings)	-1.03*** (-4.56)	-	-	-	-	-	-
Inverse Mills ratio	-	0.48** (1.96)	0.64*** (24.31)	-0.25 (-1.53)	0.13 (0.18)	-0.24 (-0.25)	-0.32 (-0.88)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1103	486	598	578	396	489	468
Pseudo R-squared	0.494	0.165	-	0.240	0.200	-	0.243

Appendix A

Table A1. Variable definition

Variable	Definition	Data source
Success_d	A binary variable that takes value 1 for those campaigns that reach their target, zero otherwise	Constructed employing data from TAB
Funders	The number of investors at the end of the campaign	TAB
Amount	Total amount raised at the end of the campaign	TAB
Amount-to-goal	Total amount raised at the end of the offering over target set at the beginning of campaign.	Constructed employing data from TAB
SECO_d	A dummy variable that takes value 1 for a successful first SECO (seasoned equity crowdfunded offering), zero otherwise	Constructed employing data from TAB
SECO_no	The total number of successful SECOs	Constructed employing data from TAB
Failure_d	A dummy variable that takes value 1 if a firm has defaulted or is in administration or liquidation, zero otherwise.	UK Companies House
Crowdcube_d	A dummy variable that takes value 1 for Crowdcube offerings, zero for Seedrs	Constructed employing data from TAB
Nominee	A dummy variable that takes value 1 for Seedrs, SyndicateRoom and Crowdcube nominee, zero for Crowdcube direct.	Constructed employing data from TAB
SR_Nominee	A binary variable that takes value 1 for SyndicateRoom, zero for Crowdcube direct	Constructed employing data from TAB
CR_Nominee	A dummy variable that takes value 1 for campaigns that employ the nominee approach on platform Crowdcube, zero for direct on the same platform	Constructed employing data from TAB
Sdrs_Nominee	A dummy variable that takes value 1 for campaigns that employ the nominee approach on platform Seedrs, zero for Crowdcube direct	Constructed employing data from TAB
Post February 15	A dummy variable that takes value 1 for Crowdcube and Seedrs campaigns conducted after February 2015, zero otherwise	Constructed employing data from TAB
Post 2016	A dummy variable that takes value 1 for campaigns from 2016 onwards, zero otherwise	Constructed employing data from TAB
Advanced degree	A dummy variable that takes value 1 if at least 1 member holds the title Dr or Professor, zero otherwise	UK Companies House
Team size	The number of team members on public launch date	UK Companies House
Equity	Equity issued during the campaign	TAB
Firm age	The age of the firm on public launch date	UK Companies House
Goal	The target amount set at the beginning of the campaign	TAB
Duration	The number of days a campaign is live	TAB
Diversification	The number of 4-digit codes for a firm	UK Companies House
Team age	The average age of team members	UK Companies House
Platform preference	Number of Crowdcube offerings over Seedrs offerings by firms that belong to the same industry group in the 12 months prior to each observation	Constructed employing data from TAB
Competing offerings	The number of live competing offerings on public launch date on the same platform	Constructed employing data from TAB
Pr (Nominee)	Number of prior nominee offerings on Crowdcube in the same year over ll allprior Crowdcube offerings	Constructed employing data from TAB

Variables of interest. Our study employs two sets of variables of interest to study the effect of nominee ownership at the inter- and intra-platform levels. First, we identify the *Nominee* variable. This is a binary variable that takes value 1 for nominee and 0 for direct campaigns. This is how Seedrs has functioned since its inception. Sdrs_nominee takes 1 for Seedrs offerings, zero for Crowdcube direct. CR_Nominee and SR_Nominee takes 1 for Crowdcube and SyndicateRoom nominee, respectively and zero for Crowdcube direct.

Control variables. To account for unobserved heterogeneity, a set of control variables is used that has been shown to affect ECF outcomes. The quasi-experiment consists of Crowdcube introducing the nominee option from February 2015. Thus, we use the *PostFeb15* dummy variable that takes value 1 for offerings conducted after February 2015, zero otherwise. The use of this change in the functioning of one platform as a quasi-experimental setting is motivated by the opportunity to observe an "almost naturally occurring" variation in the specific factor of the direct versus nominee structure. This happens in the absence of confounding effects, as the other aspects of the functioning of these ECF platforms remained unchanged. While there might be other differences among these two platforms (Vismara, 2016; Walthoff-Borm et al, 2018a), research has not identified other differential changes to their functioning over this period (Butticè et al., 2020; Coakley et al., 2022b).

The set of control variables includes other variables that have been shown to affect campaign outcomes. The pre-campaign valuation of the venture (*Pre-money valuation*) is added as control variables to our regressions, as in Vismara (2016) among others.[13] Vulkan et al. (2016) study equity crowdfunding dynamics from Seedrs campaigns and their findings reveal a negative relation between funding goal (*Goal*) and the likelihood of success and so *Goal* is used as a control variable. Signori and Vismara (2018) focus on firm failure and follow-on (seasoned) equity crowdfunding offerings. Their study includes firms that conducted campaigns on Crowdcube and documents in their first step Heckman procedure that the amount of equity offered (*Equity*) negatively affects campaign success. Therefore, *Equity* is also used as a control variable.

Younger firms and those with younger average team ages are more likely to conduct successful campaigns. Ralcheva and Roosenboom (2020) study forecasting success in ECF and provide evidence in support of this. Thus, *Firm age* and (management) *Team age* are employed as

[13] Duration is not used in the short-term performance tests to avoid endogeneity issues. It is not known ex ante and entrepreneurs may stop the campaign if they wish to (Vismara 2018).

control variables. Ahlers et al. (2015) employ data from the Australian equity crowdfunding platform ASSOB and focus on which signals might be effective in reducing information asymmetry and so increase the likelihood of success. Their findings reveal that – among others – larger management team sizes may act as effective signals and increase the likelihood of success for an ECF campaign. Coakley et al. (2022b) focus on human capital and their results suggest that teams in which at least one member holds a doctorate title (*Advanced degree*) are more likely to conduct successful offerings. Therefore, *Advanced degree* is included as a control variable. A *Diversification* (number of 4-digit codes for a venture) and year dummies are added to our regressions as in Signori and Vismara (2018). Finally, industry dummies based on NACE Rev. 2 main section, as in Butticè et al. (2020), are also added. The set of control variables includes duration for long term results only, to account for its effect as in Signori and Vismara (2018).

Appendix B

Robustness tests

This Appendix conducts a series of robustness tests to check the sensitivity of our results. They take into account selection issues that may arise between other types of finance and ECF and campaign size. They also account for a different identification for the nominee dummy for our quasi experiment and the matching method.

ECF vs Professional investor selection. This study so far accounts for platform and governance structure selection within a platform. It does not account for selection between other forms of equity finance and ECF. Existing evidence suggest that entrepreneurs may select a specific type of finance according to their needs. Walthoff-Borm et al. (2018b) test whether pecking order theory holds and argue that ECF may be funding of last resort for entrepreneurs. Blaseg et al. (2021) present some evidence that entrepreneurs may opt for ECF if they have been unsuccessful at first securing professional investor equity finance. By contrast, others argue that ECF may be among the first choices for entrepreneurs because it might be deployed to test their startup products.

The next test checks the sensitivity of our results by taking into account selection between professional investor equity finance and ECF. It augments our sample with data from Beauhurst on UK firms that raised capital from angels and VCs. We conduct the following two tests. The inter-platform test uses the Heckman method in which the first step employs an ECF dummy as dependent variable that takes value 1 for startups that conducted ECF campaigns, zero for startups that raised capital from Angels and VCs. The instrumental variable Pr(ECF) is calculated as the number of ECF offerings over all offerings – ECF and those from Angels and VCs – prior to each campaign. The second step follows a similar procedure as in Tables 2 and 4. The only difference is we add the Inverse Mills ratio evaluated from the first Heckman step. The results are summarized in Table B1.

[Table B1 around here]

The implication of our study does not change in this case either. Nominee offerings outperform their counterparts. Nominee coefficients are positive and significant at the 5% level or better in most of cases. The *Pr(ECF)* coefficient is positive and significant at 1% level indicating that it may be a valid instrument.

Campaign size. The next test checks whether results are driven by the choice of target set at the beginning of the offering. For the quasi experiment on Crowdcube, we add a second equation in which the logarithm of Goal is the dependent variable. The instrument is the average value of Goal from companies that operate in the same industry group in the last year. For the other two we deploy the coarsened exact matching method in which Seedrs and SyndicateRoom nominee offerings exhibit similar goal to that of Crowdcube direct offerings. Tables B2 and B3 summarize the results.

[Tables B2 and B3 around here.]

Evidence is in favor of nominee outperformance in both tables. All coefficients are positive and significant at 5% level or lower except for model (3) in table B3.

Full unmatched sample. When one employs a matching method, results may be sensitive to matching criteria (Shipman et al, 2017). The next test uses data from the full unmatched sample. Results are summarized in Table B4.

[Table B4 around here]

The implication of this study does not change in this case either. Nominee offerings outperform their direct counterparts. They are more likely to be successful, raise more capital and exhibit higher amount-to-goal.

Pre-campaign VC financing. Kleinert et al. (2020) argue that financing before the public ECF launch date may have certification effects that in turn may reduce information asymmetry and increase the likelihood of campaign success. They employ data from Crowdcube offerings and their results suggest that those entrepreneurs who have successfully raised capital from previous crowdfunding offerings are more likely to issue equity successfully. Next we check whether prior VC financing affects our results. We also check whether nominee outperforms direct in the long run by using VC dummy as dependent variable in the psot campaign life. To do this we deploy data from Preqin. They include 6,741 VC deals for UK companies and span the period from January 2001 to September 2022. We use this to identify whether companies received VC financing in the pre and post-campaign life. Preqin data are employed to identify ECF firms that received VC financing in the pre- and post-campaign life according to company's name and foundation year. Prior VC is a dummy that takes value 1 if an ECF company has received VC financing prior to the public launch date of campaign, zero otherwise. The merged dataset indicates

that the first VC deal in the pre campaign life took place in 2008. Results are summarized in Table B5.

[Table B5 around here]

Results corroborate the initial findings of this study. Nominee campaigns exhibit superior campaign outcomes to direct campaigns. The Prior VC dummy is insignificant in models (1) and (4) as in Kleinert et al. (2020).

Post-campaign VC financing

The post-campaign results of our study hitherto do not account for VC financing. Buttice et al. (2020) find that companies that conduct initial successful offerings via the nominee model are more likely to receive VC financing. The next test studies the robustness of post campaign results by shedding light on the relation between nominee and post-campaign VC financing. Post VC is a dummy that takes value 1 if an ECF firm has received VC financing in the post campaign life, zero otherwise. Table B6 presents the results.

[Table B6 around here]

Findings support the presence of a positive relationship between the SyndicateRoom nominee and future VC financing as in Buttice et al. (2020). The SR coefficient is significantly positive at the 1% level while that for Seedrs is insignificant.

Post-2016 period as a structural shift. We identify the post-2016 period to be a structural shift due to the greater involvement of professional investors that results in a change from the pure ECF model to the syndicated ECF model. If this is case, the post-2017 and post-2018 periods should yield similar results. The next test conducts a similar analysis to that of Table 3. Results are summarized in Tables B7 and B8 for post 2017 and 2018 periods respectively.

[Tables B7 and B8 around here]

Results remain qualitatively similar for Seedrs nominee offerings. All interaction term coefficients are positive and significant at the 5% level or better across all models. This does not hold for SyndicateRoom offerings however. The respective coefficients for SyndicateRoom campaigns are mostly insignificant. This is likely due to the increased competition for syndicated ECF campaigns from Crowdcube and Seedrs in 2017 and 2018 compared to 2016 which ultimately led to the demise of SyndicateRoom as an ECF platform.

Table B1. Accounting for selection between ECF and other types of finance

Table B1 reports the coefficients on whether the nominee structure affects short run performance when one takes account of the selection effect between Angel and VC finance and ECF. Model (1) reports the probit 1st stage Heckman coefficients from a sample of Angel and VC funded firms and initial Crowdcube direct and Seedrs and SyndicateRoom nominee offerings in which an equity crowdfunding dummy is the dependent variable. Models (2) and (5) report the coefficients of a logit method when a success dummy is employed as dependent variables respectively. The others use the OLS model. Dependent variable is Amount in Models (3) and (6) while it is the logarithm of Amount-to-goal in models (4) and (7). Models (3) and (6) report the coefficients of an OLS method when total amount (£k) is employed as dependent variable. Significance levels for coefficients are denoted as* for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ECF_d	Success_d	Amount	Ln (Amount-to-goal)	Success_d	Amount	Ln (Amount-to-goal)
Sdrs_Nominee		0.58**	89.9***	-0.052			
		(2.32)	(3.55)	(-0.91)			
SR_Nominee					8.37***	409.4***	2.28***
					(10.11)	(7.79)	(20.41)
Ln (Funders)		2.90***	166.6***	0.93***	3.46***	174.7***	0.74***
		(13.83)	(13.52)	(33.59)	(11.71)	(13.46)	(26.97)
Advanced degree		-0.029	41.5	0.024	0.089	85.5*	0.074
		(-0.05)	(0.79)	(0.21)	(0.17)	(1.84)	(0.74)
Team size		0.040	21.2**	0.018	0.086	22.1**	0.023
		(0.39)	(2.19)	(0.81)	(0.66)	(2.24)	(1.09)
Equity		-0.012	5.87***	0.0038	0.015	3.91**	0.0053
		(-0.73)	(3.35)	(0.96)	(0.70)	(2.42)	(1.54)
Ln(Firm age)		-0.25**	-20.7*	-0.012	0.041	-24.4*	-0.031
		(-2.14)	(-1.84)	(-0.48)	(0.27)	(-1.91)	(-1.13)
Ln(Goal)		-0.1**	189.4***	-0.41***	-1.59***	271.4***	-0.39***
		(-2.44)	(11.59)	(-11.14)	(-5.65)	(13.77)	(-9.39)
Pre-money valuation		-0.11***	29.2***	-0.0082	-0.035	19.4***	0.0030
		(-4.07)	(10.75)	(-1.34)	(-0.70)	(7.27)	(0.53)
Diversification		-0.46**	-28.7	-0.052	-0.68**	-32.4	0.0092
		(-2.03)	(-1.26)	(-1.03)	(-2.38)	(-1.35)	(0.18)
Ln (Team age)		-0.67	-5.20	0.087	0.41	-48.4	0.054
		(-1.32)	(-0.11)	(0.79)	(0.59)	(-0.87)	(0.46)
Post February 2015		0.45	16.3	0.44**			
		(0.56)	(0.17)	(2.09)			
Pr (ECF)	7.75***						
	(9.48)						
Inv. Mills ratio		-0.53	-68.7*	-0.16*	-0.93*	14.9	-0.12
		(-1.44)	(-1.80)	(-1.90)	(-1.88)	(0.35)	(-1.37)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1949	957	961	961	713	714	714
R-squared			0.576	0.623		0.626	0.583
Pseudo R-squared	0.27	0.564			0.638		

Table B2. Intra-platform Nominee short run performance

Table B2 reports the impact of a nominee dummy variable on measures of short run performance for a sample of Crowdcube offerings when one takes account of campaign size by using the Av. Goal as instrument that average goal of previous offerings in the same year conducted by firms that operate in the same industry group. The 2nd stage Heckman coefficients are reported and the first step is the same as in Table 4. Models (1), (3) and (5) employ Nominee, Success dummy and Overfunding dummy in which the probit model is employed. Models (2) and (4) use Ln (Goal) and Amount as dependent variables respectively and deploy the OLS method. It spans the period from January 2012 to December 2018. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)
	Cr_Nominee	Ln (Goal)	Success	Amount	Ln (Amount-to-goal)
Cr_Nominee	-	-	1.06***	113.3**	0.29***
			(3.51)	(2.41)	(3.12)
Post February 2015	-0.23	0.41*	-0.81	-34.5	0.69***
	(-0.16)	(1.75)	(-0.61)	(-0.28)	(2.84)
Ln (Funders)	0.22**	0.18***	1.23***	183.7***	0.83***
	(1.97)	(6.89)	(12.05)	(12.76)	(28.86)
Advanced degree	-0.80*	0.01	0.02	68.2	0.14
	(-1.79)	(0.08)	(0.06)	(1.24)	(1.30)
Team size	0.11*	0.09***	-0.006	25.4**	0.003
	(1.80)	(4.82)	(-0.10)	(2.48)	(0.16)
Equity	-0.03*	0.01***	-0.01	2.10	-0.003
	(-1.77)	(3.63)	(-0.78)	(1.07)	(-1.01)
Ln (Firm age)	0.01	0.07***	-0.06	-28.01**	-0.03
	(0.09)	(2.89)	(-0.80)	(-2.18)	(-1.14)
Ln (Goal)	0.07	-	-0.45***	261.3***	-0.43
	(0.46)		(-3.74)	(13.44)	(-11.26)
Diversification	-0.08	0.06	-0.23	-42.2*	0.01
	(-0.38)	(1.19)	(-1.57)	(-1.68)	(0.19)
Ln (Team age)	0.19	0.27**	-0.15	-71.90	0.03
	(0.44)	(2.56)	(-0.48)	(-1.33)	(0.28)
Pre money valuation	-0.001	0.001***	-0.001	0.001***	-0.001
	(-0.43)	(9.53)	(-1.28)	(6.72)	(-0.81)
Pr (Nominee)	13.12***		-	-	-
	(3.59)				
Av. Goal	-	0.001***	-	-	-
		(7.03)			
Inverse Mills ratio	-0.77*	-0.13	-0.44	-134.9***	-0.12
	(-1.77)	(-1.51)	(-1.47)	(-3.00)	(-1.34)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	658	658	658	658	658

Table B3. Short run performance of nominee vs direct ownership

Table B3 reports the results on whether the Nominee dummy affects short run performance. Nominee offerings are matched with their counterparts according to goal. Models (1) and (4) report the coefficients of a logit method when a Success dummy is employed as dependent variable. Models (2) and (5) report the coefficients of an OLS method when total Amount (£k) is employed as the dependent variable, while the others report the OLS coefficients when the logarithm of Amount-to-goal is the dependent variable. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube, Seedrs and SyndicateRoom firms. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)
	Success_d	Amount	Ln (Amount-to-goal)	Success_d	Amount	Ln (Amount-to-goal)
Sdrs_Nominee	0.59**	51.1***	-0.047			
	(2.22)	(2.87)	(-0.85)			
SR_Nominee				9.18***	565.0***	2.27***
				(9.78)	(9.06)	(20.56)
Ln (Funders)	3.22***	154.6***	0.91***	3.76***	253.0***	0.74***
	(13.67)	(17.53)	(33.10)	(11.36)	(16.73)	(27.83)
Advanced degree	-0.081	28.4	0.0071	-0.094	-46.7	0.043
	(-0.14)	(0.77)	(0.06)	(-0.15)	(-0.82)	(0.43)
Team size	0.10	22.6***	0.016	0.12	41.6***	0.015
	(0.93)	(3.27)	(0.73)	(0.89)	(3.71)	(0.75)
Equity	0.027	2.28*	0.0023	0.0065	3.59*	0.0070**
	(1.41)	(1.85)	(0.59)	(0.30)	(1.80)	(1.97)
Ln (Firm age)	-0.16	-5.08	0.0019	0.17	-30.0**	0.021
	(-1.26)	(-0.63)	(0.07)	(0.97)	(-2.06)	(0.83)
Ln (Goal)	-1.37***	139.2***	-0.40***	-1.74***	247.5***	-0.41***
	(-6.71)	(11.88)	(-10.93)	(-6.08)	(10.75)	(-10.17)
Pre-money valuation	-0.00081	21.4***	-0.0071	-0.12***	16.5***	0.0043
	(-0.02)	(10.70)	(-1.14)	(-3.60)	(6.15)	(0.91)
Diversification	-0.38	-10.8	-0.040	-0.79**	-33.3	0.023
	(-1.56)	(-0.67)	(-0.80)	(-2.50)	(-1.13)	(0.44)
Ln (Team age)	-0.19	0.77	0.053	-0.090	-6.99	0.021
	(-0.36)	(0.02)	(0.49)	(-0.13)	(-0.10)	(0.17)
Post February 2015	0.59	38.5	0.47**			
	(0.70)	(0.58)	(2.30)			
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	942	946	946	702	705	705
R-squared		0.630	0.628		0.686	0.609
Pseudo R-squared	0.599			0.666		

Table B4. Short run performance of nominee vs direct ownership firms on unmatched sample

Table B4 reports the results on how the Nominee dummy affects short run performance. Models (1) and (4) report the coefficients of a logit method when a Success dummy is employed as dependent variables. Models (2) and (5) report the coefficients of an OLS method when total Amount (£k) is employed for dependent variable, while the rest report the OLS coefficients when the logarithm of Amount-to-goal is the dependent variable. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube, Seedrs and SyndicateRoom firms. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)
	Success_d	Amount	Ln (Amount-to-goal)	Success_d	Amount	Ln (Amount-to-goal)
Sdrs_Nominee	0.60**	97.1***	-0.045			
	(2.29)	(3.81)	(-0.82)			
SR_Nominee				8.43***	400.3***	2.20***
				(10.07)	(7.53)	(20.19)
Ln (Funders)	3.19***	169.0***	0.91***	3.46***	173.4***	0.73***
	(13.71)	(13.40)	(33.10)	(11.70)	(13.15)	(26.87)
Advanced degree	-0.068	37.9	0.0060	0.0067	85.7*	0.062
	(-0.12)	(0.71)	(0.05)	(0.01)	(1.85)	(0.66)
Team size	0.095	21.0**	0.011	0.063	21.9**	0.017
	(0.88)	(2.14)	(0.53)	(0.48)	(2.19)	(0.82)
Equity	0.028	5.54***	0.0025	0.0097	3.95**	0.0047
	(1.45)	(3.13)	(0.65)	(0.46)	(2.43)	(1.42)
Ln (Firm age)	-0.18	-21.5*	-0.0019	0.031	-24.3*	-0.022
	(-1.42)	(-1.87)	(-0.08)	(0.20)	(-1.88)	(-0.85)
Ln (Goal)	-1.27***	193.2***	-0.39***	-1.51***	273.5***	-0.36***
	(-6.54)	(11.73)	(-10.85)	(-5.42)	(13.77)	(-8.94)
Pre-money valuation	-0.0091	28.9***	-0.0081	-0.039	19.1***	0.0025
	(-0.21)	(10.52)	(-1.35)	(-0.77)	(7.16)	(0.46)
Diversification	-0.41*	-30.0	-0.039	-0.63**	-34.1	0.0045
	(-1.68)	(-1.30)	(-0.79)	(-2.19)	(-1.42)	(0.09)
Ln (Team age)	-0.29	-17.6	0.048	0.14	-43.3	0.018
	(-0.53)	(-0.35)	(0.45)	(0.20)	(-0.79)	(0.16)
Post February 2015	0.60	12.7	0.47**			
	(0.71)	(0.13)	(2.24)			
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	946	951	951	709	711	711
R-squared		0.575	0.626		0.629	0.585
Pseudo R-squared	0.596			0.632		

Table B5. Short run performance of nominee vs direct ownership when one accounts for prior VC financing

Table B5 reports the results on whether the Nominee dummy affects short run performance having accounted for prior VC funding. Nominee offerings are matched with their direct counterparts according to firm age, pre-money valuation and industry group. Models (1) and (4) report the coefficients of a logit method when a Success dummy is employed as dependent variable. Models (2) and (5) report the coefficients of an OLS method when total Amount (£k) is employed as dependent variable, while the others report the OLS coefficients when the logarithm of Amount-to-goal is the dependent variable. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube, Seedrs and SyndicateRoom firms. See Table A1 for variable definitions.

	(1) Success_d	(2) Amount	(3) Ln (Amount-to-goal)	(4) Success_d	(5) Amount	(6) Ln (Amount-to-goal)
Sdrs_Nominee	0.75**	77.9***	-0.062			
	(2.31)	(3.60)	(-1.00)			
SR_Nominee				11.9***	439.6***	2.34***
				(6.21)	(9.73)	(15.19)
Ln (Funders)	3.45***	126.4***	0.99***	4.50***	160.2***	0.74***
	(11.52)	(11.03)	(30.42)	(6.73)	(13.00)	(17.53)
Advanced degree	0.022	-21.4	0.057	-1.04	-25.3	0.059
	(0.03)	(-0.43)	(0.40)	(-1.21)	(-0.59)	(0.40)
Team size	-0.023	20.5**	0.0095	-0.056	5.03	0.045
	(-0.16)	(2.26)	(0.37)	(-0.23)	(0.55)	(1.45)
Equity	0.029	14.3***	-0.0030	0.13**	11.4***	0.032***
	(1.07)	(7.62)	(-0.56)	(2.31)	(5.27)	(4.41)
Ln (Firm age)	0.12	-0.35	-0.010	0.21	1.16	0.030
	(0.67)	(-0.03)	(-0.29)	(0.53)	(0.06)	(0.46)
Ln (Goal)	-1.87***	28.5	-0.46***	-3.59***	132.8***	-0.85***
	(-6.19)	(1.53)	(-8.72)	(-4.09)	(4.37)	(-8.17)
Pre-money valuation	0.010	86.9***	-0.0018	0.54**	57.7***	0.13***
	(0.13)	(16.29)	(-0.12)	(2.23)	(5.86)	(3.80)
Diversification	0.0013	-50.4**	-0.014	0.19	-32.9	0.085
	(0.00)	(-2.30)	(-0.22)	(0.28)	(-1.10)	(0.83)
Ln (Team age)	0.16	8.29	0.033	-0.63	5.75	0.15
	(0.24)	(0.19)	(0.26)	(-0.39)	(0.09)	(0.69)
Post February 2015	2.25*	-22.5	0.50**			
	(1.95)	(-0.26)	(2.00)			
Prior VC	-0.34	-133.9*	-0.27	0.43	192.2***	0.21
	(-0.28)	(-1.78)	(-1.26)	(0.17)	(3.18)	(1.00)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	649	662	662	316	319	319
R-squared		0.628	0.672		0.685	0.607
Pseudo R-squared	0.605			0.743		

Table B6. Nominee and post campaign VC financing

Table B6 reports the second stage Heckman impact of a (Seedrs and SydndicateRoom) Nominee dummy variable on the likelihood of receiving VC financing in the post-campaign life. The first Heckman step is the same as in Table 6. Dependent variable is a dummy variable that takes value 1 if a firm has received VC financing in the post campaign life. The logit method is employed in both models. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** when p ≤ 0.01. The sample spans the period from January 2012 to December 2018 from a sample of initial Crowdcube, Seedrs and SyndicateRoom offerings. See Table A1 for variable definitions.

	(1)	(2)
Sdrs_Nominee	-0.11	
	(-0.69)	
SR_Nominee		0.63***
		(18.15)
Ln (Funders)	0.42	0.45***
	(0.73)	(28.88)
Advanced degree	-0.38	0.18
	(-1.55)	(0.61)
Team size	0.20**	0.29***
	(2.55)	(3.28)
Equity	0.029	-0.014
	(1.23)	(-0.60)
Ln (Firm age)	0.0032	0.095**
	(0.09)	(2.03)
Ln (Goal)	0.54	0.88
	(0.98)	(1.51)
Ln (Duration)	0.097**	0.077***
	(2.15)	(7.67)
Pre-money valuation	-0.047	-0.14***
	(-0.47)	(-29.40)
Diversification	-0.23	0.38
	(-0.48)	(1.13)
Ln (Team age)	-2.64	-3.58**
	(-1.26)	(-2.24)
Post February 2015	13.4***	11.7***
	(12.65)	(10.99)
Inverse Mills ratio	1.18*	0.53***
	(1.79)	(6.60)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
Observations	415	306
Pseudo R-squared	0.168	0.140

Table B7. Post-2017 Syndicated nominee versus direct ownership campaigns

Table B7 reports the impact of a Nominee dummy variable on measures of short run performance to test for the post-2017 rise of syndicated ECF campaigns. Nominee campaigns are matched with Crowdcube direct ownership campaigns according to firm age, pre money valuation and industry group. Models (1) to (3) report the results for a Seedrs Nominee syndicated ECF dummy variable while models (4) to (6) report them for a SyndicateRoom Nominee syndicated angel dummy variable. Models (1) and (4) involve a logit regression when a Success dummy is employed as dependent variable. Models (2) and (5) [(3) and (6)] employ OLS method when the total Amount (£k) [Ln (Amount-to-goal)] is the dependent variable. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** for p ≤ 0.01. The sample spans the period from January 2012 to December 2018 for a sample of initial Crowdcube direct, Seedrs and SyndicateRoom firms. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)
	Success_d	Amount	Ln (Amount-to-goal)	Success_d	Amount	Ln (Amount-to-goal)
Sdrs_Nominee	-1.47***	13.3	-0.64***	-	-	-
	(-3.91)	(0.51)	(-5.83)			
SR_Nominee	-	-	-	5.18***	196.8***	0.87***
				(4.63)	(4.13)	(3.43)
Sdrs_Nominee* Post 2017	4.19***	172.6***	1.17***			
	(6.49)	(4.03)	(6.47)			
SR_Nominee* Post 2017	-	-	-	2.24*	72.4	0.24
				(1.91)	(1.30)	(0.80)
Post 2017	-1.70***	-235.2***	-1.07***	-0.93	-68.9	-0.34
	(-2.98)	(-4.52)	(-4.88)	(-0.94)	(-0.59)	(-0.55)
Ln (Funders)	0.022***	0.66***	0.0023***	0.033***	0.77***	0.0023***
	(9.98)	(13.04)	(10.83)	(6.43)	(14.94)	(8.52)
Advanced degree	0.15	-10.5	0.22	-0.35	2.15	0.20
	(0.20)	(-0.21)	(1.07)	(-0.52)	(0.06)	(1.04)
Team size	-0.040	17.3*	0.054	0.093	12.0	0.084*
	(-0.31)	(1.93)	(1.42)	(0.57)	(1.45)	(1.89)
Equity	0.0070	12.0***	-0.011	0.061*	7.44***	0.019**
	(0.26)	(6.37)	(-1.44)	(1.94)	(4.07)	(1.99)
Ln (Firm age)	0.015	-3.33	-0.031	0.20	15.9	0.070
	(0.09)	(-0.27)	(-0.59)	(0.66)	(1.01)	(0.84)
Ln (Goal)	-1.56***	40.2**	-0.35***	-2.89***	133.4***	-0.71***
	(-5.35)	(2.23)	(-4.56)	(-4.59)	(5.17)	(-5.20)
Pre-money valuation	-0.090	67.4***	-0.030	0.44***	38.0***	0.082*
	(-0.90)	(12.13)	(-1.27)	(2.64)	(4.45)	(1.81)
Diversification	-0.0014	-34.0	0.033	-0.44	-17.3	0.049
	(-0.00)	(-1.59)	(0.36)	(-0.84)	(-0.70)	(0.37)
Ln (Team age)	0.012	-3.53	-0.17	-2.35**	-77.0	-0.15
	(0.02)	(-0.08)	(-0.95)	(-2.00)	(-1.43)	(-0.52)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	625	634	634	303	306	306
R-squared		0.636	0.346		0.693	0.354
Pseudo R-squared	0.537			0.616		

Table B8. Post-2018 Syndicated nominee versus direct ownership campaigns

Table B8 reports the impact of a nominee dummy variable on measures of short run performance to test for the post-2018 rise of syndicated ECF campaigns. Nominee campaigns are matched with Crowdcube direct ownership campaigns according to firm age, pre money valuation and industry group. Models (1) to (3) report the results for a Seedrs syndicated nominee ECF dummy variable while models (4) to (6) report them for a SyndicateRoom syndicated nominee angel dummy variable. Models (1) and (4) involve a logit regression when a Success dummy is employed as dependent variable. Models (2) and (5) [(3) and (6)] employ OLS method when the total Amount (£k) [Ln (Amount-to-goal)] is the dependent variable. Significance levels for coefficients are denoted as * for p ≤ 0.10, ** for p ≤ 0.05 and *** for p ≤ 0.01. The sample spans the period from January 2012 to December 2018 for a sample of initial Crowdcube direct, Seedrs and SyndicateRoom firms. See Table A1 for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)
	Success_d	Amount	Ln (Amount-to-goal)	Success_d	Amount	Ln (Amount-to-goal)
Sdrs_Nominee	-0.20	54.5**	-0.33***	-	-	-
	(-0.69)	(2.37)	(-3.39)			
SR_Nominee	-	-	-	6.15***	243.6***	1.01***
				(5.95)	(7.72)	(6.05)
Sdrs_Nominee * Post 2018	1.81**	148.7**	0.78***	-	-	-
	(2.20)	(2.46)	(3.01)			
SR_Nominee * Post 2018	-	-	-	1.15	11.2	0.092
				(0.89)	(0.14)	(0.22)
Post 2018	0.41	-68.2	-0.82**	1.14	-100.1	-0.57
	(0.75)	(-0.80)	(-2.24)	(1.38)	(-1.45)	(-1.56)
Ln (funders)	0.019***	0.64***	0.0022***	0.030***	0.77***	0.0023***
	(9.72)	(12.66)	(10.09)	(6.67)	(14.87)	(8.49)
Advanced degree	-0.078	-13.3	0.20	-0.33	1.40	0.20
	(-0.11)	(-0.27)	(0.94)	(-0.49)	(0.04)	(1.03)
Team size	0.0045	18.5**	0.061	0.14	12.9	0.087*
	(0.04)	(2.05)	(1.58)	(0.86)	(1.55)	(1.97)
Equity	0.0026	11.8***	-0.013	0.058*	7.30***	0.019*
	(0.10)	(6.21)	(-1.62)	(1.95)	(3.98)	(1.95)
Ln (Firm age)	0.13	0.35	-0.0057	0.23	16.7	0.072
	(0.82)	(0.03)	(-0.11)	(0.77)	(1.06)	(0.87)
Ln (Goal)	-1.36***	42.8**	-0.32***	-2.90***	132.3***	-0.72***
	(-5.05)	(2.35)	(-4.12)	(-4.77)	(5.04)	(-5.17)
Pre-money valuation	-0.063	67.2***	-0.031	0.40***	37.9***	0.082*
	(-0.73)	(11.99)	(-1.27)	(2.64)	(4.39)	(1.80)
Diversification	0.086	-31.2	0.054	-0.53	-17.3	0.050
	(0.28)	(-1.45)	(0.58)	(-1.01)	(-0.69)	(0.38)
Ln (Team age)	-0.14	-5.31	-0.18	-2.56**	-81.5	-0.16
	(-0.25)	(-0.12)	(-0.98)	(-2.21)	(-1.51)	(-0.57)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	625	634	634	303	306	306
R-squared		0.630	0.311		0.691	0.353
Pseudo R-squared	0.483			0.609		

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